S.P. MANDALI'S weschool Welingkar Education

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samvad

BUSINESS ANALYTICS

WeChat

Saurabh Pramanick
Technical Architect
Hexaware Technologies

- Indian ultra-HNIs likely to invest $30 bn in tech start-ups by 2025
- Druid-Backer Imply Lands $70M to Drive Analytics in Motion

Talk Of The Town

MESSAGE FROM THE DIRECTOR

Prof. Dr. Uday Salunkhe
Group Director

Dear Readers,

It gives me great pride to introduce SAMVAD's edition every month. Our SAMVAD team's efforts seem to be paying off and our readers seem to be hooked onto our magazine. At WeSchool we try to acquire as much knowledge as we can and we try and share it with everyone.

As we begin a new journey with 2021, I sincerely hope that SAMVAD will reach new heights with the unmatched enthusiasm and talent of the entire team.

Here at WeSchool, we believe in the concept of AAA: Acquire Apply and Assimilate. The knowledge that you have acquired over the last couple of months will be applied somewhere down the line. When you carry out a process repeatedly it becomes ingrained in you and eventually tends to come out effortlessly. This is when you have really assimilated all the knowledge that you have gathered.

At WeSchool, we aspire to be the best and to be unique, and we expect nothing but the extraordinary from all those who join our college. From the point of view of our magazine, we look forward to having more readers and having more contributions from our new readers.

SAMVAD is a platform to share and acquire knowledge and develop ourselves into integrative managers. It is our earnest desire to disseminate our knowledge and experience with not only WeSchool students but also the society at large.

Prof. Dr. Uday Salunkhe,
Group Director

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SAMVAD

ABOUT US

OUR VISION

"To nurture thought leaders and practitioners through inventive education"

CORE VALUES

Breakthrough Thinking and Breakthrough Execution
Result Oriented, Process Driven Work Ethic
We Link and Care
Passion

"The illiterate of this century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn." -Alvin Toffler

At WeSchool, we are deeply inspired by the words of this great American writer and futurist. Undoubtedly, being convinced of the need for a radical change in management education, we decided to tread the path that leads to corporate revolution.
Emerging unarticulated needs and realities require a new approach both in terms of thought as well as action. Cross-disciplinary learning, discovering, scrutinizing, prototyping, learning to create and destroy the mind's eye needs to be nurtured and differently so.
WeSchool has chosen the 'design thinking' approach towards management education. All our efforts and manifestations, as a result, stem from the integration of design thinking into management education. We dream to create an environment conducive to experiential learning.

FROM THE EDITOR'S DESK

Dear Readers,

Welcome to the 112th Issue of SAMVAD!

SAMVAD is a platform for "Inspiring Futuristic Ideas" and we constantly strive to provide articles that are thought-provoking and that add value to your management education.

We have an audacious goal of becoming one of the most coveted business magazines for B-school students across the country. To help this dream become a reality we invite articles from all the domains of management giving a holistic view and bridge the gap between industry veterans and students through our WeChat section.

In this issue of SAMVAD, we bring to you half a dozen articles focusing on "Business Analytics" with a new section of "WeAchievers" highlighting the top performers of WeSchool in various top B-School Competitions and "Talk of the town", which will give you crisp insights about the current happenings in the world.

In the corporate world, there isn't one who is unaware of Business Analytics or Data Science. Business analytics, in simple words, is the combination of various skills to uncover business information based on data and statistics and drive business planning accordingly. Lots of data is being generated each day in every business sector, such as - Social Media, E-Commerce, Banking, etc. Analytics is thus required to allow companies and organizations to make better business decisions. Today, almost every company uses business intelligence (BI) and business analytics (BA) to interpret information and create effective data-driven action plans. This Edition describes how companies are channeling this trend and earning profits

Hope you have a great time reading SAMVAD!
Let's read, share and grow with us!

Best Wishes,
Team SAMVAD.

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WeChat

Saurabh Pramanick

TECHNICAL ARCHITECT
HEXAWARE TECHNOLOGIES

1. Could you please take us through your journey from being a Welingkarite to date?

I have seen a lot of phases in my career since completing the Post Graduate Diploma in Business Design from WeSchool in 2014.

The course gave me an entrepreneurial mindset to view tasks and my activities from a non-traditional way, incorporating an innovative and design-thinking approach to problem-solving. As a corporate individual, you need to have these skills to differentiate yourself from your peers and carve a niche for your further success.

I have been part of several successful campaigns and programs for my organizations taking them to new highs. While in the industry working with professionals from other MBA colleges, I can clearly see the difference in analytical capability and problem-solving ability between myself and graduates from other colleges. I have worked as Financial Consultant, Regulatory Reporting Consultant, Data Analytics Lead, Data Governance Lead, and Data Science Lead for large corporates like TCS, Wolters Kluwer Financial Services, PwC, Hexaware Technologies, and their various clients across geographies. Data is my bread and butter, and

I would like to say that you need to fall in love with data if you want to succeed in the Data analytics space.

2. How is analytics helping in shaping the decisions for managers in any given field?

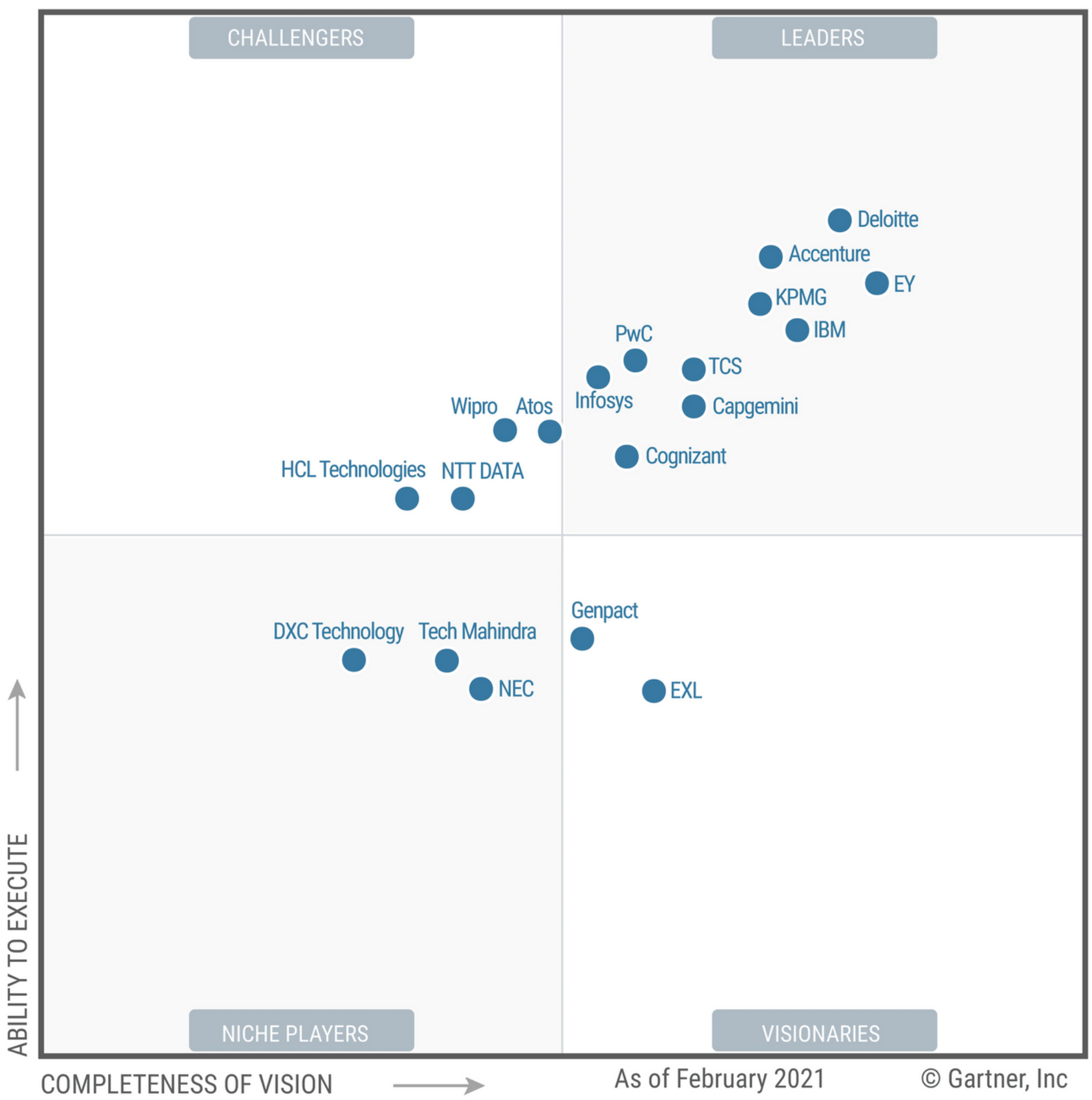
Data Science and Analytics have seen a large transition across the last decade with each organization understanding its importance and significance. Traditionally, Data Science and Analytics were considered a part of the IT team which later got segregated under Business Intelligence and MIS. However, with the increase in use, organizations are now creating a separate business unit for Data Science and Analytics, with a separate role for the Head of Data Science and Analytics with a special focus on this practice. Institutions have started seeing the benefits of keeping it as a separate practice as it avoids ambiguity, hierarchical issues, and clear separation of roles and responsibilities,

At the same time, they can incorporate advancements and changes in the data ecosystem quite smoothly, ensuring regulatory and legal compliance. This is helping organizations define specific use cases and then focus on these specific use cases for their implementation and success.

3. What according to you, are the competitive advantages of being skilled in analytics in the contemporary world?

Analytics has been wrongly perceived as related to reporting and visualization over these years. Several components get covered under Data Analytics that include, but are not limited to, Business Intelligence, MIS, Data Visualization, single and consolidated view of data, Data Governance, Data life cycle management, machine learning, artificial intelligence, cognitive intelligence, etc. A Data Analytics individual and leader should have a complete understanding of these concepts and areas as well as the interaction of these areas with each other. It will give them an overall understanding of the interactions and dependencies of the components. It will also help them understand the value of data and how data can be leveraged for achieving their goals. It also gives them a competitive advantage as compared to their peers.

Figure 1: Magic Quadrant for Data and Analytics Service Providers



Source: Gartner (February 2021)

4. What are some major tools and technologies that are currently used for analytical purposes by organizations?

The latest Gartner magic quadrant of service providers in the Data and Analytics space: **(Fig. 1)**
Each of these service providers uses either in-house built applications or offerings from leading product companies such as Microsoft, Amazon, SAP, SAS, Salesforce, Informatica, Talend, TIBCO, Tableau. Qlikview, etc., for their offerings. There are a lot of open-source technologies and products in this space. A proper evaluation of these products and services needs to be done for finalizing the technology stack.

The core offerings in the space of Data and Analytics are:

- **D&A strategy and operating model design**
- **Data management**
- **Analytics and business intelligence (ABI)**
- **Data science and machine learning (aka AI)**
- **D&A governance**
- **Program management**
- **Enterprise metadata**

5. According to you, what are some major challenges in the field of Business and Data Analytics?

Data Analytics, though related to data, has a lot of dependency on other teams and departments as they are the owners of their data. Some of the key challenges faced by clients and organizations in Business and Data Analytics include:
Data Ownership and Access. It becomes essential to have a correct and clear understanding and mapping of the data owners for each data attribute. A proper data access matrix helps in such scenarios.
Secondly,

Data attributes have multiple sources of origin and residence. Organizations struggle to understand the complete traceability of the data and its journey across the technology.

They also do not have a clear understanding of the lifecycle of this data from its collection or generation to its deletion or archiving. It becomes meaningful to have a single version of truth for each data attribute with appropriate data traceability in place.
Since organizations are focused on collecting as much data as possible, a lot of times they fail to understand which of the data is actually meaningful and useful, ultimately creating **data swamps**. This has accessibility, performance issues and may lead to filtering out of useful information.

Data Quality issues, this is one of the most critical components of Data Analytics as most of the time the data residing within the organization systems are least matured. A proper data quality policy, framework with a data quality maturity model needs to be adopted by the organization.

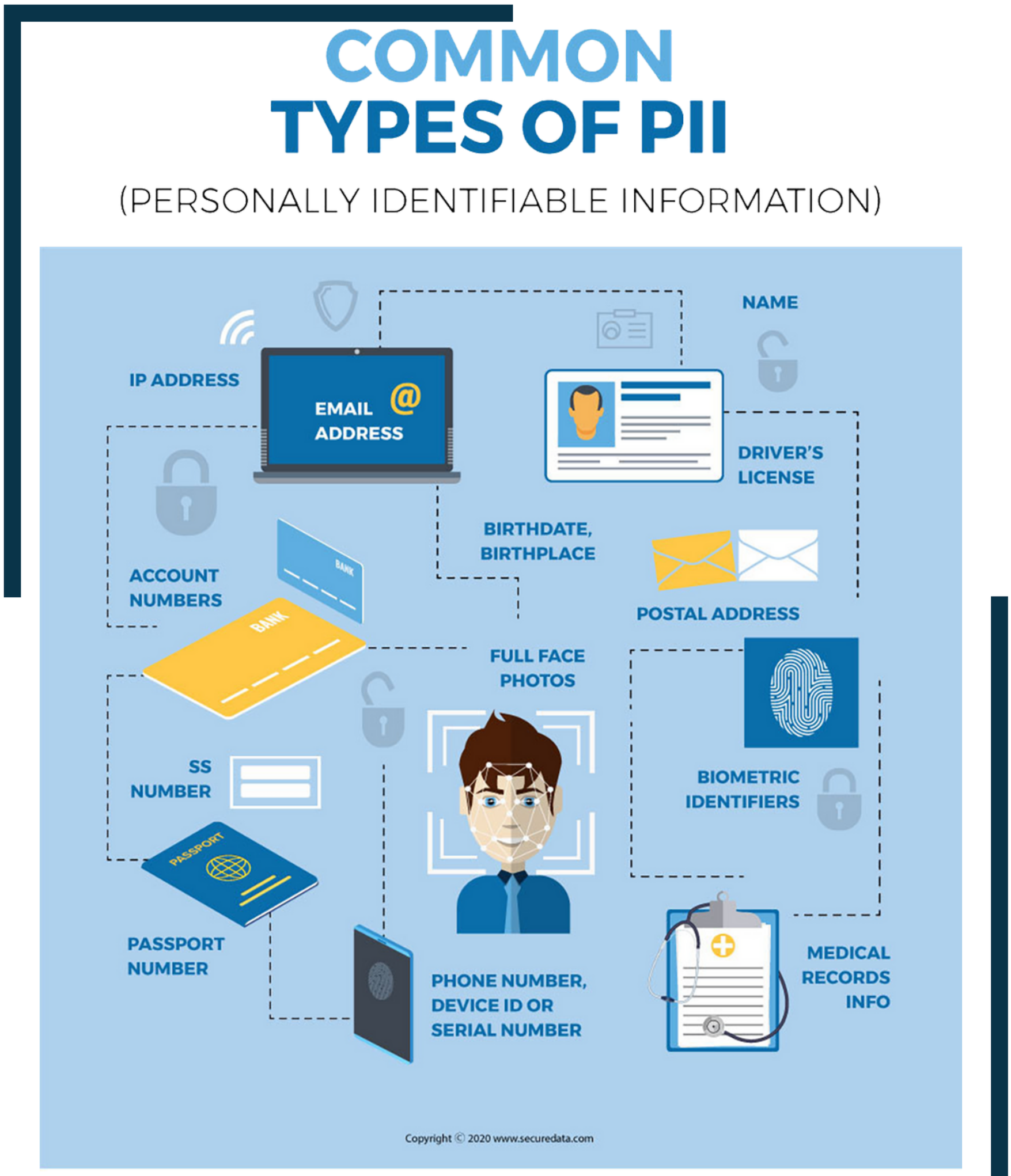
WeChat

Lastly, Insights from data are a challenge. Though the collection of data is one aspect of the data lifecycle, **gaining meaningful insights** is another facet of the journey. The core responsibility of the data analytics team is to gather meaningful insights from the data within the organization systems but challenges due to meaningful data and data quality often cause a hurdle.

Organizations are now understanding the importance of gathering Personal Identifiable Information (PII) of customers and ways to handle them. With regulations getting stringent and new regulations getting enforced, organizations are setting up specific data privacy teams and data offices to handle these regulations.

6. How are companies taking care of customers' information given recent incidents of a data breach of companies like Dominos and Air India, which could pose a potential threat to the customers?

They are firstly trying to perform a data impact assessment to identify the critical data elements, identify the data owners and business owners for these elements, understand the complete end-to-end traceability of



these elements, corresponding regulations, compliance, legal requirement, and clauses for these data elements, maturity level and as-is state to define the required to-be state. A detailed report is shared with all the stakeholders on a continuous basis to help everyone align to the analysis done and take the necessary steps going ahead. Some organizations might take a proactive while some may take a reactive approach in this but ultimately sooner or later, they are realizing the benefits and repercussions and are acting accordingly.

7. What is the future of data and business analytics?

Data analytics and its adoption and acceptance by all will be widely seen in the coming days with more innovative solutions and processes being used by organizations. This will be coupled with the advances in corresponding areas of artificial intelligence, machine learning, and data science.

Typical challenges will be faced by organizations such as finding perfectly skilled individuals with domain and business expertise, investments in appropriate technical solutions and capabilities, acceptance and adoption by business and senior management, dependency on networks and hardware advancements, and efficient performance evolution, useful v/s non-useful data identification and usage. Organizations able to understand, identify, mitigate and overcome these challenges in data and business analytics will be able to have a competitive edge over their competitors and will be able to survive and advance further.

8. What are your suggestions to young professionals, who would be starting their careers soon?

There are ample opportunities for young professionals to pursue their career in Data and business analytics and its affiliated areas of machine learning, artificial intelligence, data management, data science, data visualization, quantum computing, neural networks, and data governance. They should understand each or any of these areas and understand the domain, target results, their interactions with other components that will help them have a holistic understanding of these areas.

Most of the time, professionals focus only on either tools or technology, or domain thereby failing to understand both sides of the story and their interaction. Also, it will be useful to take active live projects and test their knowledge and understanding that helps them to solve their queries and have a business understanding of the practical usage of their knowledge.

TALK OF THE TOWN

Indian ultra-HNIs likely to invest $30 bn in tech start-ups by 2025

Indian ultra-high net worth individuals (UHNI) are likely to invest up to $30 billion in tech start-ups in India by 2025.

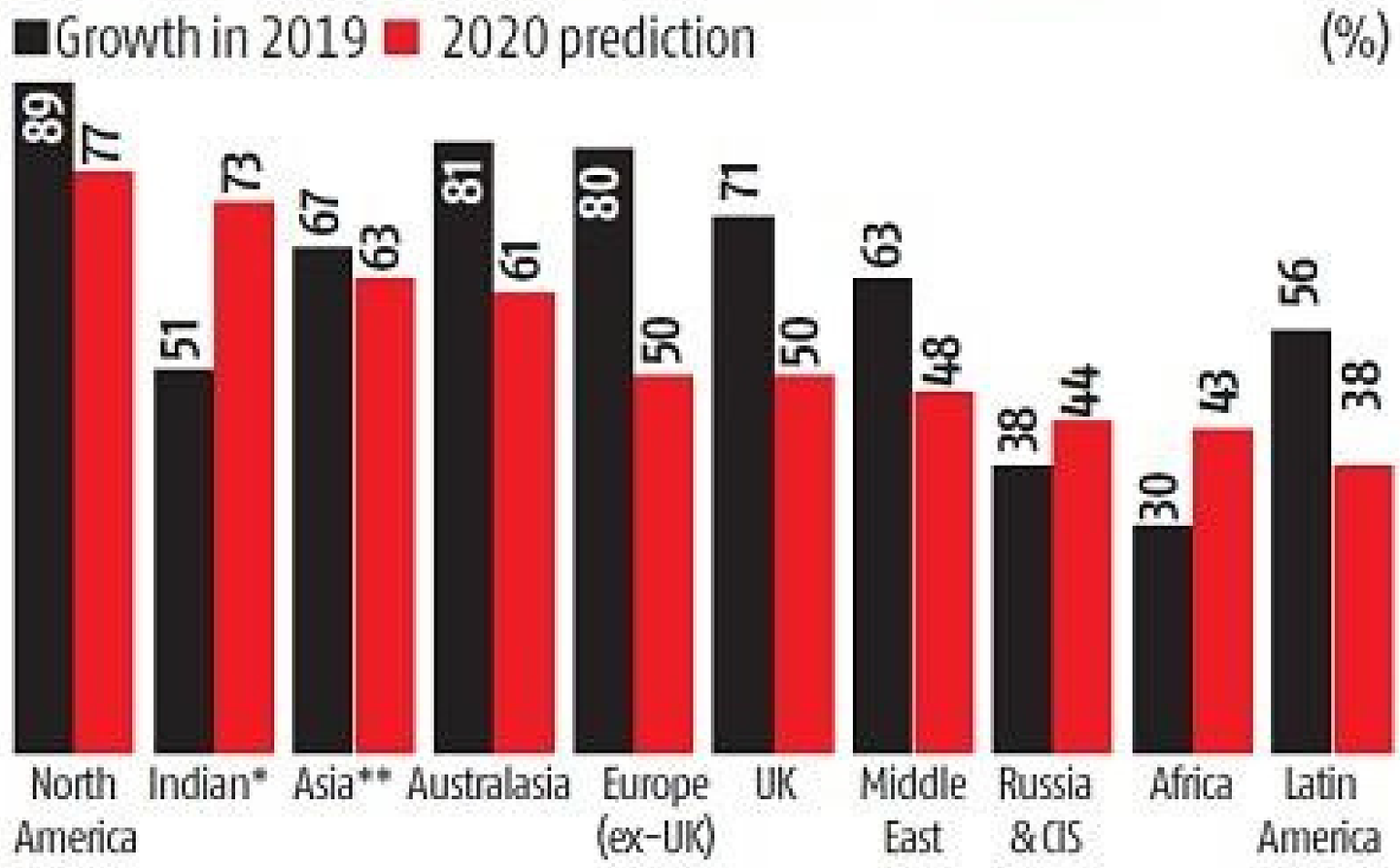
'India expects to add 95 new tech unicorns to its 56-strong unicorn pool by 2025'
says, “Turning Ideas to Gold,” report by 256 Network and Praxis Global Alliance

WISHLIST 2020

Indians most aggressive on equity vs global average %

Asset class	India	Global
Equity	72	29
Real estate	20	27
Philanthropy	67	68
Personal wellness	78	80
Positive outcome from investment	82	73
Want to buy home in 2020	24	21
Commercial property investment	26	24

WHERE WILL WEALTH GROW MOST IN 2020?



* subcontinent; **excluding Indian subcontinent

Source: Knight Frank study

TALK OF THE TOWN

Druid-Backer Imply Lands $70M to Drive Analytics in Motion

Imply was founded in 2015 by some of the creators of Apache Druid, a column-oriented in-memory data store that was originally developed at Metamarkets, an ad tech analytics firm. The goal with Druid, which was created in 2011, was to serve OLAP-style analytic queries on high-dimensional data at low latencies, something that the Hadoop-based distributed processing projects (Hive, Impala, and later Presto) of the day struggled to do.

Imply, the startup founded to productize the Apache Druid database in pursuit of analytics in motion, this week announced that the completion of a $70-million Series C round of funding.

Imply is building a cloud platform that simplifies management of the distributed analytic product, thereby enabling customers to focus on using Druid to crunch the fast-flowing data to benefit their businesses.

Role of Business Intelligence Tools in Decision Making

General Management

Disha Birje
PGDM Research & Business Analytics 2020-22,
Welingkar Institute of Management & Research

Business Intelligence as the name suggests, helps in deriving intelligent insights about a business. Business Intelligence, often termed as BI, helps in driving decisions based on historical, current and potential future data.

source: mauriziopittau.it

The BI process starts with organizations collecting data from sources such as internal IT systems and external resources. After collection, the data is prepared for analysis and queries are run through the data.

The end product is received in the form of creative data visualizations like BI dashboards, charts, graphs and reports to make the analytics results available to business users.

These insights are presented in a very crisp and clear way making the data more readable and easily understandable to derive insights from. This helps decision makers at every level understand their business and make decisions that aren't just supported by gut instincts, but actual statistical reasoning and data.

Business Intelligence has been in the limelight in recent years when it comes to making data driven decisions. In order to have advantage over competitors, BI tools can give firms an edge by providing insights to predict market trends, disclose opportunities and develop breakthrough strategies.

BI tools use OLAP (Online Analytical Processing) to aid enterprises in performing data analysis, monitoring KPIs, and generating reports.

The intricate analysis performed by BI tools helps firms to identify business trends, trace gaps in performance, communicate the findings to stakeholders and gain insights on data which ultimately leads to making timely and data-driven business decisions.

According to Dresner, Post COVID-19, it's expected that 95% or more of enterprise software vendors will consider Cloud BI as a must-have, as every organization is now a distributed one.

BI APPLICATIONS IN DECISION MAKING

To understand in what ways BI contributes in upscaling the decision-making process, let us have a look at the approach followed by different teams and departments when it comes to implementing BI supported decisions in business:

DATA SCIENTISTS AND ANALYSTS

Analysts make excellent use of BI; they use data in powerful analytics tools to inspect where opportunities for improvement and growth exist and also what strategic recommendations should be suggested to leverage a company. They can gain intricate business insights from complex data using various BI tools which provide different outlooks for the decision maker.

These are the popular BI tools

FINANCE

The financial experts integrate financial data with other departments and derive insights from which decisions can be made and understand factors that impact the profitability. The insights provided by BI onto the past and current outgoing and incoming finances of the company can enable the financial executives to make accurate decisions.

For example, American Express identified up to 24% of the Australian users who were likely to close their accounts within four months. Using that information, American Express took effective steps to retain those customers who would otherwise be lost.

They also detected credit card frauds more accurately (in case of unusual patterns) and thereby protected customer's accounts that may have been compromised.

OPERATIONS

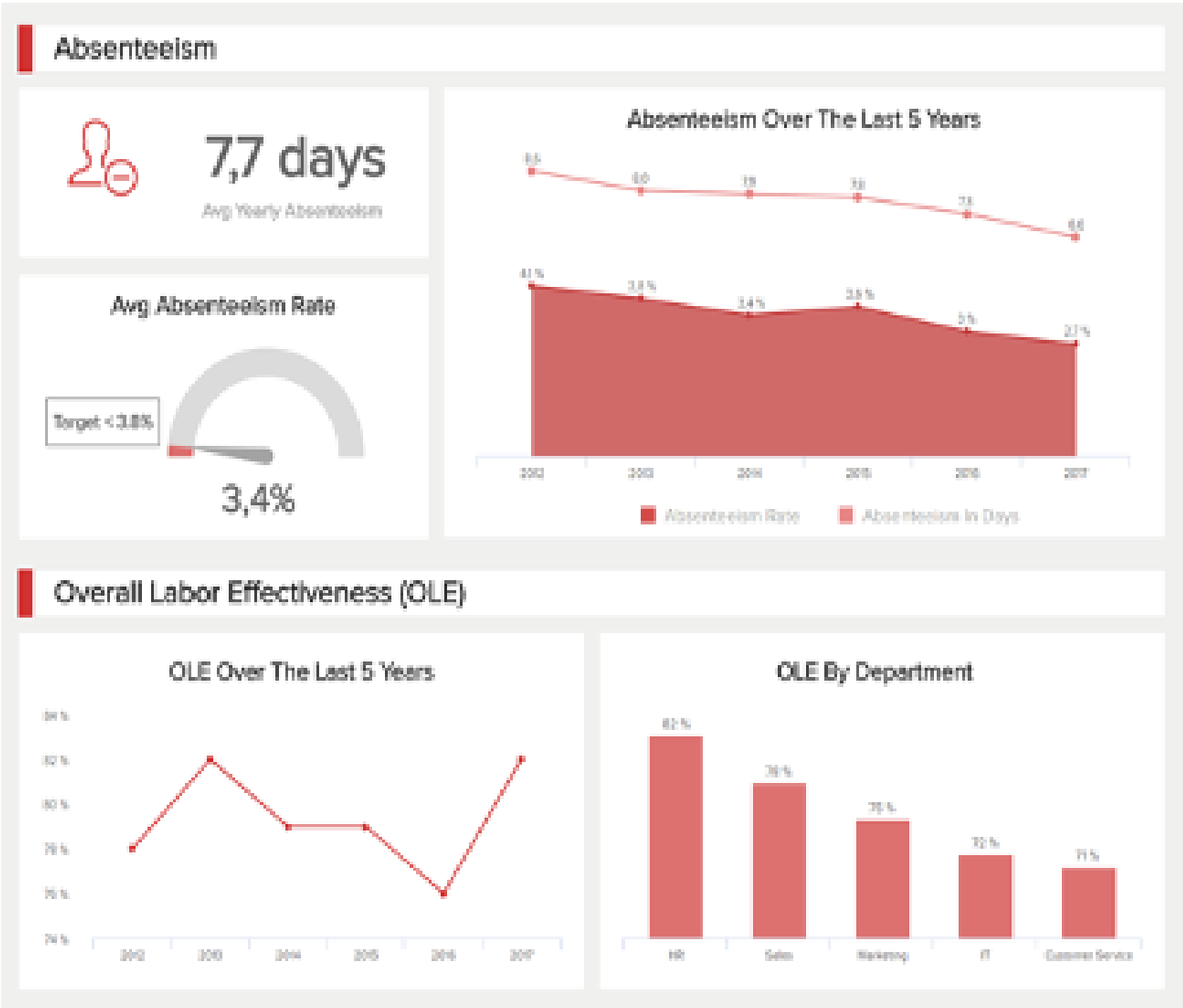
Operational BI enables business users to quickly spot an emerged opportunity or a problem and act accordingly.

This can be done with operational reports and dashboards using BI tools (where the information is updated within a set time interval), as well as alerts or messages.

For instance, line supervisors can get hourly production reports that will help them in achieving their daily production targets. Business intelligence can also help in improving the distribution routes to a great extent. Also, gaining an idea of the ordering pattern of a product would allow managers to set the distribution cycle and witness efficient supply of products.

HUMAN RESOURCES

An HR professional needs an overview of the different aspects of a company's biggest asset: employees. BI tools help in keeping track of the workforce performance and activity, the retention rate, overall labour effectiveness, the absenteeism rate. One can then analyse what works and what does not, in order to implement fast-response decisions and bring out the best from your employees.



source: datapine.com

SALES AND MARKETING

Sales managers use BI dashboards and key performance indicators (KPIs) for easy access to complex information like customer profitability, discount analysis and customer lifetime value.

Managers monitor sales and revenue targets, sales performance along with the status of the sales across times using dashboards with reports, charts and other data visualizations. BI systems provide real-time campaign tracking, measure the performance and plan for the future accordingly.

For instance, Starbucks has been very wise in its use of data in determining optimal store location with the help of BI tools. Starbucks leverages data using Atlas, an in-house mapping and business intelligence platform. Atlas provides Starbucks with data on population density, consumer demographics, income levels, public transport stops and the types of stores in the location. By carefully analysing this data, Starbucks can interpret foot traffic and average customer spend of a chosen location, this helps Starbucks to analyse the economic viability of opening a store in that location. Not only finding the right location, but also serving tailored menus was made possible using BI.

Atlas found areas that have the highest alcohol consumption and Starbucks selected stores that would serve alcohol as part of a special menu called as 'Starbucks Evenings' in Seattle; this tailored menu strategy has been expanded to a growing number of stores.

In a data-driven company, every department can take advantage of BI tools by focusing on why and how they are using data. These insights generated by BI tools are going to be critical for businesses in the future, owing to the ever-increasing amount of data produced. As more and more companies are heading towards adopting Business Intelligence for decision making, the global Business Intelligence market is expected to touch $33.3 billion by 2025.

How Can Business Analytics Help Understand Consumer Behaviour?

Marketing

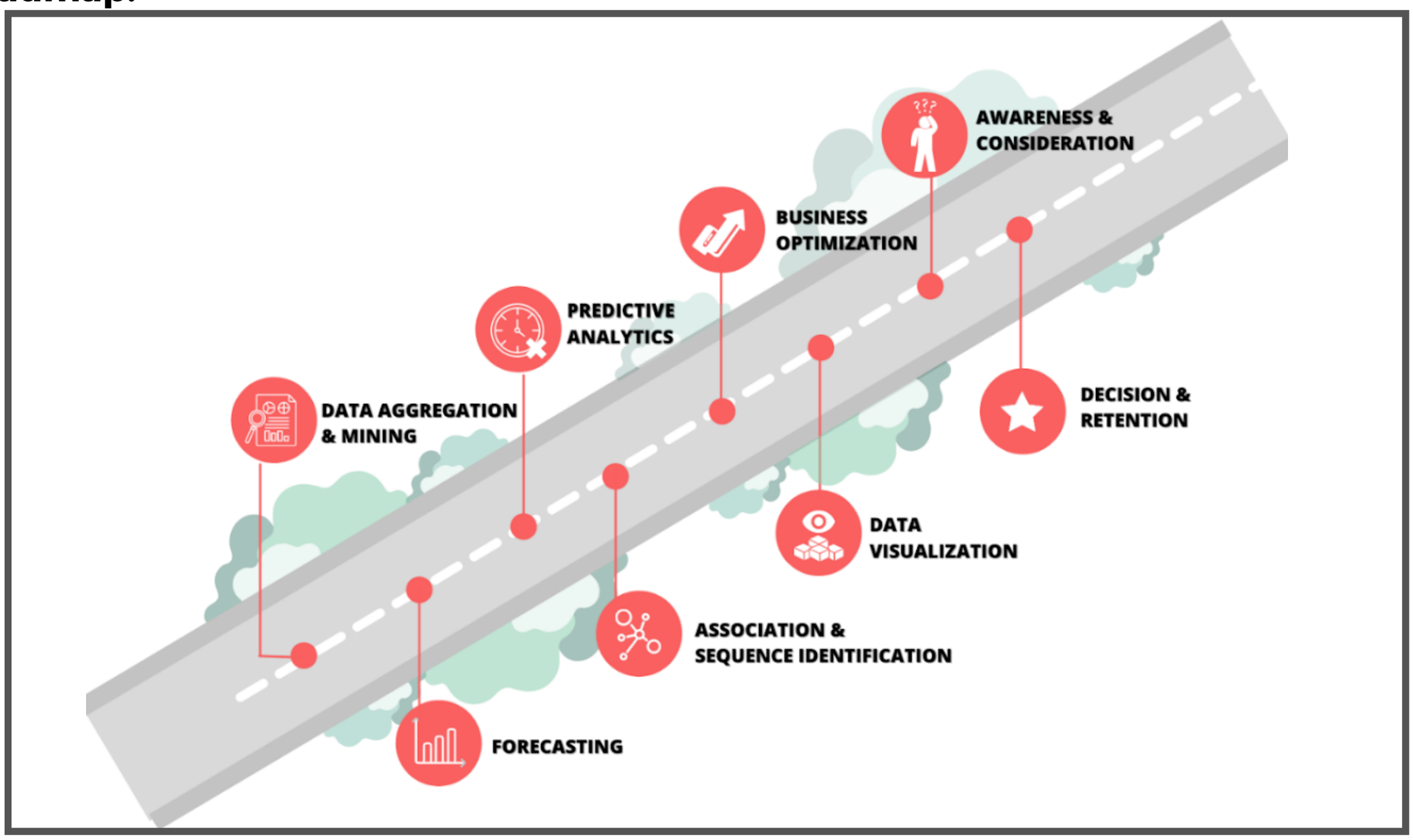
Roshni Panda, Jyotika Ray
MBA - BM (2020-2022)
Xavier Institute of Management, Bhubaneswar

Let's begin by justifying the need for business analytics, consumer behaviour and the crucial link between them. It is no surprise that the firms thrive in a digital environment where customer-centricity, personalization, and customer experience distinguish the winners from the losers.

According to Forbes, the quantity of data produced, stored and absorbed in the world increased from 1.2 trillion gigabytes to 59 trillion, from 2010 to 2020.

It will not be long until those that are too tardy to follow in their customer-centric, behavioural data-driven footsteps find it increasingly impossible to compete in any business. Business Analytics is the process by which businesses use technologies to collect and analyse data in order to gain valuable insights. In marketing, analytics can be used to learn how customers act across each channel & interaction point and this can greatly help understand consumer behaviour. Therefore, it is important to understand the relationship between business analytics & consumer behaviour and to simplify it further, we present you a roadmap discussing the steps involved in the process.

Roadmap:



1. Data Aggregation and Mining: Data Aggregation is a technique that enables organizations to achieve specific business objectives or perform process/human analysis at practically any scale by searching, gathering, and presenting data in a summarized, report-based format. Data aggregation in marketing is generally extracted from marketing campaigns and the various channels through which a business engages with its clients. It shows how the product is doing across channels, audiences, and cohorts.

Data Mining aids in the prediction of potential risks, the growth of sales, the reduction of costs, and the improvement of customer experience. It also helps with market segmentation, competitor analysis, audience targeting, and customer acquisition.

2. Forecasting: It is a strategy for predicting the future value for data based on its particular trends.

Past data is gathered and evaluated using quantitative or qualitative models to identify trends that can be used to guide the following:

- demand planning,
- financial operations,
- production capacity,
- marketing initiatives.

Corporations can predict consumer behaviour by using forecasting techniques in sales and business strategies.

One can use data that focuses on issues affecting the retail industry such as:

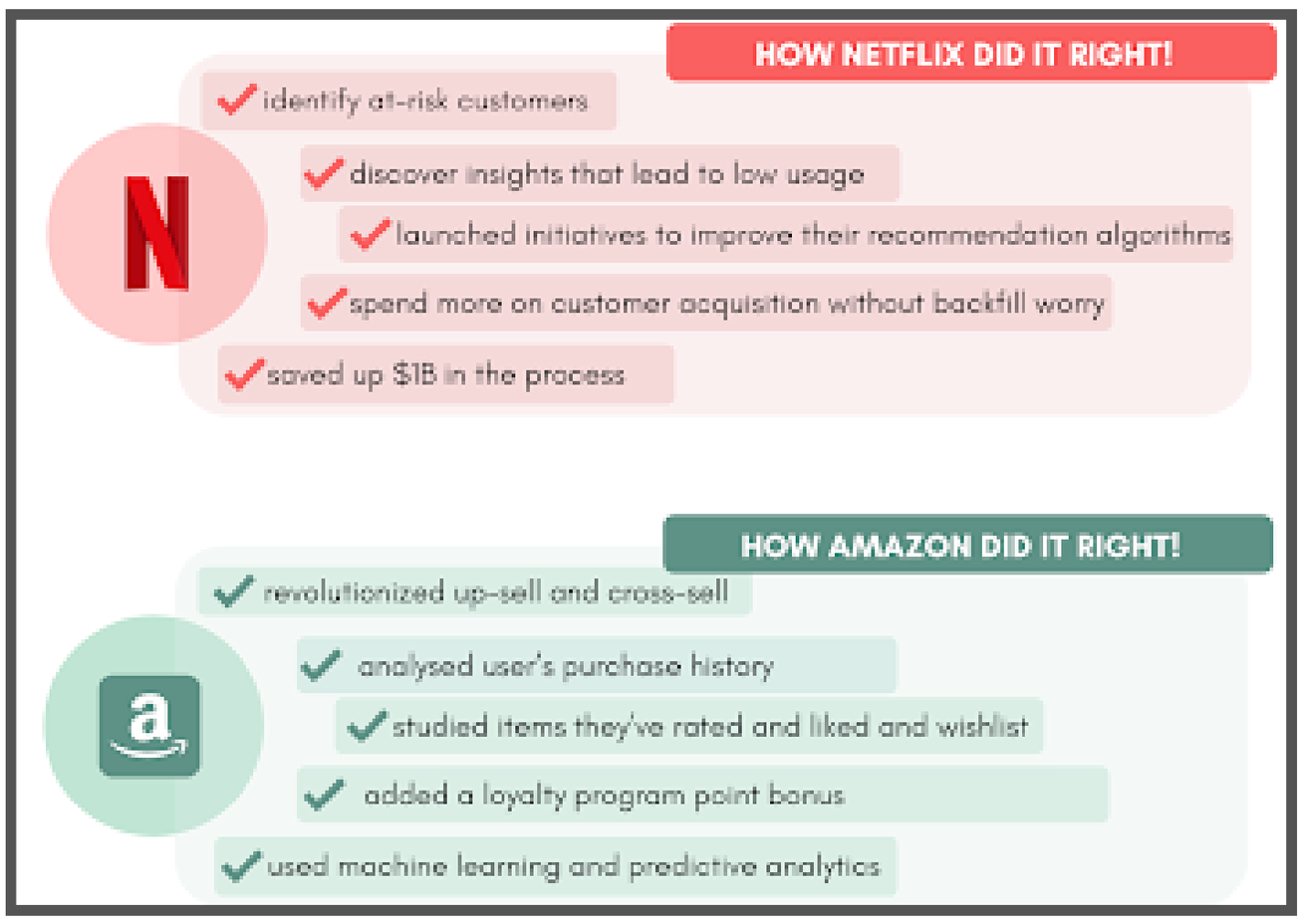
- consumer sentiment,
- credit availability,
- economic conditions,
- salaries.

3. Predictive Analytics: In the digital age, predicting consumer behaviour patterns based on customer interactions and transactions is vital.

Customer experience analytics, consumption-based, expenditure analytics, multichannel analytics, and digital footprints left by a user's online browsing can all be useful predictive data for driving insightful retail interactions. Few benefits of predictive analytics are:

- Data assists in the formulation of your target segment(s) and the determination of the optimum positioning for each.
- Predictive analytics can also enable the identification of the most profitable categories based on historical customer behaviour within each category.

4. Association and Sequence Identification: To discover which products are frequently purchased together, association rules may be derived from a database of such transactions. Purchases of flashlights, for example, may usually coincide with purchases of batteries in the same basket.



Sequence analysis is concerned with purchasing a product or items after a prior purchase of a product or service. Purchasing an extended warranty, for example, is more likely to follow (in that precise sequence) the purchase of a television or other electrical goods. On the other hand, sequence rules are not always evident, and sequence analysis could help you extract such regulations regardless of how hidden they may be in your market basket data.

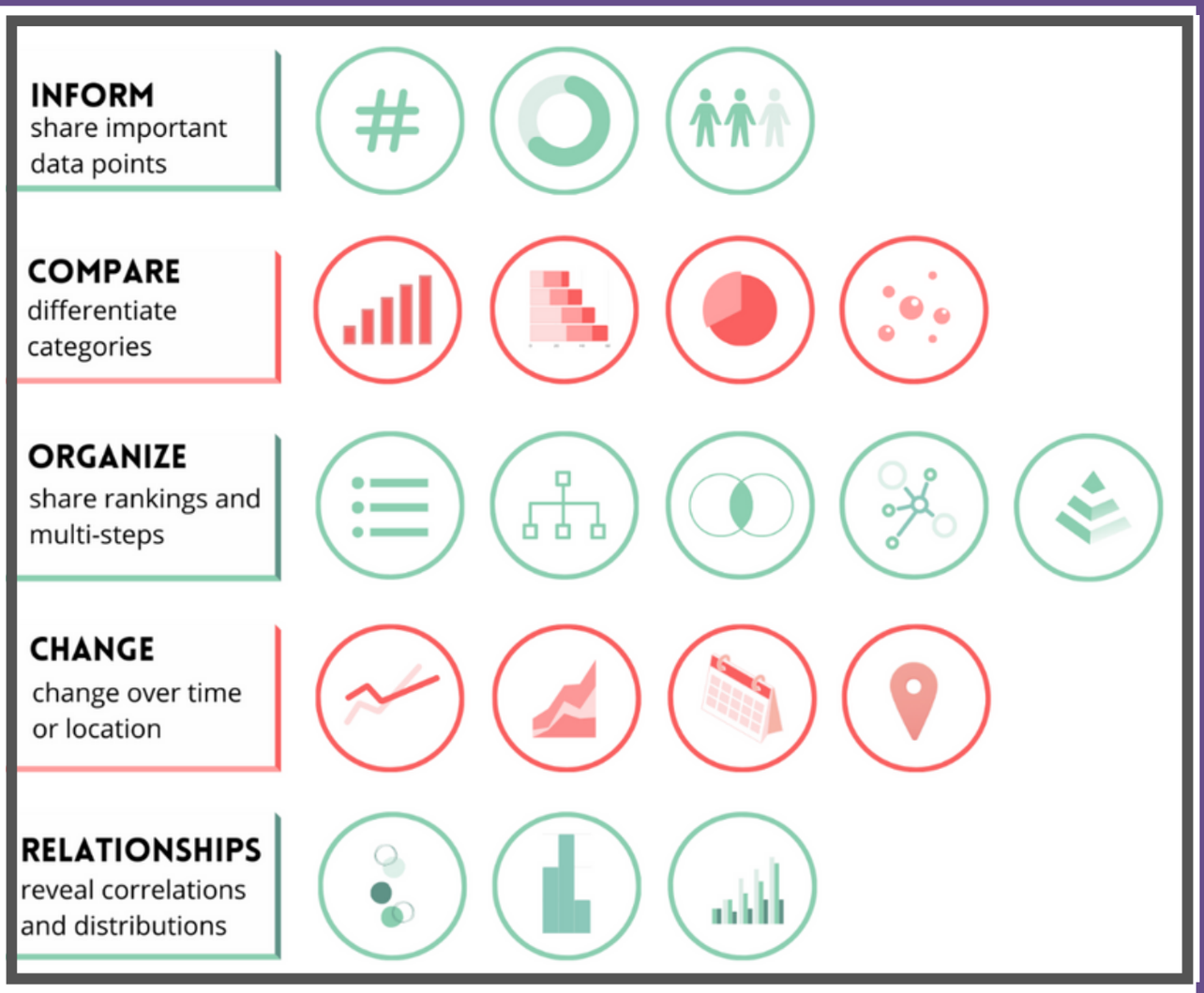
5. Optimization of the best solution:
After the analytical model has been validated and authorized, the analyst will use the prediction model coefficients and findings to drive "what-if" scenarios, utilizing the specifics to find the optimum answer within the constraints. The following concerns are necessary:

- How to deliver model output in a user-friendly manner?
- How to integrate it?
- How to correctly check the analytical model's monitoring?

The best solution is determined by the lowest error, management objectives, and the identification of model coefficients linked to the company's goals.

6. Data Visualization: As marketers, data visualization can help communicate and interpret data more effectively. It makes information more exciting and accessible by using visual components to tell a story inside it. Marketers may use data visualization to:

- Recognize patterns, trends, and outliers.
- Support a point of view of an argument.
- Make well-informed choices.
- Improve information engagement like blog entries, social media postings, eBooks, reports, and presentations.



Choosing a data visualization type that will assist you in communicating the information in the most effective way possible.

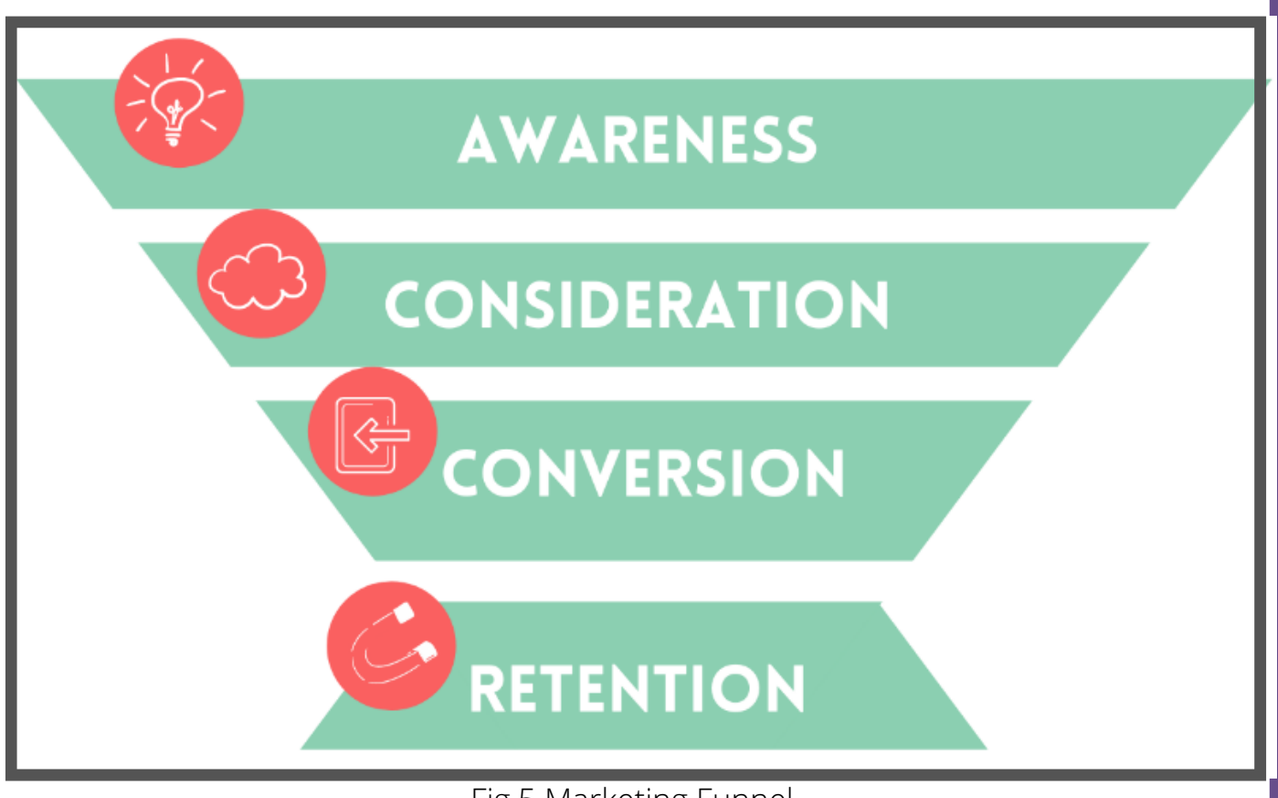


Fig.5 Marketing Funnel

A marketing funnel will be the suitable tool to define the link between Business Analytics and Consumer Behaviour. Figure 5 shows a simpler illustration of the funnel which distinctly shows the steps of the customer journey.

7. Awareness and Consideration:
The essential thing at this point is to ensure that you are targeting appropriate people to drive traffic to your website that is likely to purchase into your offer. If your stage one lead generation tactics bring in traffic that is not interested in conducting business, you're squandering money, time, and other critical resources. Business awareness can be generated from the use of SEOs, advertising, social media, targeted keywords and more.
The potential customer is familiar with the product or service at this point and

is assessing the problem – how it can be solved and whether it has to be solved right now. The goal is to show them all of the possible solutions to their problem and how advantageous it will be for them, and how the product may assist them. There is also a requirement to demonstrate how you are superior to your competition.

At the stage of awareness and consideration, 60% of consumers want to speak with a sales representative.

Making sure sales staff are prepared to address any queries clients may have, such as:

- What sort of solutions are buyers looking for?
- What is the best way for purchasers to learn about these solutions?

8. Decision and Retention:

Analysts would then make judgments and act based on the model's results in light of the predetermined business challenges. To meet business demands, the period is accounted for in the assessment of conclusion; all favourable and adverse outcomes are calculated in this time frame.

Conclusion:

Business analytics may provide solid and valuable visions that would not be possible otherwise in the absence of data. Any firm may improve its operational efficiency across several activities by using analytics. Business Analytics for marketing has consistently helped businesses to adapt to customer needs through increased availability of merchandise or improved sales reps. It is here to stay, and companies are investing heavily in the training of end-users on business intelligence tools to encourage fact-based decision-making.

If businesses are clever enough to pay careful attention by gathering, evaluating, and acting on customer behaviour data with the help of business analytics, it can reveal valuable information about customers, business, and the link between the two that cannot be found anywhere else.

How Tax Data Analytics is transforming the Tax Planning and Compliance Process

Finance

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MBA 2020-22,
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1. Introduction:
Taxation is the process through which a government or taxation authority imposes or levies a tax on the income of its citizens and businesses.

2. Structure of Taxation:
In India, the tax structure is classified under two main categories:

2.1. Direct Tax:
A tax that we pay directly to the taxing body. For example, the Government imposes income tax and corporate tax, which we must pay directly to the Government. These taxes are non-transferable to any other company or individual.

2.2. Indirect Tax:
While income and profits are subject to direct taxes, goods and services are subject to indirect taxes. Direct tax is paid directly to the Government, but indirect tax is collected through an intermediary from the end-consumer, a significant distinction between direct and indirect tax. It is then the intermediary's job to remit the collected tax to the Government. E.g., GST, VAT, and Customs duty.

3. Challenges faced by various stakeholders in the conventional taxation method

3.1 Tax authorities:
✔ Authorities are having difficulty analyzing structured and unstructured data to identify non-filers and under-reporters of income.
✔ New business models based on digital technologies and transactions in virtual marketplaces would necessitate a new tax administration system. As a result, governments are searching for digital ways to communicate with businesses to make their tax, financial, and operations data entirely transparent. They rely on consumption taxes and increased tax transparency from multinational corporations.

3.2 Business Organizations:
✔ Managing and locating final versions of critical documents is difficult.
✔ There is inadequate information-sharing across tax functions and geographic locations. Because of the considerable repetitional risk that firms may suffer due to tax litigation or social media-initiated concerns, effective communication of the tax function to C-suite executives is critical.
✔ Methods of data collection that are redundant and email-intensive

✔ The ability to factor in precise tax cost estimates in business decision-making is a competitive advantage, which is not available in traditional spreadsheets.

4. How can Data Analytics be implemented in Taxation?

4.1 Requirements:

✔ An integrated Tax Data source provides a seamless, integrated view of tax-related data across the organization (from operations to marketing to finance departments).

✔ A robust ERP system captures tax-related data from various departments and collates it at a single source using automated tools.

✔ Use of cloud-based applications, data can be stored and accessed anytime, anywhere.

✔ Adopt analytics solutions for real-time informed decision making and embrace predictive analytics to gain actionable insights from data generated through internal business processes as well as external market sources

✔ Appropriate dashboards to enable meaningful communication from their tax functions.

5. Advantages of Tax Analytics:

✔ Using Data Analytics can increase the collection of indirect taxes.

✔ Government can now know if a citizen owes any tax to the country if he/she lives in any other part of the world.

✔ Data Analytics can help automate customer due diligence and decrease the risk of fraud by a significant percentage.

✔ By using predictive analysis, tax authorities can identify the tax yields accurately.

✔ Having data automized makes it easy to visualize, and one can quickly draw inferences that help make informed decisions. Allows tax experts to focus their resources on analyzing data and developing revenue-generating and cost-cutting initiatives rather than spending time obtaining data.

✔ The expenditure pattern of the citizens can be identified.

4.2 Structure

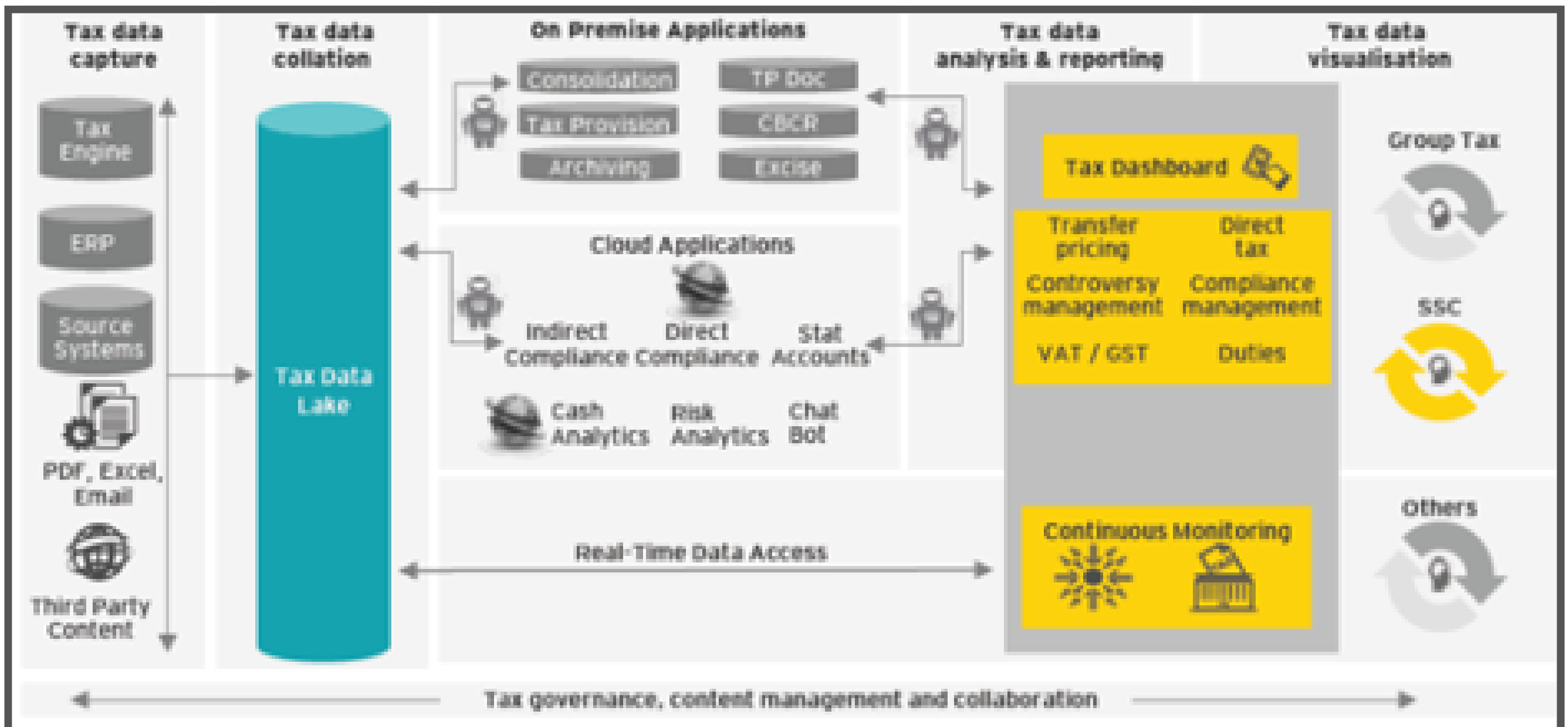


Image source: https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/digital/ey-tax-technology-transformation.pdf

6. Tax Analytics Opportunities in an Organisation

✔ Making Comparison of units over time

✔ Considering the ramifications of decisions like buying or selling of assets

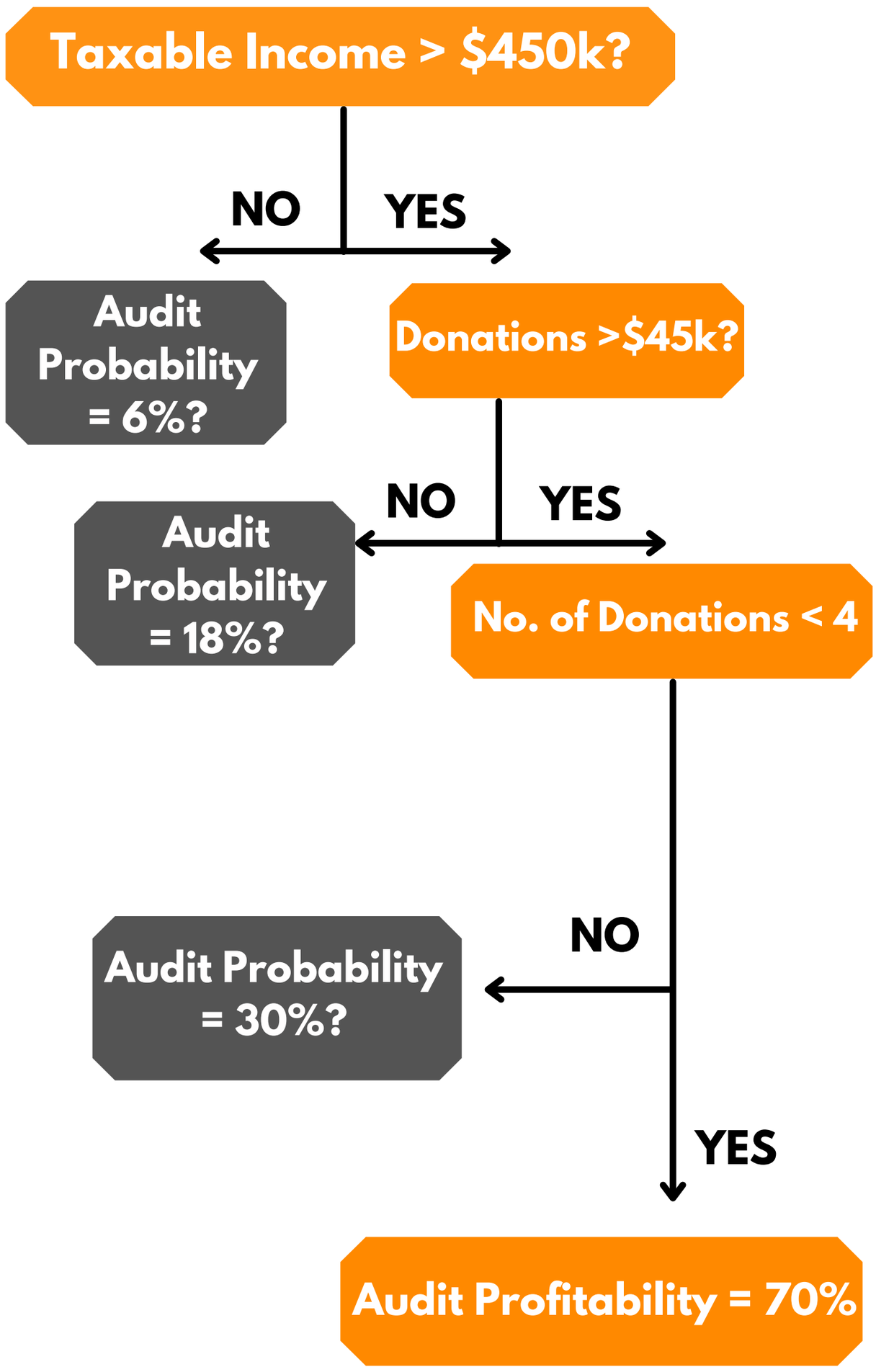
✔ Tax items are sampled to identify potential problems and audit risk

✔ Tax law interpretation

7. Example of a Tax Analytics Application

7.1 Example: The use of the combination of Prediction and Clustering Analysis to find the likelihood of Tax audits:

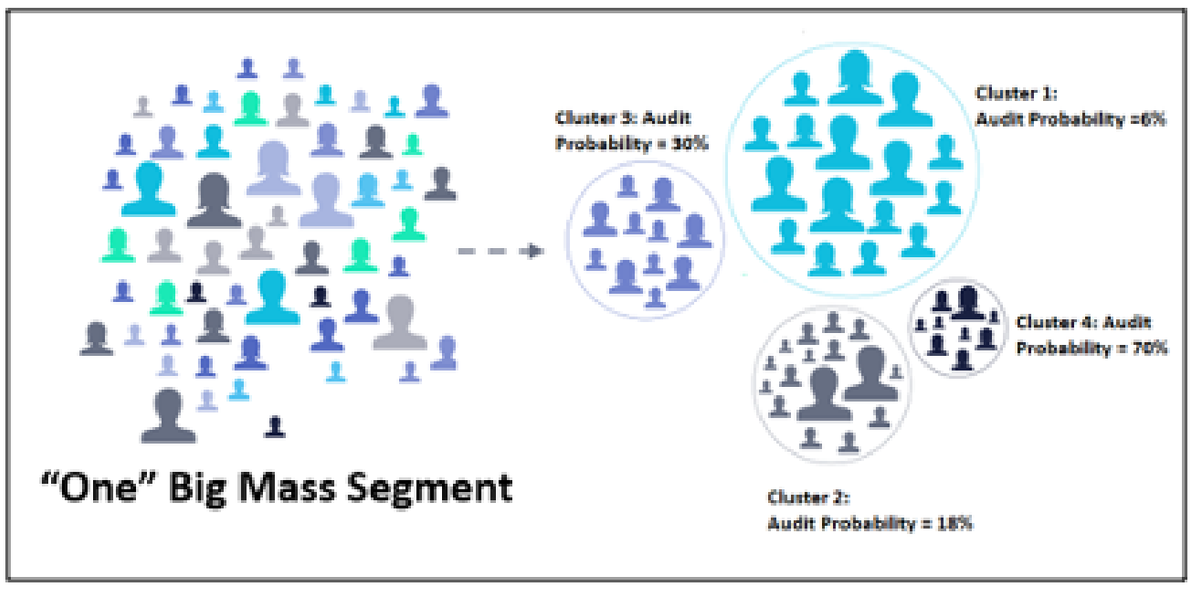
A decision tree may, for example, be used to assess the likelihood of a future tax audit for a high-net-worth individual based on historical results. Organizational decision trees can be created in the same way.



7.1 Example: The use of the combination of Prediction and Clustering Analysis to find the likelihood of Tax audits

In this case, the model predicts that high-income taxpayers who declare a higher value of charity donations, concentrated in a few charities, will have their tax returns audited more frequently.

Using precise algorithms, tax analytics will use clustering, identify groups with similar behaviors, and cluster it into multiple categories. As a result, it will be done faster, with higher accuracy, and vast quantities of transactional and detailed data.



8. Recent Developments

8.1 Project Insight:

India introduced "Project Insight" to track the people who are more likely not to pay the tax and follow the rules. The analytics tool will collect data not only from traditional sources like banks and financial institutions but also social networking sites to correlate spending patterns with income declarations. Now, if an individual is traveling to a foreign country and posting pictures on social media or buying a luxury car beyond the returns filed, the I-T Department can use Big Data to analyze them and check the mismatch between their earnings and expenses. Analytics helps to track down these people and send them messages, emails, and phone calls to remind them about the tax payment.

8.2 Exposure to Data post-GST Implementation:

A large amount of data has been collected from the citizens, especially after the implementation of GST. The Government also got to know the spending of the Indian citizens on foreign products and tried to analyze the purchase pattern to evaluate the tax evasion. Before Data Analytics, employees had to ask so many questions and record the data in documents, which cannot be kept track of due to the increased number. Tax departments have become smart with the improved system. It has also improved the tax to GDP ratio. Information is being collected from the public forums without invading the citizen's privacy, making the system even more efficient. Sectors such as real estate, mining, pan masala, etc., which are uncounted wealth, can be identified, and more tax can be collected, and there is less of taking advantage.

8.3 Extracting advantage by linking Govt. ID cards:

✔ The Government has made it mandatory for all taxpayers to link their Aadhaar numbers to their PAN numbers. While an individual's ability to escape declaring high-value purchases was previously limited to using only their PAN to pay taxes, this link of two vital documents has considerably decreased their capacity to do so.

✔ Additionally, taxpayers must utilize Form 61A to disclose cash receipts, stock purchases, mutual fund purchases, immovable property purchases, term deposits, and foreign currency sales.

Softwares such as Avalara, Tax Compliance Software Trust map, Drake Tax, Tax Jar, Canopy, Sovas, etc., are the options. These softwares can be compared based on user-friendliness, scope, and cost.

9. How Covid 19 has changed the tax compliance process and role of Data Analytics.

✔ Remote Working

The actual percentage of employees who work remotely climbed by 60%. Two-thirds of administrations acquired or rented additional IT equipment for their employees to help with this. Going forward, administrations intend to continue moving field audit work to a virtual/digital environment.

✔ IT system development

Many tax administrations were requested to build or improve existing IT solutions during the crisis, regarding internal processes or taxpayer services and take on additional obligations to aid the Government with COVID-19 support. For example, over half of administrations said they had to create new processes to provide financial assistance to citizens and enterprises.

✔ Taxpayer services

There remain many taxpayers that continue to make use of non-digital communication and service offerings, such as paper-based inquiries or in-person visits.

On a positive note, administrations noted that they were able to shift a significant percentage of communications from paper to digital through:

- updating the administration's website with new information and instructions
- making use of general communications tools like advertising and social media;
- contacting individual taxpayers directly, such as through SMS or phone.

The Importance of Big Data Analytics in Supply Chain Management

Operations

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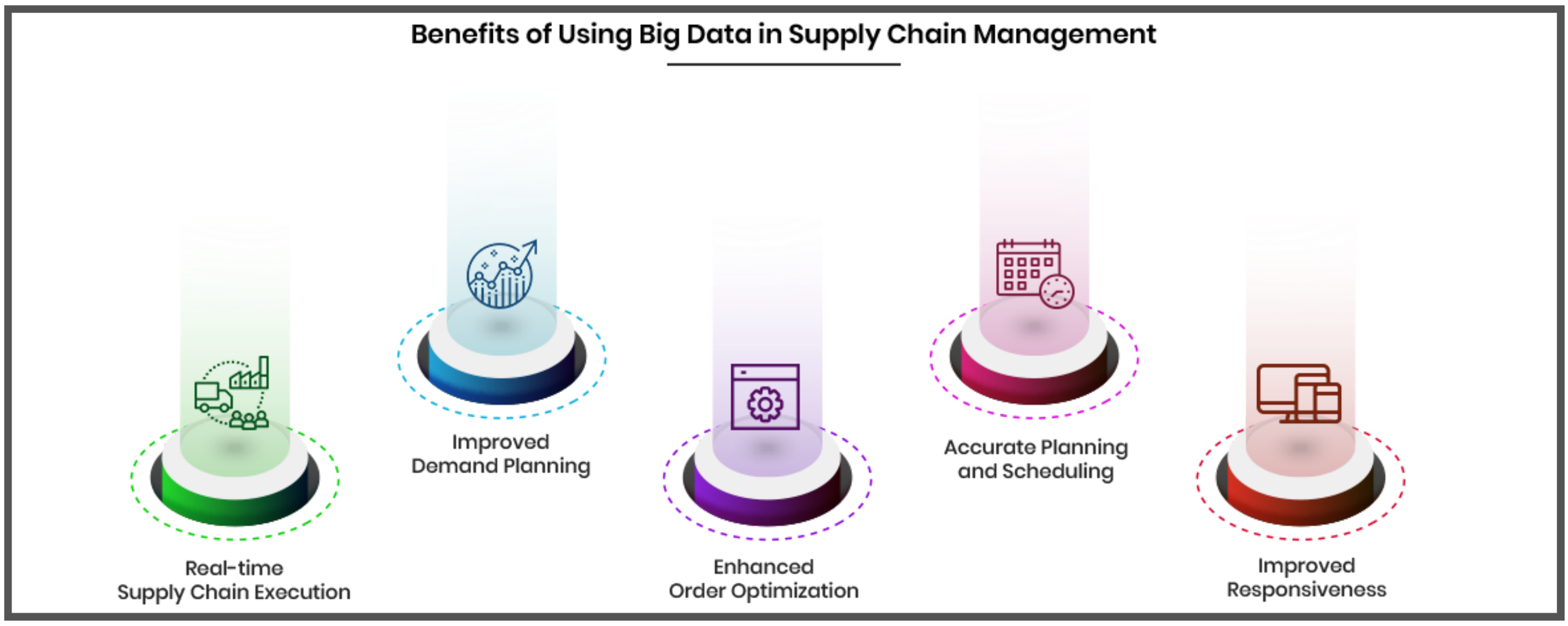
Anyone who has tried hoarding food products during the lockdown phase and faced sanitizer shortage has experienced the taste of the complexities that the supply-chain leaders have faced during the pandemic. These changing conditions have made it very crucial for all the companies to tackle the crisis by being resilient towards the aftershocks. In such a scenario, analytics offers a greater capability to know rather than speculate about the future and helps to incorporate risks and resilience as an integral part of supply chain management.

Over the years, companies have broadened their supply chain intelligence and analytics has disrupted every level of the supply chain management process by helping companies to accelerate their journey towards supply chain analytics. Various firms have adopted AI and Analytics in logistics-network optimization, inventory and parts optimization, improvement in business processes, and increased visibility in the supply chain process through collaboration with suppliers. With supply chain analytics getting more complicated, there have been independent software solution providers that enable the supply chain analytics at every level of the businesses making it easier for the companies to incorporate AI and supply chain analytics in their business processes. Consider the case in Minneapolis in 2012 when a Target store was able to predict that a teenage customer was pregnant before her father. The girl had had a change in her shopping patterns and was making a few purchases that the internal algorithm of the target had flagged as her being a potential mother. So, the company had sent her certain coupons and targeted offers for baby cribs and clothes. This outraged her father who only, later on, found out the truth. All this happened in 2012 and the prediction algorithms have come a long way since then.



The evolution that Big Data Analytics brought to supply chain management has evolved over the years from statistical analysis to a more integrated analysis where the companies started adopting Enterprise Resource Planning (ERP) to easily access data for analysis, forecasting, and planning.

Over the years, businesses began to make the best use of business intelligence as well as predictive analytics software solutions to provide a more detailed understanding of the intricacies of the working of supply chain networks and how to make more informed decisions to optimize cost and enhance the performance.

Today companies are using AI and cognitive technologies to incorporate data-driven intelligence into the business and to optimize the business processes by incorporating both structured as well as unstructured data that helps to identify all the available opportunities in the supply chain initiative which fosters growth as well as controls the revenue losses which are bound to occur due to inefficiencies in the supply chain. AI capabilities help supply chain platforms to automate and self-learn which provides them with intelligence in real-time.

Covid 19 is undoubtedly the biggest one and there have been unprecedented shocks that supply chains have had to experience since the advent of globalization. It has highlighted the vulnerabilities in the businesses and now, more than ever, organizations have seen the opportunities of acting quickly and adapting to the changing needs, innovating their business models, and proactively forecasting and predicting events to be better equipped to deal with uncertainties and build a more sustainable business process.

Consider the case of large supply chain networks like Amazon who rely heavily on their algorithms for them to work out their daily operations. This way they had relied on some basic form of Big data analytics to make predictions.

But after the great disruption of the COVID pandemic, they have had to re-evaluate their algorithms and establish new working patterns to better suit them. The Amazon web services is a shining example of how a well-designed system can face any uncertainty and reap rich rewards for the client.

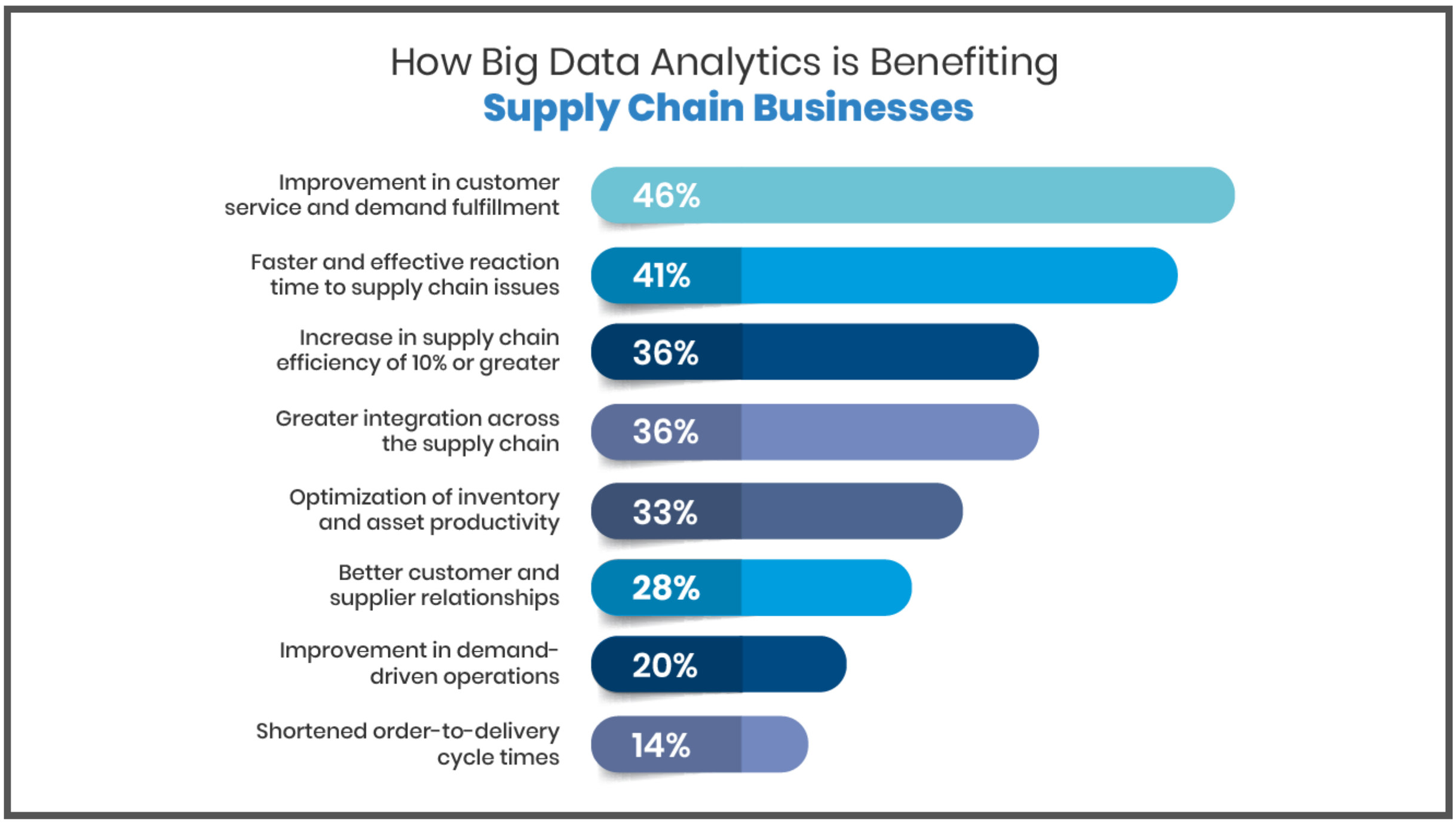
Role of Big Data in Supply chain in the post-pandemic world

The pandemic has exposed vulnerability and inflexibility built into many business models and has posed significant questions to businesses.

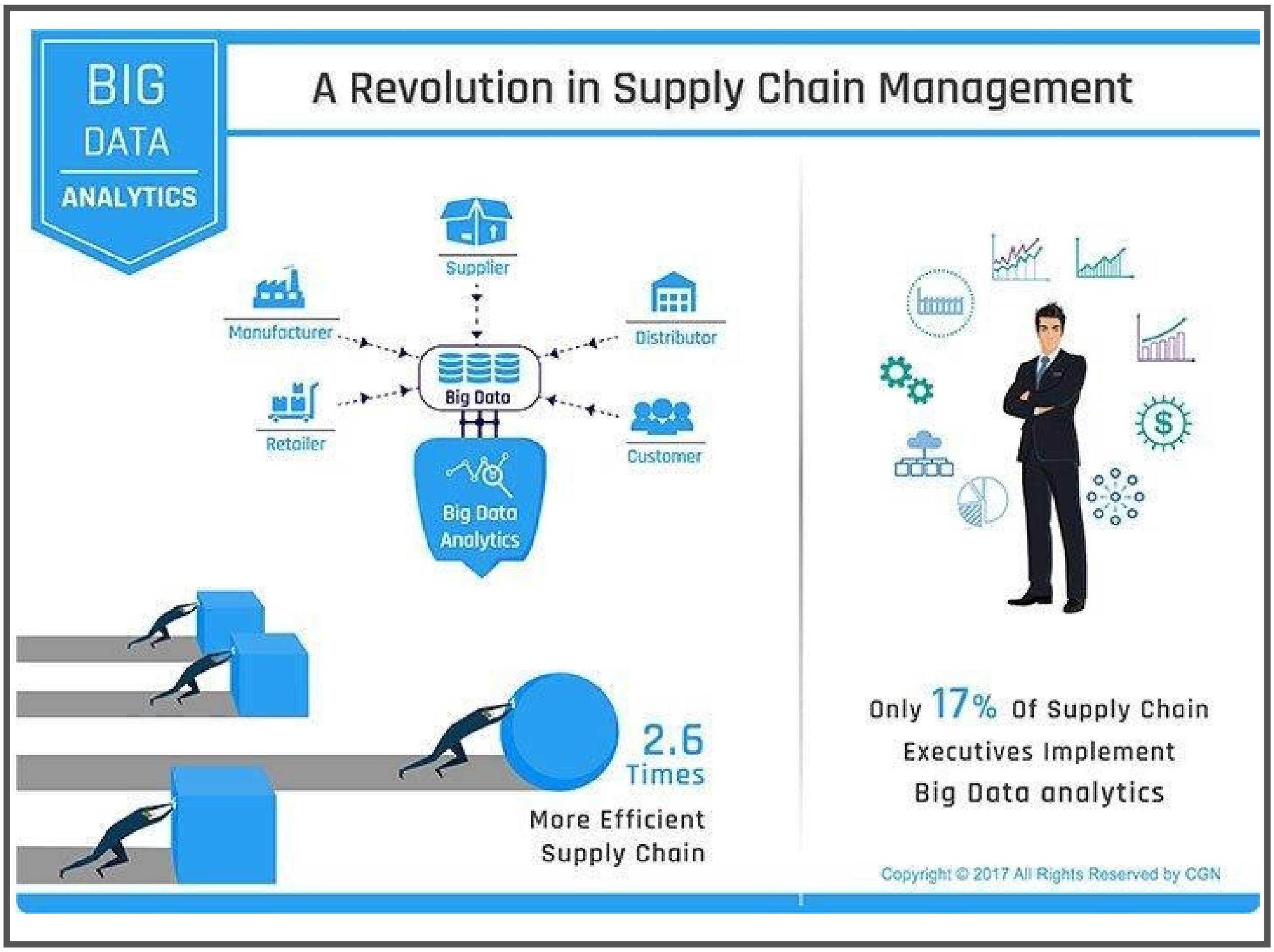
Now, more than ever businesses wish for a system of supply chain analytics that is capable of predicting the ever-increasing externally created supply chain variables that has an impact on the overall business performance. In the covid era, companies have failed miserably by relying on the steady-state models which are seen at the heart of the planning systems, and studying historical data alone is no longer reliable to create a baseline. The crisis has shown the interdependence of different segments and the impact of external variables on the businesses which has forced companies to make decisions which are based on the information available in real-time which became paramount for continuity of business operations and leading to the introduction of new capabilities such as order monitoring being done real-time, end to end visibility of the inventory, enhancing the reverse logistics experience and making the supply chains more resilient to future disruptions.

Post covid, companies are increasingly using analytics to model the potential costs and are looking for technologies that would provide greater intelligence in evaluating the potential risks by identifying the macroeconomic opportunities. To succeed in the long term, it is becoming extremely important to incorporate risk-response as an integral part of the business protocols.

Now, companies have recognized the need for diversifying supplier bases and plan for multiple future scenarios to enhance the ability to navigate new restrictions. AI can deliver quick results transcending regions, languages, and biases and so success in the future will increasingly be driven by resilient supply chains and the progressive, collaborative professionals who manage them. The crisis has increased the number of variables to be accounted for to better reflect the macroeconomic environment and models with higher granularity are likely to be more robust.



COVID-19 has highlighted the increased load on legacy systems and has made businesses reassess the need for updates and overhauls. It has evolved the importance of big data in supply chains around the world and has tested the flexibility and resilience of supply chains around the globe. More than ever, enterprises are realizing the need to embrace data and analytics to respond to the changes and break the existing silos in supply chains by understanding the supply chains in more dimensions and ensuring real-time transparency across. Going forward, a more comprehensive overview of the supply chain and proactive modeling is most likely to build resilience in the business, and balancing of Big-data with empathy will be more important than ever for competitive differentiation.



Role of HR in Maximizing Employee Productivity in Different MSME Sectors

Human Resource

Deep Arora, Shristhi Kumari
MBA 2021-23
Symbiosis Institute of Management Studies, Pune

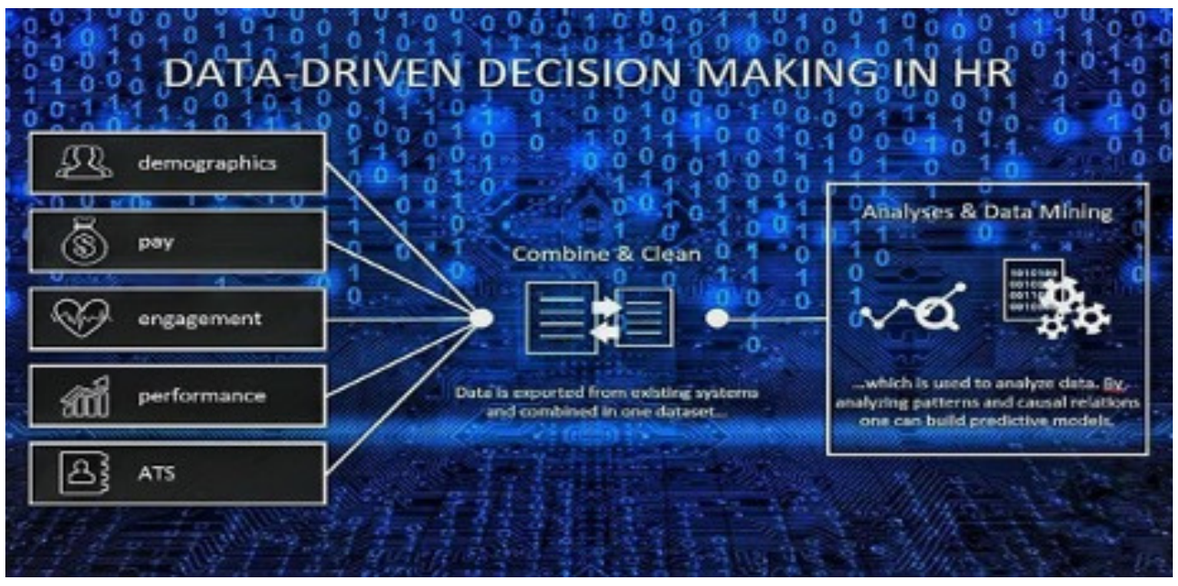
BUSINESS ANALYTICS IN HR

Progress and innovation over the past 10 years alone have changed the world in countless ways, we realize that human capital perhaps became the most sustainable source of competitive edge and value creation for any company. The role of HR is critical and is not an easy task, as HR teams have to manage a series of tools and resources designed to drive real insights and opportunities.

These involve an approach to form decisions that are supported by facts and numbers, instead of intuition and guesswork. Analytics thus takes the eye within the HR monarchy today. Business Analytics Software automates the process of gathering, organizing, and analyzing the data to help HR professionals efficiently perform various functions like recruitment, talent management, employee engagement, performance analysis, productivity analysis, and engagement/ attrition/ budget prediction.

Business analytics in HR can help foresee the employment needs of an organization that might be required in the organization's future and also, figure out the skills which are desirable to improve business performance.

Moreover, organizations are inclined towards data, and explicitly insights emerge from data, to explore another way ahead.

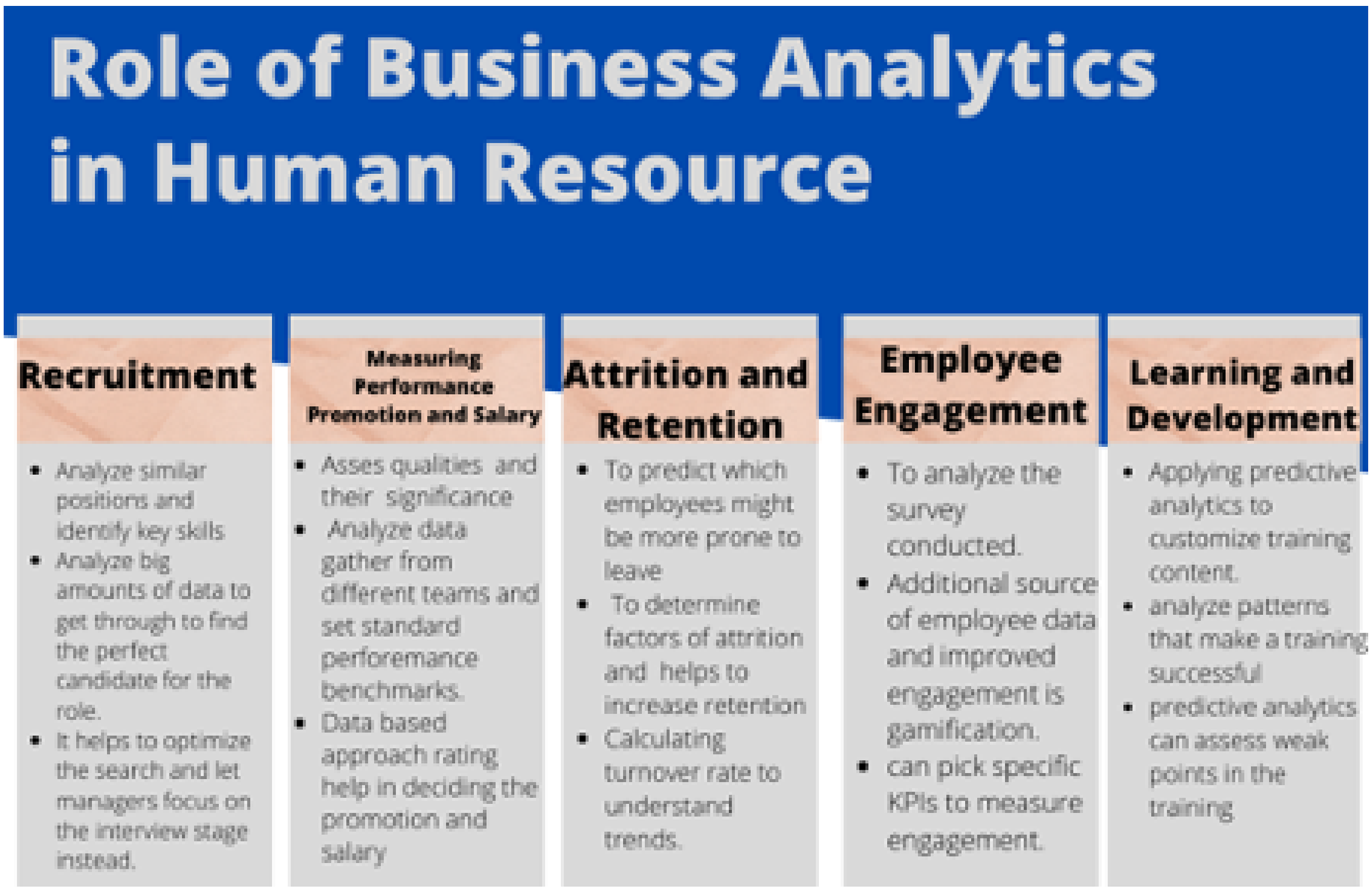


Business Analytics usually employs three different types of analytics to help HR make decisions:

Predictive Analytics

By applying predictive analysis to data, HR can become a strategic partner that relies on proven and data-driven predictive models, rather than counting on gut feeling and soft science.

People Analytics Maturity Model of Deloitte's 2018, only 17% of organizations worldwide had accessed and utilized HR data. Out of this 17% in 2018, 2% of companies have business-integrated data, meaning they use real-time, advanced AI-aided tools to gather, integrate, and analyze data.



Prescriptive Analytics

Prescriptive analytics refers to analytics that seek to supply optimal recommendations during a choice making process.
Prescriptive analytical approaches can be profoundly useful for organizations with peak or hectic seasons. A company will need to know the number of staff who can work during the holidays.

Prescriptive analytics can assist to decide how to properly onboard a new hire based on their skills & strengths.

Descriptive Analytics

Descriptive analytics is the basic type of analytics, it's taking historical data and summarizing it into something that's understandable like a headcount report of all employees within an organization is descriptive analytics.

Recruitment

When it comes to hiring, you have huge data to track down the ideal candidate for the role. Yet, even before that, you need to recognize the vital traits of that

optimal candidate, and that is the place where Business Analytics comes in.

Business analytics can break down comparable positions and recognize key skills and characteristics for the role. This BA-driven methodology assists with enhancing the pursuit and letting managers center around the interview stage instead.

Measuring Performance, Promotion and Salary

As we know, performance is everything. Business Analytics can assist you with analyzing the performance of your fresh recruit and perceive how fit they are for the job. The applicant's daily reports can be updated on day one, day 10, day 30, etc. on various analysis tools which not only help in analyzing their performance but also indicate success or a failure of the onboarding process.

For long-term employees, instead of tying analysis to the employees' reports, you may focus on other key indicators, such as comparing the metrics with similar positions at competing companies or career growth rates. By analyzing this data, we have a better overall picture of an employee's success, and areas where HR can help—through providing training, motivation, or a good old-fashioned chat. One of Google's analysis reports, those who don't get a promotion within four years are substantially more prone to leave the organization.

Business Analytics (BA) can be utilized to recommend trends, for example, expanded staff turnover in a particular office, dips in efficiency, and so on, which may indicate areas for further consideration.

The data gathered can be utilized to anticipate the turnover, pay increment, and workers' requirements as far as preparing, expertise, improvement meetings, evaluation, pay, and reward. This might be anything from analyzing the aftereffects of employee fulfillment surveys and comparing them with productivity levels to uncover areas of concern.

Training and Development

This may be used to uncover low productivity rates within departments, indicate a need for either more staff to hire or need for further analysis, or perhaps identify training needs by looking at which department hasn't updated their skills yet. We can observe areas of the experience that were failing employees who left according to engagement survey responses, and the reasons employees gave for leaving by exit survey, and load all that information into the system to inform the model.

Predicting Attrition

The Percept research database contains a set of nearly 100,000 employees with both employee engagement survey results and exit data. This provides a huge, globally diverse, and statistically relevant dataset for conducting research specific to attrition.

In analyzing the pre-exit response data from these respondents to four standard engagement items (intent to stay, referral behavior, intrinsic motivation, and pride in company), employees who were mostly engaged had an attrition rate of 5.7% in the next six months after the survey, less than one-third of the 20.6% attrition rate for employees who were actively disengaged.

The data also shows a strong correlation between the quality of the employee/manager relationship and attrition in the next six months after the engagement survey. Relationship of employee-manager getting a tag of "poor", 17.8% left the organization - almost double the 9.6% rate of attrition for relationships tagged "good".

Because top performers are always in demand, an efficient employee retention model is so important. Predictive analytics is the key to the development of this model.

Critical Evaluation

With technological advancements, the business has developed the use of HR analytics that improves organizational effectiveness. HR analytics quantifies and provides data-driven decision-making by using statistical models and techniques.

It is analyzed that implementation and usage of HR analytics in business have been challenging as the HR professionals may lack the required skills and knowledge of using the HR analytics tool or there may be data quality or data governance issues. Due to such an issue organization may not get the support of top management.

Despite such challenges, HR analytics helped businesses in gaining competitive advantage, solving HR-related problems, improving organizational performance, and the HR function.

Data can be used and stored ethically and legally for best use if the organization has relevant rules and policies.

Conclusion

The study explains that HR analytics usage and implementation have both pros and cons but if analyzed on a broader concept then opportunities of using HR analytics diminishes the challenges and lead to the tremendous growth of the organization. It is analyzed that if an organization understands the right purpose of implementing HR analytics, then they can get a better return on investment and businesses will accept and start involving HR analytics in HR departments. Soon HR analytics usage will rise and help the organization in getting evidence-based results and will transform the working of the HR department from traditional to statistical decision making.

The right use of HR analytics in the right business can lead to the tremendous growth of HR analytics in an organization providing them to grow faster.

WeAchievers

Santosh Chintakindi

Santosh Chintakindi

PGDM HCM

(2020-22)

Medical Device Hackathon

I won the 'Novel Design Award' at the Medical Device Hackathon organized by **IIT Bombay**, for innovation of a Medical Device - Oral Appliance for tackling the blockage of airflow to lungs in Obstructive Sleep Apnea (OSA) patients.

Disha Patil

Disha Patil

PGDM HCM

(2019-21)

Best B-school Project Award 2020

I won the 3rd prize in 'Best B-School Project Award 2020' by **Business Standard**. This competition highlighted the top 5 summer internship projects across B-Schools in India with the choice of subject topics presented ranging from public health to employee attrition to therapeutic platforms and many more.

WeAchievers

Three of a Kind

Vaibhav Murudkar
PGDM
(2020-22)

Tanya Mahajan
PGDM
(2020-22)

Vinit Hule
PGDM RM
(2020-22)

Top 5 Nationalist | We were among the top 5 teams on a national level in **SC Quest, DRISHTI 2021**, a competition by **Symbiosis Institute of Operations Management.** It aimed at testing the ability of students in finding a supply chain strategy that suits your company best and also acts as a differentiating factor.

Call forArticles

We invite articles for the 113th Issue of 2021 of SAMVAD.

The Theme for the edition - "Social Innovations and Entrepreneurship"

The articles can be from Finance, Marketing, Human Resources, Operations or General Management domains.

You may also refer to sub-themes on Dare2Compete.

Submission Guidelines:

- Word limit: 800 - 1200 words
- Cover page should include your name, institute name, course details & contact no.
- The references for the images used in the article should be mentioned clearly and explicitly below the images.
- Send in your article in .doc or .docx format, Font size: 12, Font: Constantia, Line spacing: 1.05' to samvad.we@gmail.com.
- Please name your file as: <Your Name>_<title>_<section name e.g. Marketing/Finance>
- Subject line: <Your Name>_<Course>_<Year>_<Institute Name>
- Ensure that there is no plagiarism and all references are clearly mentioned.
- Clearly provide source credit for any images used in the article.

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THINK POSITIVELY
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