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XTRAVAGATE

BIG DATA REDEFINING WORK & PLAY

DOMS SNIPPETS | WHEN EXAMS WENT ONLINE | A DUAL TRIUMPH

DEPARTMENT OF MANAGEMENT STUDIES
NIT TRICHY

Analytica

EDITOR'S NOTE

XTRAVAGATE

Analytica

Navya Kaul
2nd year MBA
(Editor in Chief)

Dear readers,

The month of August has been probably the most unrewarding period of this year. While India crossed 33 million Covid-19 cases on August 28th, the President of the United States of America has served the World with exceptionally bizarre views on the pandemic's statistics, contrary to the expectations from a world leader.

Amongst all this political haywire, we decided to reinstate our beliefs in the saviour of the world, Science. As a result, this month's theme "Big Data - Redefining Work and Play" aims to opine our Editor's take on how Big Data and Data Sciences are re-moulding our world. This edition includes pieces on how Big Data is reshaping the supply chain management processes, transforming the digital advertising and customer targeting landscape, and its gaining popularity in the sports and gaming industry.

We are also elated to announce our partnership with Analytica, the Analytics Club of our Department for this edition. In our partnership, Ms. Induvadhana Rao, the Head of Analytica, has shared her views on how data analytics can drive product-centric innovations.

The Snippets section this month is a bearer of two good news. Firstly, the department finished its second round of online trimester exams and the batch of 2019-21 is finally promoted to their second year. You will find the article on challenges and learnings that one of the Editor has shared for our readers in this section. Secondly, the college wound up with the Post-Graduate level elections and two students of the Department of Management Studies have won themselves esteemed positions in the Student Council for this academic session.

Lastly, Xtravagate congratulates and welcomes the coming batch of 2020-22.

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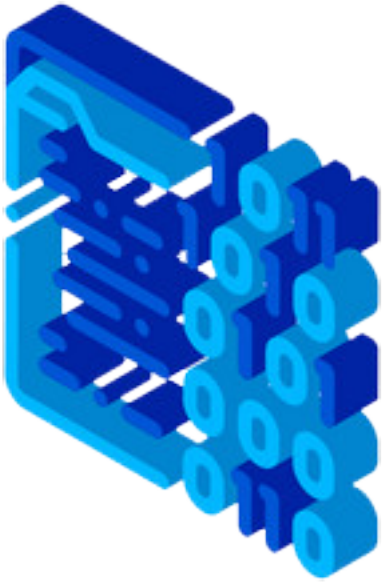

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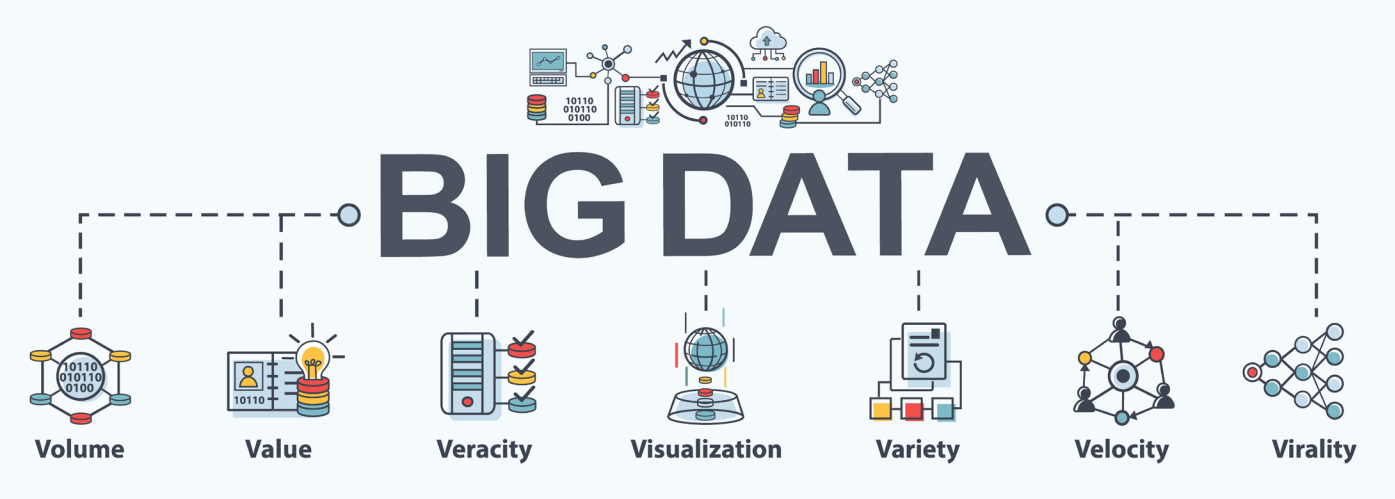
Big data is huge and massive data collected to bring out extraordinary insights to improve business, many industries and manufacturers are collecting and using big data to improve quality and performance. Data can be valuable only if the firm is ready to utilize it to improve the product quality and performance by innovation. While doing business, we can't just rely on gut intuition and do major investments. Instead, they should develop tools to help in tracking the product, competitors, customers, and brands. To proceed with all this, we must gather and analyze data and change into actionable improvements and innovation.



To process Big Data, we need specialized techniques like AI, Machine learning, Analytical tools which helps us to innovate product according to the customer needs. When we compare it to traditional analysis, Big Data needs a lot of detailed data to track. Merely a sample data is not enough. We should make proper queries in real-time to analyze with more variety to use multiple types of data.

One of the key reasons why data analytics is used mainly in product innovation as it allows us to think from the customer's perspective and create better business benefits, as in return, it helps us to create a better product. And also, data Analytics plays a major role in making the decision-making on product development more seamless. This can help in improving decision making, augmenting experience, and expertise playing a valuable role in product development.

Big data improves the success of the product through analytics and design thinking methods. With the past data attributes like customer product engagement level, information on sales, geographical and demographical parameters are the indicators and metrics contributing to the success of the product, thus significantly helping in product development.

McDonald's is one of the best examples of product innovation happening with Big Data and AI. They have announced that it acquired an analytics firm 'Dynamic Yield' to invest futhure more in the digital world. Efforts have been focused on understanding customers better and create a more seamless customer experience through in-store and online channels. Thus, the company invested $ 300 million for the new venture, which may sound significant, but it's nothing compared to the fast-food chain's industry capital investment of $143.5 billion. Now, the toughest challenge for McDonald's is to bring this new technology to its 38,000 stores all over the world. McDonald's posseses enormous volume of data as it has 38,000 retail locations. Around 68 million customers visit McDonald's each day. The data can be gathered from ways like historical data, external augment data, etc. With the Big Data gathered, let's see what all innovation can this business model execute.

- Promotional activities like recommendation of products to a particular customer based on their demographics and past purchases data.
- Real-time recommendations made knowing the customer purchases, what other product we can cross-sell.
- Customization of the menu for each person by identifying the customer who is visiting the store or online channels.
- Dynamic change of menu based on demand, like if the checkout line is long, then accordingly, the change of menu will happen to the items which are faster to prepare.

The system will get smarter and smarter over time. It keeps learning with the recommendations working and not working. Consequently, that data helps to innovate new models and enhance the personalization features.

Thus using Big Data is in high demand now in different fields and industries; hence it is essential to keep implementing techniques to enhance the business. The insights obtained from the big data analytics tools help in knowing the needs of customers better. This helps in innovating new and better products. Innovated products and services with new insights can help the organization enormously. This may also help the customers to get better offerings satisfying their needs effectively.

Induvadhana Rao
2nd year, MBA
Head of Analytica Club

In the year 1994, HotWired, a digital Publication Website was having a tough time generating revenue. The publication devised a new strategy to sell spaces on their websites at a nominal cost for a rented period. On October 24, AT &T Inc. paid HotWired $30,000 to place a small graphic with the words “Have you ever clicked your mouse right here? You will.” on their website. Surprisingly, this banner ad became a great success and enjoyed a click-through rate of 44%. Soon more sites began to follow the trend, thereby laying the foundation for the era of digital advertising.

Later in 1997, marketers saw a downfall in pop-up ads on their websites and soon realized that customers did not enjoy them. Smart marketers began to focus on customer preferences and started their quest to gather data on customer likes and dislikes.

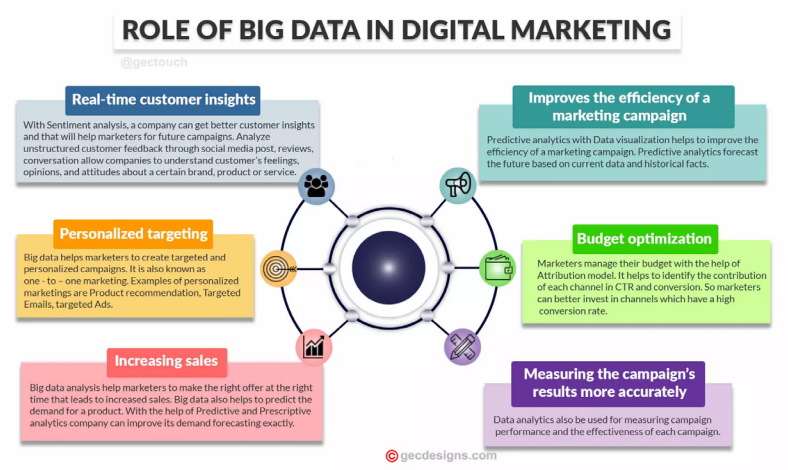
Today, about 2.5 quintillion bytes of customer data is being collected per day and 90% of the data available in the digital universe have been collected over the last two years. This humongous amount of data, popularly known as Big Data, is the treasure map for any kind of marketing information today. In the words of Peter Sondergaard (Senior VP- Gartner), ‘Information is the oil of the 21st century, and analytics is the combustion engine’.

Top companies like Amazon, Facebook, Google, and Netflix are relying on Big Data to get to know their customers in a better way. Companies are well aware that different customers like different things at different time frames. Big Data helps to build digital advertisements that can target the changing customer preferences, thereby easily drawing their attention and pushing them to the company websites and converting them to subscribers and customers.

The significance of Big Data does not lie in its volume, rather on how marketers manipulate the data to get useful insights. For instance, the raw data of customer search history, purchase data, clickstream data, and profile data when converted to smart data with meaningful information, can predict what the customer might purchase next. This explains why Big Data is a hot topic in digital marketing these days.

Here are a few ways in which Big Data helps to gain digital marketing insights.

Sentimental Analysis of Customers: Also known as opinion mining, it helps to understand how a customer perceives a brand or commodity. Understanding customer sentiments is essential to understand brands' strengths and weaknesses and improve customer services.



Demand Forecasting: Big Data can help to predict the demand for a product reducing advertising and production costs.

The success of Marketing Campaigns: Data Interpretation and Visualization Techniques are helpful to backup marketing strategies and plan for an efficient marketing campaign. Big Data can give marketers information on lead generation and target audience.

Personalized Marketing: Personalized marketing makes a customer feel special and valued. It is a one-to-one marketing technique that targets the right customers at the right moment. Insights for product recommendations, targeted ads and targeted emails are all gathered using big data analytics.

Optimal usage of budget: Companies use various platforms like emails, social media, blogs, SEOs and adware to reach out to customers. Not all platforms contribute to good revenue. Analyzing click-through rates in each platform can help to conclude if a platform has a good reach. Based on these insights, marketers can optimize the budget for each platform.

Big Data technology is revolutionizing digital marketing. Data has answers to the right questions. It has become a precious resource, and digital marketers can weave a fantastic story around it.

Senthamizh Bharathi A
2nd year, MBA

Over the last thirty years, logistics has undergone a colossal change from a pure production-oriented and delivery to customers to independent supply chain management function, which in some companies is handled by CSO-the Chief Supply Chain Officer. The supply chain function ensures integrated operations from suppliers to customers. The focus of the supply chain management function has shifted to advanced planning processes, such as analytical demand planning or integrated S&OP, which have become established business processes in companies across the globe. At the same time, operational logistics is often outsourced to third-party LSPs.

Big Data assimilate large data sets on the order of terabytes and petabytes. These bits of data are compiled from a number of sources ranging from ERP systems within the enterprise to the supplier's business, orders and shipment, weblogs for customer shopping patterns logistics, GPS, sensors such as RFID, mobile devices and social channels among others. Self-correcting and self-monitoring, big data systems allow in developing statistical models and trends. Astute industries across the world ascertained to use such inductive statistical analysis in order to diminish operational costs.

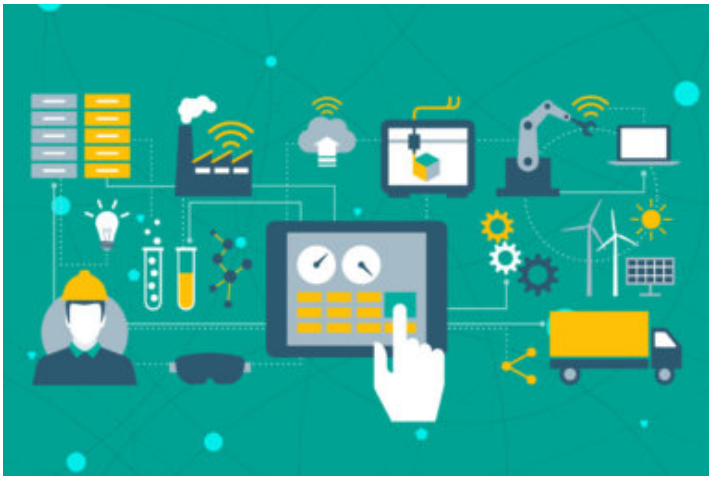
The supply chain is restrained by two major challenges from using big data. The foremost is a lack of capabilities by the supply chain managers with a high degree of technical skills in using the data analysis techniques. Second, most companies lack a structured process to explore, evaluate and capture big data opportunities in their supply chains.

The following are the ways in which Big Data helped in revamping the supply chain sector.

Inventory Management: Big data analytics helps the managers to get a timely review of tasks and recognize the bottlenecks process that hampers the supply chain forms. Moreover, shopper drifts additionally empower companies to advance their top items and optimize the stock. Various E-commerce giants are using big data analytics in their inventory management. With the use of Big Data, they distribute inventory according to customer choice in a particular area, which helps them in managing the in-time delivery.

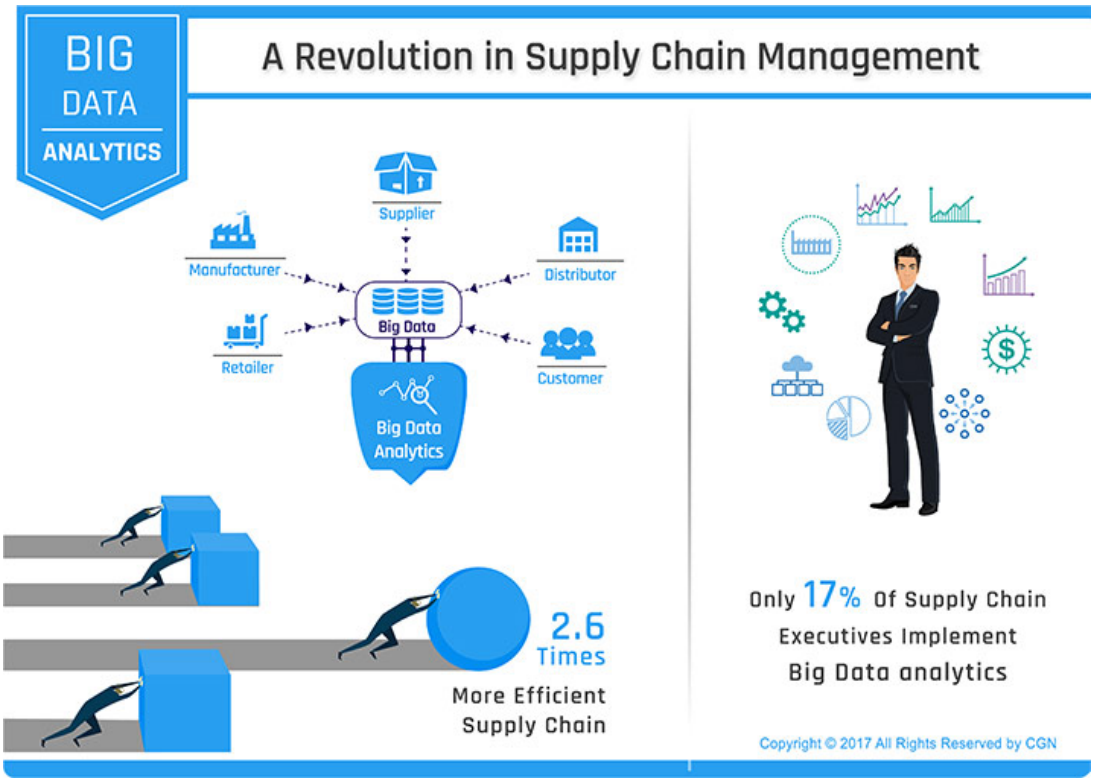
Analyzing Customer Behavior: With 50% of the population using the internet which generates the enormous data of people's interest, habits and usage patterns of the clients help the companies to generate analytical reports, which empowers the companies to retain the customer base and increases their sales and revenues.

Optimized Delivery and Supply Networks: Making required changes to a supply route could save time, money, or both. According to reports by Forbes, supply chain efficiency can be boosted to 2.6 times via big data analytics implementation. With scientific applications of big data, we can expand the business as the resources can be reallocated to successful areas or we can cut down the operational cost by making the appropriate changes from the reports generated.



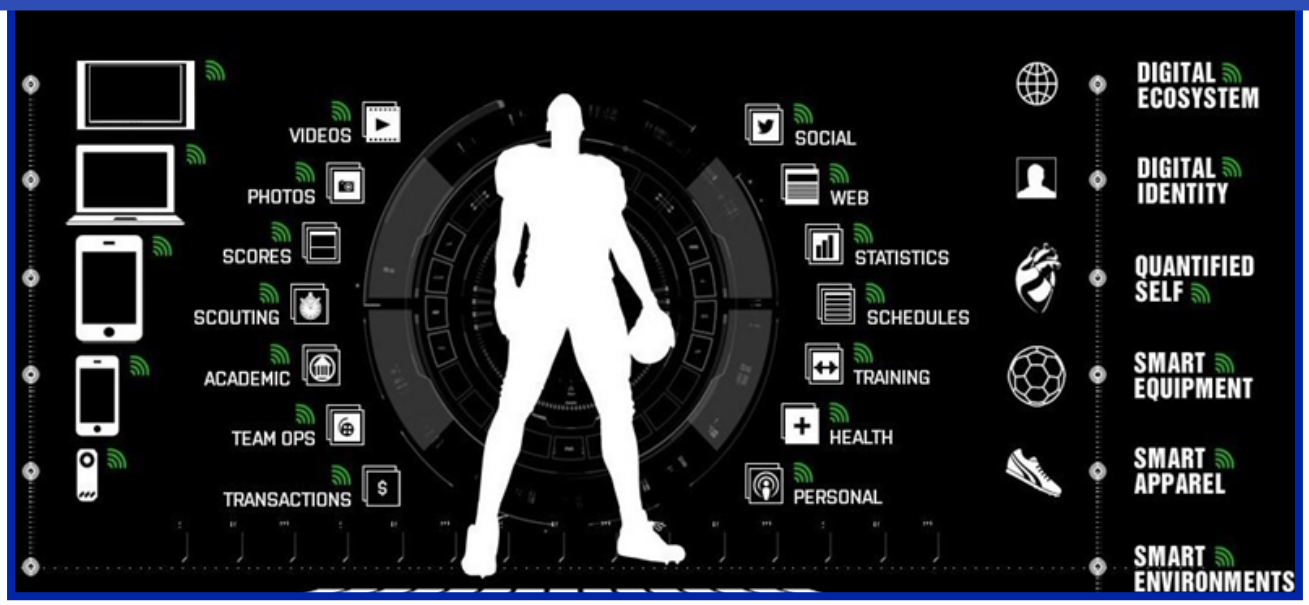
Extension of Perspective: Strategic optimization and continuous analysis provide continual enhancement of supply chains. With numbers being crunched, relationships between suppliers, manufacturers, distributors and customers are strengthened. Big Data provides more numbers in real-time, inducing expanded perspective. Since big data is shooting up, early entrants will have a larger perspective and more advantages than the late entrants.

Return Management: At present, purchased product returns are assessed to be 32% for specific product categories, which is a major problem for companies that are trying to keep up their production. Instances of reverse logistics expenses are restocking costs, transportation costs in restoring the item to the retailer/distribution center. Also, delivery overheads in sending another item to the client and costs accounted for evaluating the item brought back. Analytics can help to lessen these expenses and give the visibility expected to make consistent returns by joining data from inventory.



The Big Data trend is yet to take a complete form and shape in the supply chain. This process will restructure the supply chain by cutting down the costs and offering better customer service, giving insights for a product to be launched and marketed which can lead to the effective utilization of supply chain and on-time delivery to consumers.

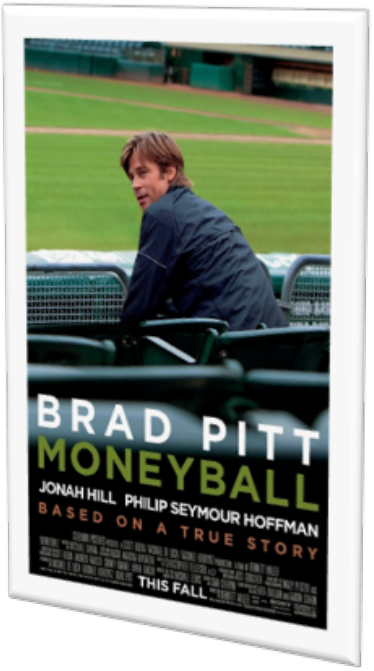
Cirumalla Maharshi
2nd year, MBA



"The goal is to turn data into information and information into insight."

Carly Fiorina, ex-CEO, HP

Long before big data was cool, Billy Beane, the general manager of the Oakland Athletics baseball team brought it to the big leagues. The 2011 film Moneyball incredibly portrays this story. The movie introduced the common man to the magic of data analytics in sports and how data can transform sports. Moneyball is now a term being applied to business, and many are equating the data analytics used in professional baseball with business intelligence software.



Now, almost two decades after big data helped the underdog Oakland A's to achieve a twenty win streak and bring the trophy home, big data is proving that sports are much more than physical games. Now, it is also a numbers game. Football, basketball, soccer, baseball, cricket and even fantasy sports rely on big data to maximize player efficiency and predict future performances. From historical data and fundamental scorekeeping to algorithmic performance forecasting and extremely specific player statistics, big data is the industry's most valuable player. Data lets teams and organizations track performance, make predictions and be decisive on the field. Off the field, commentators, analysts, and fans use data constantly _ whether it's to provide play-by-play explanations, discuss predictions or power fantasy league decisions.

Big Data can greatly improve sports performance. It is an innovative and fascinating approach, able to merge technology, qualitative analysis, and entertainment, to enrich the sports experience.

Camera & Tracking Sensors: Many football teams, particularly in the Premier League, are using cameras and tracking sensors on the pitch to understand how the players behave on the field. This data can help the managers and analysts to pinpoint how each player interacts with the ball and each other. By analyzing this data, teams can increase the accuracy of their game and can allow them to have a better overall performance.

Wearable Tech: The data from wearable tech can show how intense a game is and if a player is in danger of wearing themselves out or even injuring themselves. This data, coupled with historic data can show where a player's strengths and weaknesses lie.

Choosing the Right Player: Big data tools help managers and scouts to analyze where each player fits in the team. It can analyze how they play and how the performance has improved, or not, over time. Real-time assessment of this data can aid the managers to make better and faster decisions mid-game.

Enriching the Fan Experience: Teams can leverage the data from social media to attract and engage fans, encouraging them to buy tickets and attend games. Targeted merchandising and marketing are also an opportunity through big data. Data analysis could aid in developing techniques to ensure a hassle-free and enriching experience for the fans at the stadium as well as at home.

1. Big Data Tools for sports

Sports Management Analytics by Tableau

SAP Sports One

Microsoft Sports Performance

We have only touched the surface with the application of big data in sports, and that is the most exciting thing moving forward. As every application are still in their early stages, the data collected now will be of more use in the future. The possibilities are endless for players, managers, and fans - and we will only continue to see data playing a more prominent role in sports moving forward. Keep an eye out for big data advancements with your favorite team!

E A Anphin
2nd year, MBA

Last week, I was thinking of buying a good gaming laptop, and while scrolling through my Instagram feed, I started getting gaming laptop's suggestions and ads. The same thing happened with my YouTube Feed. I am pretty sure that you would have experienced this as well. So how does all this work? How are companies getting into your head and manipulating you to buy a particular product?

In layman's language, it can be said that companies are using an advanced data analysis tool for finding the right customers for their product or service. This process of finding the right customer is called customer targeting. Customer targeting is the process of analyzing customer features (such as age, education, interests, and spending habits) to select those customers who are more prone to a targeted product or service.

In modern times, data available with organisations is increasing significantly. Companies try to get as much information as possible about their customers and prospective customers. There are various types of analysis that companies use for customer targeting. But one of the most used is descriptive analysis. In descriptive analysis, past data is used to interpret the buying behavior, thinking pattern, emotional aspect involved during making a purchase, and other relevant information that varies from company to company and product to product. Results and findings of this analysis are implemented by other people to find the target customers who fit in the category of people as their present customers. Descriptive is not the only analysis into practice. Others are:

Another type of analysis is the Diagnostic Analysis. In this analysis, companies try to find out which factors have the most impact on purchasing behavior and decision. Companies narrow down the essential factors and perform targeting based on that.

A predictive model is created from aforementioned analyses.This not only analyses the behavior and patterns of target customers but also helps to determine other variables that can be helpful for the product they are trying to sell. The Prescriptive analysis method is rarely used because it is more time consuming and results are not definitive.

If you think data analysis is used only in digital space, then you are highly mistaken. Data analysis has become an important component of customer targeting in retail set up. Have you ever focused on retail outlets setup how they arrange their commodities? With the help of neuromarketing and data analysis, retail owners can find out the commodities which are most looked out for by customers. They can also find out how to arrange the products in such a way that customer targeting is improved and ofcourse sales surges.

The above picture is of a shelf of a generic retail outlet. This is a heat map depiction of customer's focus. The red spots are the areas which grab most attention and yellow comes after red and green after that. Retail owners figure out these hotspots after a detailed analysis of the customer buying behavior and decision. This is just an example of shelf design. Retail owners tend to set up the whole outlet in such a way that customer targeting can be improved.

Let's now talk about the weird forms that these data-driven customers targeting tools have taken. Food delivery is a billion-dollar industry all over the world. But how do they know when to poke you to buy food. Many food delivery apps know that when you are most lonely and hungry, and that is when they push you to purchase. Most delivery apps use location-driven data to find out when you are most vulnerable. They know when your parents left the house and that you will be hungry soon. Now lets come to the favorite category of apps of millennials that are Dating apps. Dating apps have the most amount of data. They know when you are most vulnerable to make relevant purchases to target emotion based behavior. It is believed that these apps have generated close to 5GB of data in one day from a single active user.

Some of you might be asking how all these all companies and apps get all of that data. Well, that's pretty simple. This information is generated by you through internet presence, things you see, post on your social media and things you search for. Cameras around us are turning into invigilators, recording us continuously, and most of us don't know about this. Speech recognition systems are recording everything we say. Our GPS is storing all the information that we visit or wish to visit. There can be hundreds of examples like this. In general, it can be said that customers are new the new data points and remember, in some cases we are the product.

So next time you see something that you just thought of, don't be surprised. Just be cautious!!

Utsav Chaudhary
2nd year, MBA

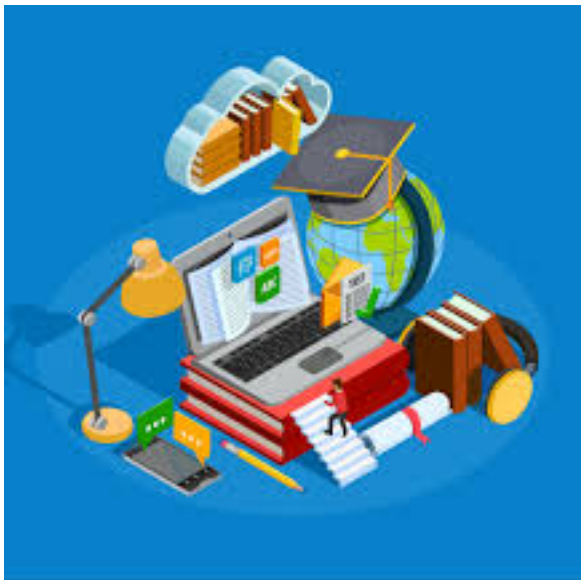
The core of a democratic nation is strongly built upon its leaders. Elections play a major role in finding leaders who can stand for all and have a vision for a better tomorrow. John Maxwell rightly quoted, "A true leader is one who knows the way, goes the way, and shows the way." A group of leaders keeps the morale high of its people and motivates them to work together to fulfill the goals beneficial to every individual. India is one of the largest democratic countries in the world, and the essential parts of it are the elections. An impartial election promises a free and fair treatment for all and symbolizes that people's voices and opinions matter above anything else. Like any other party or group of leaders, the Students' Council in NITT is the voice of the students, which looks into matters of interest to the students. As every beginning has an end, the Students' Council 2019-20 completed its journey, and it was time again to elect the new leaders amidst the ongoing pandemic. As activities inside the campus halted since March, the concept of virtualization came into the picture. It all started with the virtual classroom, followed by the exams, and lastly, the elections. NITT is a diverse community that treats each one equally irrespective of the language that they speak, state that they belong, or the department which they represent.

The election process started with candidates from different departments nominating themselves for various posts, putting out their agendas on a live debate hosted by NIT Trichy Taskforce on their YouTube channel. Every student had the opportunity to raise queries and build trust in the candidates at the comfort of their home. Since the MBA is a postgraduate course, our department stood for the post of PG Secretary for both male and female categories. Rishabh Mohan Tripathi and Sruthi P M from 1st year stood firm for the Student Council election 2020-21 and came out as clear winners. As rightly said by Publilius Syrus, 'Where there is unity, there is always victory,' DoMS stood together and supported both the candidates wholeheartedly.

The students performed the entire process in the election portal using their roll number to log in; upon logging in, an OTP was sent to the respective NITT webmail ids to proceed further into the voting process. A list of choices for candidates was displayed on the screen, and after choosing for the preference, a vote option was available, followed by a final submission to confirm the selection. Sruthi P M won the PG Secretary (Girls) post uncontested, whereas Rishabh Mohan Tripathi won the PG Secretary against three candidates in opposition. Sruthi has worked with Tata Consultancy Services and US Pharma during her earlier days, and Rishabh has experienced working with the Indian Navy, Intelligence Bureau, and Tata Motors. With agendas to enhance the training opportunities and internship assistance, the DoMS family congratulates both the candidates and wishes them the best for their future endeavors.

Rima Brahma
2nd year, MBA

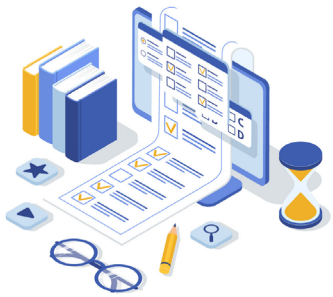
Our third trimester was a roller coaster ride throughout. On March 13th, the Institute (NITT) announced the suspension of all academic activities, and this was just the beginning. After that, a chain of uncertainties kicked-off. The institution took an online examination for the final year students across all departments. At the same time, discussions continued among concerned authorities whether to cancel the exams for other batches or not!



Meanwhile, the Government indicated not to expect the end of the COVID situation in the near future and urged the citizens to continue the business as usual with necessary precautions.

Eventually, NITT decided to conduct an online examination for all students utilizing the CBT portal created by CSG-NITT (Computer Support Group) for the purpose. The decision did create unrest among students. There was also an opinion from students for the cancellation of the examination. But, considering our long-term future, the online open book examination was the best solution. The message was clear, the situations can be good or bad, but the show must go on, “business as usual”.

Third-trimester exams brought many learnings and memories. It being full of surprises.



Imagine sitting in an examination hall without any restrictions, free to leave anytime, being able to leave for washroom breaks on your own accord, or having the option of listening to your favourite music if you want to! One might think it to be the best-case scenario. But I would urge you to re-think. I discussed the same setting with my father, and he said, ‘the question paper will be set accordingly to make you go around in circles in search of the answers.’ He was indeed correct for a few instances and incorrect for a few others.

With the clock ticking slowly to 11 AM, few of us were nervous, few excited, and few others knew that they would answer the paper no matter what. Examination preparations revolved more around application of the information rather than memorizing it. The performance was good for memory-based questions but created many hick-ups for analytical and application-based questions.

What I understood essentially after writing eight subjects and volumes of pages, that skills and real hard work can outperform heaps of resources on the day of examination! Once you are set in a tough situation, your cognitions go to rest. Situations got more challenging as time management was a very tricky job, for the given 2.5 hours. So, answering the paper included - reading, writing, scanning, uploading, checking, re-checking and finally, submitting. Unpreparedness for exams and poor time management was sure to lead to lackluster performance and strokes of panic.

Also, 'digging well when you are thirsty' is not the best strategy for answering in the exam. 'We will listen to the recorded lecture later' or 'we will study later' attitude comes with its own side-effects. My emotions coincided with many friends (all students in general)- 'let this exam go, and I will study better in the next exam.' But, didn't we had the same feelings when we left schools and went into college? Though some may disagree but I guess it's a universal truth for the majority. The exam results for online examination will also be interesting as faculties will have to make their own strategy to grade our answer sheets.

With 4th-trimester classes set to start from August 25th, we will soon start attending the online classes once again with age-old promise to start studying better, with hopes and new anxieties of the upcoming trimester.

Vivek Rai
2nd year, MBA

XTRAVAGATE

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