

## FROM DECONSTRUCTION TO BIG DATA: HOW TECHNOLOGY IS RESHAPING THE RETAIL INDUSTRY

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### ABSTRACT

Retail industry is trying hard to cope up with the technological advances. Today it might be a choice, but in not so far future, it will become a must for retailers to adopt technologies to satisfy and engage their consumers. Changing consumer behaviors, priced-based competition, technological advancements, and rising focus on cost competitiveness are currently driving change in the retail industry. Global retailers are revisiting strategies for a sustainable future. In this research paper the researcher trying to find out the key trends that are shaping the retail industry. The researcher also try to get the reasons that why to move to Big Data technology.

**KEYWORDS :** technologies, Big Data, priced-based.

### INTRODUCTION

Today's world is highly competitive and technology oriented. New technologies are coming and capturing the world. Every industry trying to adopting these new technologies not only for better performance but also to gain more and more profit. While the retail industry is still learning to deal with e-commerce. M-commerce is already opening up new avenues. In a hyper-connected and mobile age, retailers have to deal with highly informed and demanding consumers who have a whole world of information available to them. Faced with the growing importance of the online channel, coupled with the rise of mobile devices and social media, it's not surprising that the need to embrace change is uppermost in the minds of retailers. Today it might be a choice, but in not so far future, it will become a must for the retailers to adopt these technologies to satisfy and engage their consumers.

Retailers are facing many challenges to improve sales and margins in today's highly competitive world. With the growing competition day by day, it has become extremely vital for them, to innovate continuously and implement the technologies. So that the consumer demand can be fulfill. Over the past few years, a number of technology trends have evolved and dramatically altered the retail industry. Retail is an extremely varied industry and covers a vast range of products, regulatory requirements and consumer interactions. Traditional industrial analysis treats industries as linear, where inputs are processed to become products and services.

Some of the trends which are reshape the modern retail are.

#### Internet

Internet is a concept through which the world is connected. So retailer also using this to connect to their customer. Connected devices are not only just changing

the way consumers live, work and play but also they are reshaping the entire industry. The Internet movement offers retailers opportunities in various areas like customer experience, supply chain and revenue.

Internet touches every area of retail operations and customer engagement. It connects people, machines, items, and services to streamline the flow of information, enable real-time decisions, and consumer experiences.

#### Social Media , Mobile, Analytics and Cloud

The digital technologies are creating new touch points for enterprises to awe their consumers, people are witnessing the evolution in consumer experiences. Social, mobile, analytics and cloud, which will reshape how consumers experience a brand.

All these factors are currently driving business innovation. It creates an ecosystem that allows a business to improve its operations and get closer to the customer with minimal overhead and maximum reach. Digital is now an essential part of the whole shopping experience and the entire business of retail, inside as well as outside the store. You don't need to leave a physical store to get your digital fix.

#### Omni-channel adaptation

Omni-channel is a term that extends and supersedes multi-channel. Multi-channel (or cross-channel) refers to delivering content and considering consumer experience on more than one channel. Omni-channel is about understanding and optimizing for the entire journey across all channels.

Omni-channel today is a necessity. Retailers have been left with no option but to add online channel to their offline operations in a bid to reach as many customers as possible, and quickly. Omni-channel retailing creates benefits for consumers and opportunities for retailers. For Retailers Omni-channel creates opportunities, ranging from potential extension of sales and increasing brand awareness and loyalty. Technology allows us to connect a lot better with our customers and to take a true Omni-channel approach to meet their ever-changing needs.

As a retailer, you can't separate your business from the advances in technology. In the dynamic business environment today most retailers are leveraging the current technological trends and responding to them in one way or the other. Given the changing and challenging retail landscape, the critical thing is to leverage these multiple platforms of consumer engagement in a holistic manner and create an overall engaging and enriching experience for the consumer.

#### Why Big Data in Retail Industry

Today, retailers are constantly finding innovative ways to draw insights from the ever-increasing amount of structured and unstructured information available about

their customers behavior. Data gathering and Analytics will play a key role in evolving business models in retail. Usage of data and analytics to better understand consumers in the form of branding, product management, leveraging loyalty card information to tracking customer buying behavior and making better pricing decisions will be the key factors.

In order to succeed, retailers have to offer a seamless shopping experience across all channels – and should not lose track of their customers. Some of the trends given below are going to reshape the way modern retail is defined today.

Retail companies have been constrained by the following limitations on information:

1. Information available was limited and stored in proprietary formats in siloed systems across companies, business units and across the industry.
2. The cost of data storage and processing capacity was high in comparison to the advantage that could be gained from gathering information about every consumer.
3. There was a well-defined set of languages and technology approaches to managing information. Information technologies were therefore mainly used to drive down costs across the supply chain and to dramatically streamline transport and logistics operations for improved supply management.

Retailers large and small have been analyzing structured data for years, but are only just starting to get to grips with unstructured data. There is undoubtedly still a great deal of untapped potential in social media, customer feedback, comments, video, recorded telephone conversations and GPS data. Great benefits will come to those who put it to best work, and the best solutions will more likely come from innovative thinking and approaches to analytics, rather than those who simply try to collect as much data as possible and then see what it does.

The survey found that the top three reasons for adopting Big Data technologies are:

1. To improve productivity across their organizations
2. To improve understanding of customers, their needs, and purchase patterns
3. To increase business revenues and profitability

With the vast amounts of data gathered by retailers every day, Big Data opens up new opportunities for organizations to improve operations in almost every area of the business. Large retailers can use Big Data to streamline operations, improve the customer experience, analyze marketing campaigns, increase sales and maximize profitability. According to a report by Mckinsey, a retailer using Big Data and Analytics to the fullest extent could increase its operating margin by more than 60 percent.

### **Bigger Big Data**

“Retailers Need Advanced Analytic Capabilities to Compete in the Digitalized Marketplace.”

-Gartner

Big Data is a term used to denote voluminous data. How big is Big Data? It is measured in petabytes—which is 1024 terabytes—converting to records, this means trillions of records of data of millions of people. The pure size of the data size is beyond the traditional database tools. Analyzing huge data and coming out with relevant and useful information is crucial. Therefore tools that process this huge data, provide statistics and insight into trends, give the Companies ideas to formulate new business strategies, and a competitive edge. The technology which includes these tools and processes is also referred to as Big Data by the companies.

### **Reasons Why to move to Big Data**

#### **1. New Business Opportunities**

The example is the General elections of 2014 in India. The Election campaign was based on the information gleaned about the voters' interests and reactions through social media sites, civic issues of different states and statistics related to employment. All these were acknowledged and addressed in the campaign, thereby touching a chord with the voters and swaying their votes. This whole data gathering and analytics was done by a team of computer savvy experts who used Big Data in a big way!

Big Data is used in retail, where insights are gained on customer interests by capturing information on the websites they browse and what their online purchases are. For example, if you have browsed for books on Android yesterday, today, when you open your favorite online bookstore, it shows you various books based on Android technology.

#### **2. Connect with Customers**

Today the awareness on health issues is at its peak. Making better lifestyle choices to boost health is not the prerogative of only the wealthy. This in turn has created a huge market for fitness equipment and many health products. Devices that assimilate personal data will collect the data and that data can be used for marketing the product. For example, there is a product for reducing weight, so if u search for it on search engine the devices capture that data. So, it is clear that Companies in Fitness are directly reaching out to customers with intensely useful devices which provide personal data. In order to cater to this genre of customers, and to keep their interest intact, these companies gather, analyze millions of records of personal data – again using Big Data technology!

#### **3. To Provide Better Customer Service Interactions**

Customer want reply on every click. The question raise by some should b answered in the next second. The response time should not exceed six seconds may sound unreasonable for some. But the truth is that the faster a consumer complaint can be responded to, the higher the respect that company will garner from consumers. For this to happen, a Customer Service Operator needs to have the consumer related data in front while interacting. And this in turn requires tools good enough to extract customer information at the click of a button. With millions of consumers for products and brands

which are multinational, the customer database runs into unimaginable sizes as the time goes and very clearly pointing to the same need – process Big Data!

The data is no longer only in the form of text, it is available as text, audio, and video. To extract information from audio and video, natural language processing tools are needed. An example tool is MatterSight used in Call Centers. It routes a customer call to the appropriate department for better service. It does this using audio analysis.

#### **4. To Promote Right Products to the Customers**

Companies need to have the capacity to predict what customers want even before they ask for it. They can do this only through the data collected on their customers. Data is not relegated to what the customer does at their website but other websites too.

#### **5. Identify and Resolve Customer Pain Points**

We all know that Companies that keep in mind the pain points of the customer are the ones that earn their loyalty. A good example is the concern of lost baggage by air passengers. One Airline (Delta) has come up with an App which requires you to take a snap of your baggage tag using the “Track my baggage” feature. Even if the baggage doesn’t reach its intended destination, this App saves a lot of time in tracking it down. One can imagine the number of air passengers who would use this data and in the number of geographical locations across the globe – this App surely generates millions of baggage data records on a daily basis-rather on a 24/7 basis!

Now it is clear that, Big Data means that data is generated for millions of customers and the analysis that goes with it is very complex and requires specific data analysis tools and simply cannot be done with the traditional programming languages that one has been learning in Colleges. Another dimension is that Big Data is used across the world across multiple domains-Government, Healthcare, Manufacturing, Retail, Banking, and Science and Research. Instead of using off the shelf Big Data products, companies prefer to develop and maintain their own in-house Applications.

#### **Big Data : Finally comes with its Importance**

- Ecosystems of Data: The network of data can grow well beyond the simple tracking of purchase history and personal demographics. Many of these diverse real-time sources will lie outside the retailers own systems.
- Real Time Thinking: Personalization focused on offers and recommendations has relied on offline processing for the heavy lifting. That works fine if your goal is to assign a coupon to a customer. However, real impact comes from assessing context and shaping a sophisticated individual response in real time. Expanded machine learning capabilities will further open the door to dynamic evaluation and recommended courses of action optimized for the specific circumstance and moment in time.
- Deeper Brilliance: Big Data is not just about the data. The real power lies in the ability to choose a course of action that is genuinely appropriate to the moment. More data and richer problems are creating a fertile environment for these more

sophisticated and elaborate insights. People have been talking about a 360-degree view of the customer for some time now. We believe that it is not the 360-degree view that matters but rather a context-dependent view. Improved analytics and integrated omnichannel capabilities will allow retailers to map customers across their path to purchase. Sensor technology in-store coupled with the location on customers’ own mobile devices will allow retailers to deliver tailored communications and support based not only on where customers are on their path to purchase but on their physical location as well.

#### **Conclusion**

Industrial transformation within retail will be driven by recent Technologies as it enables a fundamental reshaping of the nature of the retail industry itself with the development of innovative new means of coordinating between consumers, manufacturers and retailers. Technologies also enables coordination among consumers themselves, reducing the need to purchase from manufacturers and retailers. Together with 3D printing and other emerging technologies, end users are able to transmit designs directly to manufacturers and have them delivered immediately to them in local areas. This promises to revolutionize not only the connection between consumer and retailer, but also the manufacturers’ supply chains as result. ICT is consequently exerting a transformational impact on retail.

The above trends represent some of the most current focus areas in the evolving landscape of the retail industry. Retailers are hard-pressed to keep up with the implications that various fast-changing technologies have for their industry. In order to stay at the forefront of the changing retail industry, companies should ask themselves the following questions:

- Is your company selling its products across all platforms both online and offline?
- Does your company allow mobile payments within its stores?
- Is your company investing in analytics to enhance its operations?

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