**What Data Can Do: A Deep Dive into Business Analytics**

In the digital age of technology our lives are completely online, everything is recorded, from the movie you watched on Netflix last night to how often you refill your order for toothpaste on Amazon. The world is becoming more and more accessible from the touch of a button. But how do these big companies use your data to improve their profitability? Data Analytics is the future of corporate consumer companies. By collecting data on trends and consumer patterns, big data collection increase profitability for companies by an exponential amount. Though data collection has been around for years the new and improving technology has only allowed us to make more useful the data and information at our fingertips. While there are some downfalls and human error that can come into play when collecting data. This information has become increasingly important in big companies to gain and keep a competitive edge. The possibilities that are unlocked when data is utilized and understood are endless.

To understand the benefit of data analysis and big data we must first understand what they are. “Data Analysis is the research, discovery, and interpretation of patterns in data while big data is described as inconceivably large amounts of data that are way too big to be looked at without a computer and software.” (Foote) Big data is making a huge change in the way we look at and organizes data. (Jain 48) That being said, up until a few years ago this data was unusable because we simply didn’t have the technology to make it mean anything. American Statistician John Tukey who has piloted many mathematical developments wrote “On the other hand there are situations where the computer makes feasible what would have been wholly unfeasible.” (64) In this statement he is referring to the importance that technology has had on the study of data, without it the progression we have seen in the past few years wouldn’t be possible. To start off this technological age in the 1980s came the popularity of Data warehousing, which is just a large storage of data, we suddenly had massive amounts of data that we could accessed much easier and more cost effectively. This led to the boom of high-tech data analysis and computer processing of the data. Data analysis has been utilized since the mid to late nineties and is famously a large part of Hennery Fords success in the world of automotive production. Ford used data analysis to measure the speed of his assembly lines which helped him ramp up production and become more profitable. (Foote) Today data analysis is used for many different aspects of business. Analysis can help companies keep popular items in stock by increasing and decreasing production based on how people are buying it. It is also useful in helping companies anticipate how well new products will do after going on the market. This is called predictive analytics; it is a huge part of data analysis and is one of the most helpful parts for consumer-based companies. The world of Data Analysis has a huge impact on the world of business and has already increased the profitability of many companies with huge potential to continue the trend.

There are quite a few huge benefits to using data analysis in a consumer-based company. Predictive analytics, as mentioned before, opens a massive door. It can give insight on upcoming changes in market and the company such as identify sales trends, review cost analysis, explore purchasing patterns, and forecasting customer behavior. This can be super helpful and is instrumental in understand customers more. We can use predictive analytics to make changes to the already existing products and how they function. This can serve to better help our target audience which intern leads to more customer satisfaction. We can use purchasing patterns to determine when we should make more of a product and when we should make less. (Mariani 340) This is largely helpful with seasonal items and has even been proven effective in items that you might not expect to sell better at one time of the year versus another. This also helps with profitability by not making too much of an item that isn’t going to sell very well and not making too little to the point where you are selling out. This has to do with the basic business model of supply and demand. We can review cost analysis for companies who sell similar products to understand what consumers are willing to pay for a product. What is too expensive and how can we improve our product to be able to drive the cost up more. We obviously know that putting an item on the market that is too expensive for our target audience is a bad idea, this helps to reduce that problem and gives a much more informed targeted area where we can price our items. We can also use data analysis to identify sales trends. This is part of the creative side of the business some people call it keeping up with the times. There are cycles in trends everywhere from people liking pirate themes cereal this year to someone promoted the Dyson air wrap on TikTok, so more people are inclined to buy items similar. Another place that can be helped immensely by data is procedural issues, like Henry Ford with his assembly lines, there is a lot that can be used out of the data that is collected from just factory production. We can investigate speeds of conveyers, how long certain machines are running for, and especially how much is being produced. All of this serves to aid efficiency, many companies take business overseas due to the lower wages and longer hours which increases production. Though this is a cause for moral concern it is hard to deny the benefit that it has had for companies like amazon. The final way that data can benefit consumer-based companies is by predicting potential dangers and opportunities for the companies. Looking especially at the rises and falls that we see in other companies we can investigate these opportunities. But it is also crucial to look at places where the business may be weak. We can investigate marketing error, what is working and what is not. We can look at how fast a trend is dying and the risk versus the reward of hopping on it. We can also investigate the social climate and that aspect of the companies’ public image, which is much more important than one might think.(Boccia 153) A prime and recent example of this is DICKS Sporting goods reaction to roe v wade being overturned where they made it so that their employees would always have safe access to abortions. This created a buzz in the media and caused public opinion of the sporting goods store to become more positive.

When delving into the world of data analytics its important to identify the weaknesses as well as the strengths. Just as in every other technological field, in the grand scheme of things, data analysis is relatively young. This is cause for concern. With everything is still in the beginning stages of development there are a few disadvantages to data analysis and aspects to be improved upon. This includes the breach of privacy it creates, difficulties of executing the analysis, and the human error that can be a problem when analyzing data. A breach of privacy is cause for concern, you might hear your older relatives raving about how your phones record everything and an arbitrary ‘they’ are listing. Although that’s not what data analysis does it begs the moral question “Is it right to use people’s information and buying patterns without their consent or knowledge?” As much as it might feel strange to have companies to dig through your purchasing history, it’s the downfall of the convince it creates. Data Analysis is also not highly accessible. It calls for a certain skill set and expensive software for it to be executed. This makes the field highly sought after and costly. Data analysis is also performed by humans which makes it susceptible to human error. A mistake or incorrect interpretation of tests and significance can cost a company hundreds of thousands of dollars. (Tsoury 42) These expensive mistakes are part of the reason companies are so hesitant to adopt data analysis into their business plan.

Data is everything, it’s in everything we do, it effects prices, stock, and so much more. The benefits of using data analytics in consumer-based companies trickles down to one thing, higher profitability. We are already using it in a big way that continues to grow and improve the business world. In using customers data and predictive analysis we are able to take business to new heights. The benefits outweigh the draw backs and reservations that are had about using data analysis. In conclusion people need to understand the significance of Data Analysis and how it can benefit any business it is implemented into. We are on the cutting room floor and need to implement this practice into every business. The world of Data is one that is young and growing every day. From Amazon and Apple to its humble beginning at Ford Motors. Don’t be afraid to ask, “What can data do?”

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