IMPACT OF BIG DATA ANALYTICS ON ONLINE RETAILING

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ABSTRACT

Almost everything we do, both online and offline, is a source for data. As technology increase, the ways to measure and collect data also increases. One of the ways we understand our world is to study trends in behaviours. Technology has expanded to the point where we have "too much" data. Organising, studying and understanding this information has become more complicated because we are inundated with endless numbers, facts, percentages and perceptions. Big data has become buzzword floating around the digital space for a few years now, a concept that is musky to some and not understood at all by others. Big data in e-commerce has the ability to support business in transforming their operations. Big Data is the core element of a successful marketing strategy. Today, it has revolutionised most of the vertical industry from healthcare to manufacturing, banking, finance and more. The technology is equally niche in the e-commerce retail market. Nowadays it is an element of big and small e-commerce sellers' business to achieve these goals quickly and efficiently. This paper includes the impact of Big Data analytics towards retail shopping, online shoppers and online retailers.

Keywords: Big Data, Buyer-Specific E-Mails, Dynamic Pricing, online shoppers, Product Trending, Retail shopping, Unstructured Text, Virtual Reality.

1. INTRODUCTION

Big data in e-commerce assists business in personalising services, predicting trends, forecasting requirements, to improve customer experience and increase sales. The number of smartphone users increasing in this digital era. It boots up the market base for e-commerce portals.

The number of digital buyers is anticipated to increase from 58.3% in 2016 to around 65% in 2021. With this increase in digital customers, organizations use technologies to enhance customer experience and increase the number of customer retained. Extracting actionable information from enormous amounts of

information held by companies is crucial. Big data analytics help companies to extract information that help them to take right decisions.

Big Data is the combined collection of traditional and digital data from inside and outside in the company. Its purpose is to be a source of analysis and continued discovery. The introduction of Big Data has allowed businesses to have access to large amounts of data for analysis. This data offers insight for e-commerce businesses. E-commerce business owners can take the information from Big Data and use it to study trends that will help them gain more customers and streamline operation for success.

2. WAYS OF ENHANCING THE RETAIL SHOPPING

Big data in e-commerce has the ability to support business in transforming their operations in the following aspects.

2. 1. Personalise Services

Every customer likes it, when their retailer knows their preferences. So that, they don't have to spend long time in shortlisting services that they require. With big data analytics, companies can easily keep track of their customer's browsing history of their customer's browsing history. It helps the companies to analyse customer's preferences, quickly. Product promotions can be personalised with the assistance of advertisements or through emails sent out regularly to notify customers of personalised services.

2. 2. Predicting Trends

Introducing trending services to the customers (mass) can increase the popularity of an online retail store. With the help of big data analyse data arriving from social media and other forums where a particular product is trending and can also know the sentiments behind with the same. By using such information, enterprises determine what are the products that are trending and how they should move to ensure being up to the mark in the competition.

2. 3. Determining Demand

Determining customer demand for certain products is significant as it helps to increase sales and profits. With data arriving from various sources, companies can easily trace out the product in trending and know the quantities required to avoid deadlocks.

By using big data analytics, companies can keep track of the demand of customers. With such accurate demand of forecast, determining the number of products to be ordered from the wholesaler becomes easier and assures the organization that their customers will have the required product as and when required.

2. 4. Reducing Fraud

Another obstacle for an online retailer firm to function efficiently is online fraud. Big data analytics help to trace out the locations of occurring fraud in credit card transactions and failure in cash-on-delivery

payments. Big data analytics help to avoid losses due to such happenings. It helps to transform the online retail sector. CTOs and CIOs should focus on understanding how to use this technology. Either they can train their employees to work on big data software or they can hire experts to extract crucial insights from data.

Social media and mobility have transformed communication forever, resetting customer expectations and shaking up the business modules of wireless carriers and other ecosystem players. A similar development also happens in the media and entertainment industry.

2. 5. Increased Shopper Analysis

Understanding shopper behaviour is essential for business success. Big data ia an essential component of the process and provides information on trends, spikes in demands and customer behaviour. Business owners can use that data to make sure most popular products are available and being marketed. If customers visit your site to search for products you don't offer, big data is how you will learn about those searches, helping you seize new opportunity.

In 2018, big data analysis will continue, illuminating important shopper behaviours and patterns such as popular shopping times and spikes in popular searches. This year you will see more e-commerce business fine-tuning their marketing strategies, social media advertising and intuitive shopping processes to continue boosting sales and engagement in a competitive market.

2. 6. Improved Customer Services

Statistics regarding unhappy customers and poor customer service are alarming. For instance, 91% of unhappy customers will not willingly do business with a company if they have a poor customer service experience. Focussing on customer service is crucial to the success of all e-commerce businesses. Understanding the shoppers is important, but even more important is making it easy to customer to contact business, resolve issues or find answer to their questions. Big data provides metrics needed to use how quickly customers are able to complete these tasks.

Though this year, expect big data to continue offering ways to track customer service experiences, but also to add even more predictive monitoring. This will help online companies identify potential problems and resolve them before a customer even gets involved.

2. 7. Secured Online Payments

Big data plays a prominent role in providing easier and more secured online payments. Following ways explain how big data changes the e-commerce industry in2018.

➢ Big data converts different payment functions into one centralised platform. This platform helps customer to use it easily and reduce fraud risk.

➢ Big data offers advanced analytics to discover fraud and provide solutions for identifying risks.

➢ Big data helps to detect money laundering transactions.

> Currently, payment providers focusing towards monetising merchant analytics. Merchant retailers can understand their customer better with the help of payment providers.
> Data analytics help e-commerce business to cross sell and up sell. Validate customer data is known through the sales affected by push notification.
>

2. 8. Enhancing Mobile Commerce

The number of smart phone users is increasing every data. Brands can collect data from various sources and analyse customer through mobile technology. Google has advanced in providing mobile friendly and responsive sites.

2. 9. Virtual Reality Advancements

Big data and virtual reality are two of the illustrious technological innovation in the present world. Effectiveness can be enhanced only by connecting them. Big data and virtual reality are revolutionising the e-commerce world. They offer tools to businesses to present their brand, advertisement and offer shopping experience more efficiently. Virtual reality can analyse big data and perform actions based on its findings.

3. FACILITATES ONLINE SHOPPERS

Large companies have been using the big data for long period. But now-a-days, it is utilised by everyone. Probably we are already using big data in several walks of our life without realising it. If we are using a fitbit with friends and family, we are getting into big data and using it to make our life better.

3. 1. Spending Habits & Deals and Coupons

Online shopping accumulates into a lengthy order-history. Big online retail sites have been using such data to identify shopping habits of customers.

Time consuming part of shopping is the time taken to find and verify coupons, sales and deals. Nowadays better options are available for deals or coupons. Sites like best deals. Today deals use big data to list down the best on a wide variety of products. It combines products from Amazon, eBay, Walmart, Jet and others to help to find the best deals. Another great site for bargain hunters is retailmenot. It list downs coupons and their success rates on variety of websites.

3.2. Identify Trends Ahead

Customers focus more on the latest and greatest trend, if the spending habits and bargain hunting do not bother. Provided the customer behaviour is known, the trends on the way in and way out can be known. All it needs is a quick use of Google Trends. Searching frequently of people for a particular term can be analysed with the help of Google Trends.

3.4. Promised Future

Businesses know that Big data is the key to take advantage in the future. Now, it may be the turn of customers to gain the same advantages. Right now, customers can save some cash, learn about their spending habits and keep ahead of the trends, but who knows of the trends, but who knows what will be able to do in the future.

4. CHALLENGES TO ON-LINE RETAILERS

While big data technology is more beneficial, there are also massive challenges. Some of the obstacles that e-commerce retailers faces on the path to adopt this technology.

1. Volume

   The name itself implies that Big Data integration involves the collection of huge volumes of relevant data from a variety of sources. E-Commerce sellers get statistics related to customer behaviour, demographics, social media and more. The challenge is not only gathering the data but also analysing and using it appropriately.

2. Velocity

   Handling data as it comes at rapidpace is another key element for e-commerce sellers. Dynamic analysis and timely action are crucial to tab its full benefits.

3. Variety

   Big data comes in diverse format from traditional structured numeric database to unstructured text documents, videos, emails, and more. Retailers have to interpret it to make the right business decisions.

4. Complexity

   Data comes from different sources make difficult to link, match, correlate and interpret it.

Retailer who challenges these obstacles and use Big Data can achieve great success.

5. GROWTH OF E-COMMERCE

Technology is vital for the e-commerce retail selling process. Business is built on the technology, as buyers and sellers are connected through online stores and mobile apps. Disruptive techs such as Big Data Analytics, Artificial Intelligence, Augmented Reality, and virtual reality have become a part of the e-commerce scenario in recent years. Especially Big Data has become a key element for the e-commerce success. Some of the benefits of Big Data in online retail business.

5. 1. Facilitates dynamic pricing

Pricing is the vital parameter of e-commerce success, as customers visit and shop the sites that offer the best prices. Seller must fix fair price in the face of their competition. The best approach is dynamic pricing

which reflects the consumer demand and competitors' prices. Big Data analytics is the tool that helps online sellers with dynamic pricing.

5. 2. Helps to provide personalised customer experience

Customer satisfaction is a major concern of online sellers in the prevailing cutthroat competition. Big Data Analytics informs about the customer behaviour and demographics and provides personalised customer experiences. For instance, customer data is taken to create buyer-specific e-mails for personalised campaigns.

5. 3. Help improve business performance

Big Data technology helps e-commerce seller to improve their sales. It follows shoppers' journey to drive relevant content and purchase. For instance, cross-device track is used to re-target buyers to decrease cart abandonment and improve conversion rates. The data also provides feedback tool to the seller to understand why customers are not completing the transactions, and then direct them to take steps to redress the issues, win over buyers, and build lasting relationships with them.

5. 4. Supports Smart Inventory Management

Big Data Analytics also enhances inventory management for e-commerce business. One of the massive challenging for e-commerce sellers is to stock the right level of inventory. Too much inventory leads to storage expenses and risk of excess stock sold. On the other hand, inadequate stock means that goods may not be available for customers and send them to competitors. Big Data predictive analysis help sellers to calculate optimal stock inventory levels.

6. FINAL THOUGHTS

The big data revolution has enhanced only the e-commerce, process making the success easy for online stores. Big data provides a wealth of tools to e-commerce store owners to find success. Big Data Analytics is the worthy investment for its benefits to the online business. Expertise of qualified professionals helps retailers to get the most advantage from it. As this technology will reshape the e-commerce retail industry in future, failing to use Big Data may put retailers at a significant disadvantage compared to competitors.

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