

IMPACT OF DIGITAL REVOLUTION ON ONLINE SHOPPING – BRINGING THE WORLD TOGETHER

Abstract

Consumers currently are exposed to the global competitors. Traditionally with minimal Digital interventions, organizations were struggling to collect customer data which reflected poorly on the customer experience. In the current era customer experience is revealed as the new brand since it determines the longevity of the organization. In comparison to the brick and mortar businesses, modernized businesses depend heavily on sophisticated systems of engagement that help the organization gather the customer data automatically. Industrial revolution 4.0 is characterized by Cyber-Physical systems. In the year 1999, Kevin Ashton an innovator coined the term Internet of Things (IoT). In simple terms IoT is a mesh of sensors that serve multiple purposes such as sensing the change of state and simultaneously transmitting this information over the Internet to a central repository. This real time information emerging from the IoT implementation is used to perform real time analytics. Globalization and privatization pushed the Indian industries to go online over the Internet. Year 1995, while announced the birth saw an exponential growth by 1999 and became the default channel for certain commodities. Apart from customer preferences such as convenience of cost and product comparisons, there are other major parameters for the online businesses to prosper. These include implementation and wide spread usage of Digital technologies such as Internet of Things and Artificial Intelligence making the business processes agile and proactive. Especially in the current situation, wherein the world has observed the outbreak of COVID 19 Pandemic since December 2019, contactless and Digital channel for online buying is the only option. The chapter discusses the following pointers in support of the impact of Digital revolution on online buying especially in situations such as the current pandemic:

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- Reasons for online shopping
- Role of Digital technologies such as Internet of Things and Artificial Intelligence
- Impact of Digital technologies on Online shopping
- Digital technologies boosting the economy in pandemic (COVID19) situation & related turnaround case discussion on online business.
- Downsides of Digital Transformation and associated challenges

Keywords: COVID 19, Online shopping, Internet of Things, Digital Business, Online Retail, Digital Technologies.

I. INTRODUCTION

Retail predominantly is a business to consumer i.e. B2C sale transaction where the seller exchanges the goods required by the consumer for money with the buyer. Retail business has demonstrated a steady growth in the past decade and it further looks promising in the coming years. Especially in India, it has emerged as one of the most vibrant and speedily growing industry due to the entry of global players. Year 2017 recorded the retail consumption expenditure to be US\$ 1824 billion and expected to reach US\$ 3600 billion in the year 2020. It almost accounts for a 10 percent contribution to the country's GDP (Gross Domestic Product) and 8 percent of the employment. India stands fifth in amongst all the countries in the retail domain clocking US\$ 950 billion in 2018 with a CAGR (Compounded Annual Growth Rate) of 13 percent, envisaged to reach US\$ 1.1 Trillion by the end of the year 2020. India is predicted to become the world's fastest expanding market for e-commerce. This is one of the strongest reason for the investments flowing in from the Foreign Direct Investment (FDI). In the year 2019, the retail sector in India successfully clawed in US\$ 970 million from various private equity funds (IBEF, 2020). The retail sector is growing exponentially with global players establishing themselves in emerging markets such as India. Industrial revolution 4.0 unleashed the emergence of Digital technologies such as Internet of Things which was provoked with the innovations in the Internet domain. The customers desire superlative customer experience given the quick pace of advances in Digital technologies and transformations in the social domain. The global boundaries are shrinking and traditional retail business are forced to go for online retail also termed as e-commerce (Burt & Sparks, 2003; Reynolds, 2000). The retailers need to have a clear thought process on the offerings and profit generation, which are sometimes hard trade-offs. Major parameters like implementation and wide spread usage of Digital technologies such as Internet of Things make the business processes agile and proactive. While the online sales is beneficial there are a few downsides such as 33% returns as compared to 8% of traditional sales. But this fact gets overruled and overshadowed with the benefits achieved by buyer as well as seller in the online transaction. It further generates significant opportunities of upsell, cross sell etc. recovering the losses (Yerpude, Singhal & Rawat, 2018). Especially in the current situation, wherein the world has observed the outbreak of COVID 19 Pandemic since December 2019, contactless and Digital channel for online buying is the only option. The physical supply chains recorded limitless stress where the bullwhip effect multiplied. Panic buying was one of the biggest contributors as there was no clarity on the country's lockdown period and cases were on rise each day. Digital channels offer the organization momentous opportunities to collect customer data. Real time data emerging from the implementation of Internet of Things assists the organization offer substantial personalization resulting in customer retention (Friess, 2016).

II. THEORETICAL FOUNDATIONS

Online retail business finds its roots way back in the year 1994. There are players such as Amazon and eBay who were the first movers in this space in the year 1995. Customers desire to order products online at the cheapest possible cost. Online retail or e-commerce has successfully created a revolution where the share of online revenues is constantly increasing. Worldwide the growth of e-commerce sales is constantly growing. The graph below depicts the growth as well as the envisaged numbers for until year 2023.



Figure 1: Retail e-commerce Sales Worldwide (2014 – 2023) (Statista, 2020)

From the retailers point of view too, online retail proves to be beneficial since it saves spend on real estate while at the same time it increases the customer reach. From the customer perspective there are certain momentous reasons for them to prefer online shopping:

- 1. Convenience:** Previous studies have proven that convenience of shopping or buying online is one of the major factors pushing the customers to go online. Customers can visit the portal any time of the day and place their order 24 x 7 (Wang et al., 2005). A research study basis the findings stated that 58% of the customers prefer buying after their office hours. This is capitalized by most of the sellers who announce midnight sales on the internet helping them grow their business. Another important fact which the study reported was that 61% of the customer selected the online channel to avoid crowd and the long cash lines. Customers also opt to buy services online after the office hours such that they get the necessary support assistance post office hours adding to their convenience. There are other important considerations where customers get awkward to respond to the salesman pushing the product towards them. They don't want to be influenced while taking a buying decision but buy more freely without facing the salesperson.
- 2. Information:** Accessing the buying portal over the internet enables the customers to have all the relevant information about the product on one page. Information about the product includes specifications, prices, dimension, colours and availability. The complete information exists that the customers need to take a purchasing decision. (Lim & Dubinsky, 2004). The information also includes the product reviews by the customers who have bought it earlier. This benefits the customers immensely in terms knowing the nuances of the product and the care that needs to be taken. This is particularly important given the fact that the customers don't get a chance to touch and feel the product.
- 3. Availability:** e-commerce or Online retail offers large variety of products and services to the customers to choose from, making the transaction very simple. On a single platform customers get to choose from a large variety of products worldwide while shopping online. While the need to display products was identified, companies also went online with their individual portals irrespective of the availability of the product with them. This

enabled the sellers to operate with a very leaner inventory and get the supplies effected as per the customer requirements (Lim & Dubinsky, 2004; Prasad & Aryasri, 2009)

4. **Cost and time proficiency:** There are multiple offers and deals which are available for the customer to avail. This makes the customer pay less for the same product as compared to the physical buy. With the different products from various brands compared on the same page, it gives the customer and opportunity to get to the right product at the right price. Further the products can be ordered from anywhere and anytime suiting to the customer’s convenience. Certain websites also offer the customer to time their order delivery as per their availability which adds to the comfort saving time enormously (Prasad & Aryasri, 2009).

A fundamental customer online shopping journey is depicted in the figure 2. It is observed that it is very difficult to retain the customer attention with a bunch of brands and products available on the internet. Customers continuously are searching for better deals and vigilant for brand announcements and improved products. Retailers have to personalize and develop the brand awareness with the drive to enable the customers take a purchase decision. The responsibility of the retailers does not end with the sale of the product, but quite importantly they have to act on the customer feedback. In case of online shopping, customers are largely influenced with the product reviews given by other customers. In some cases there are communities created who review the product over a period of time. The parameters reviewed in such cases are the ones which cannot be determined immediately after the purchase. For example mileage of an automobile cannot be immediately determined post purchase but the performance is recorded over a period of time and in different conditions and terrains. Figure 2 depicts the fundamental online purchase journey for a customer:

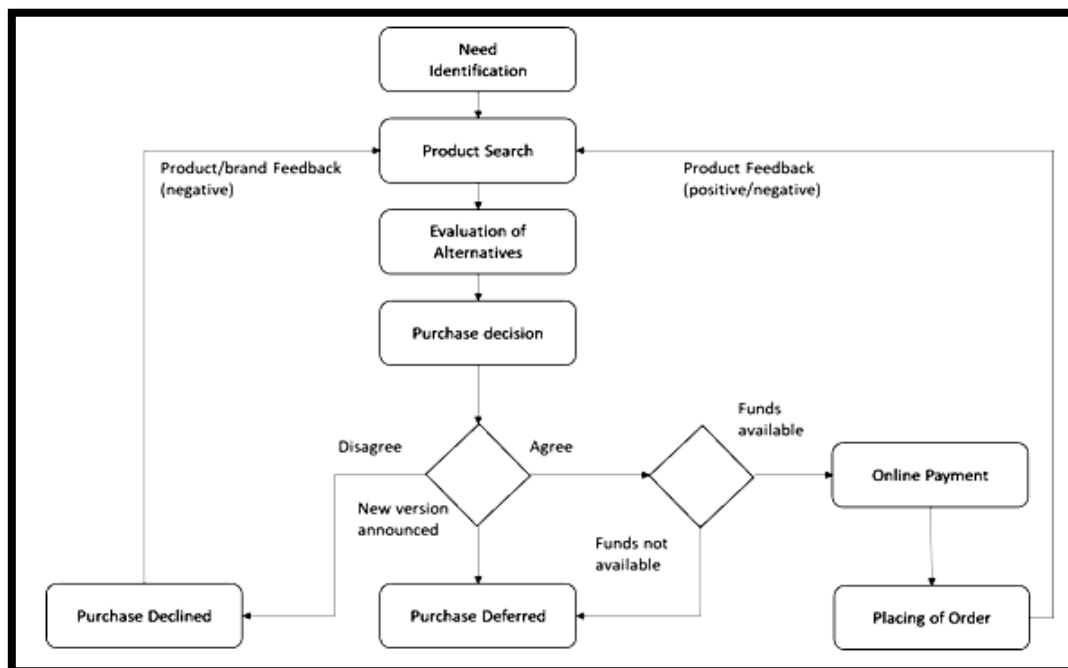


Figure 2: Customer Online Shopping Journey (Wolny and Charoensuksai, 2014)

To further validate the reasons stated earlier, author conducted a statistical study. Survey tool was used to gather responses from the respondents. Descriptive statistics was performed on the primary data collected to arrive at the insights validating the online shopping / retail constructs. Some interesting findings of the study include the following:

1. While the percentage of respondents opting for online shopping was equal between males and females, there was further an almost equal spread observed amongst all age groups starting from 25 to 55 years.
2. There was a fair mix of respondents from the salaried as well as non-salaried band, but the responses were skewed around 80% and above towards strong agreements for convenience related parameters. The parameters included anytime ordering and receiving, doorstep delivery, easy search of variety of products and free returns. These parameters are also responsible for imbibing trust in the minds of the consumers for the brand.
3. The survey revealed a very serious issue for the brands to address. There were @ 50% of the respondents recording the non-availability of products as one of the top issue in online shopping while they were comfortable paying online instead of queueing for bill payments. This point is critical from the supply chain point of view. Brands need to be aware that there is a probability of losing a potential customer due to non-availability of products. If such issues persists the customers are likely to change their brand impacting the market share of previous brand.
4. There was almost 100% of the online shopping customers who expected a contactless delivery especially during the pandemic like COVID 19.
5. Another striking disclosure from the analysis was regarding the comfort of searching products online. The responses stood strongly in support for the comfort of searching products online but simultaneously hurled a caution regarding the product features. Only 40% of the respondents have registered positive reactions for the product features that are displayed and actually delivered by the brand. This is a major cause of concern which if not addressed impacts the brand adversely.
6. Other important findings include consumers agreeing to support a brand which offers loyalty programs. Around 75% of the respondents were ready for repeat purchases for the brands offering loyalty.
7. Tracking of orders was another vital link between the customers and the brand. Since the physical relationship between the buyer and seller does not exist in an online shopping, facility to track the orders scored more than 80% in the survey.
8. 90% of the respondents disclosed that price sensitivity is dominant in online shopping and they always compare the prices of multiple brands while making a choice for the brand. Further they extended the response supporting bundled products, free shipping and offers including cash discount / promo offers.

The above findings are significant enough to determine the important aspects of online shopping in the current era and prevailing Digital ecosystem. But it is also important to study the essential reason that promoted the growth of online shopping, i.e. growth of Digital Technologies.

III. GROWTH OF DIGITAL TECHNOLOGIES

The Digital Technologies have played the significant role since inception. Certain path breaking innovations such as Internet of Things have successfully contributed in the

Digital Transformation adding tremendous business value. The use of Digital Technologies in the business process models and activities creates opportunities for the business that impact the customer experience and the revenues positively. Globally the relationships between the customers and the brands have undergone a radical change where the interactions are re-organised in the online shopping business. The computing power has increased exponentially since inception and has become the prime driver for the customers to shift from physical to virtual channels. Online shopping became one of the significant contributor towards the Digital economy. There are some path breaking transformations that the world has witnessed due to the boost in the Digital economy offering long term benefits. The profound matrices such as number of Internet connections or number of application downloads etc. are the measures of a Digital economy (Santos, Murmura & Bravi, 2018; Papadopoulos, Baltas & Balta, 2020). There is an exponential growth observed in the number of smartphone users between 2012 and 2019. In 2012, the world smartphone users were around 1.06 billion which reached 3.2 billion in 2019. Number of mobile application downloads reached 204 billion in 2019. In terms of social network, Facebook is undoubtedly the leader having surpassed 1 billion registered accounts first and currently in the year 2020 recorded over 3.2 billion monthly core family product users (Statista, 2020). The Digitalization is growing rapidly where all the business processes are going Digital with common platforms of data sharing. There is an aggressive price war amongst the telecommunication network providers offering attractive pricing options to the customers boosting the usage of pocket internet. Predictions suggest a whopping 40% upsurge in the count of Internet users by 2023. Information Technology or Electronics manufacturing companies could double their GDP by 2023 (Budanović, 2019).

Business ecosystems are emerging rapidly with Digitalization in the consumer manufacturer environment especially in sectors such as retail, healthcare etc. Growth in Internet usage and users usher's umpteen opportunities for business to explore and exploit the users for the sale of products and services. Pandemics such as COVID 19 has transformed the business processes and created new avenues for businesses to expand. The Digital footprint is increasing rapidly supported by the new normal. Digitalization of supply chain is the only solution to de-stress and stabilize the supply chain and eradicate the errors such as the bull-whip effect. The longevity of the businesses which are not supported by the Digital channels will soon be jeopardized. There is a higher probability of survival for the businesses embracing Digital technologies. Businesses in order to have a larger market share need to be closest to the customers. They strive hard to collect customer data and develop business models to get to an accurate business demand in order to service the customer. Real time data collated with the help of Digital technologies such as Internet of Things enables organizations to operate with leaner supply chains. The real time data emerging from the Internet of Things landscape supports the business model algorithms to auto learn and bring a fair amount of accuracy in prediction of business parameters. Internet of Things was coined by Kevin Ashton in the year 1999. It is fundamentally a mesh / network of devices that are connected over the internet and can communicate the data to a central repository. The global market value of IoT in 2018 reached 1 Trillion USD mark while the number of connected devices is expected to reach 75 billion by 2025. The percentage of "Target rich data" is expected to reach 21% by 2021 as compared to 8% recorded in 2015 (Yerpude & Singhal, 2017). Artificial Intelligence (AI) which is mostly based on the real time data inputs is creating waves in the Digital economy. Initially AI was poorly understood but soon it has been successful in making inroads in business processes automating the critical ones. AI offers the

capability to machines to respond consistently towards stimulus and offer decision which require human level expertise. Unlike traditional passive machines which respond in a predetermined manner, AI with the help of real time Digital data derived from sensors in combination with variety of other data from different sources acts on the insights derived from the data. The decisions are taken on the conclusions made on the immediate analysis of the data. In the year 2020, the software market for AI is expected to reach 22.6 billion USD which will be a record compounded annual growth rate (CAGR) of 54%. AI is predominantly recording its footprint in all the industries since inception and playing a major role in business processes. These important Digital technologies have brought about a Digital transformation in the industries and contributing to the market revenue worldwide. Figure 2 below depicts the growth of market revenue due to Digital transformation in trillion US dollars.

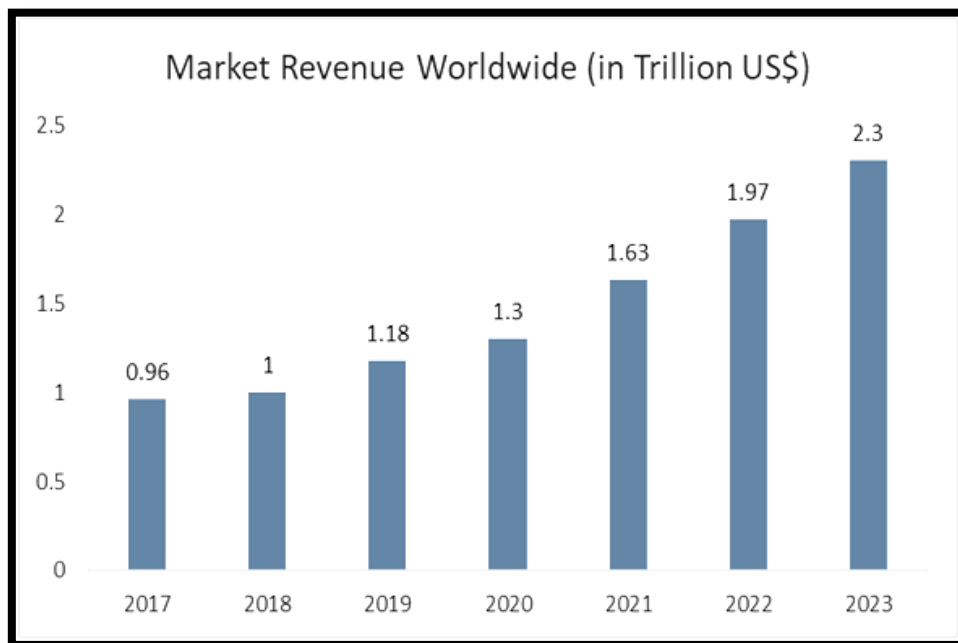


Figure 3: Digital Transformation Market Revenue Worldwide (In Trillion US\$)
(Statista, 2020)

Businesses face a variety of challenges in growth and sustainability in core processes such as sales, production, interpersonal relationships, collaboration between departments etc. To handle these in an effective manner Digital solutions are deployed to such challenging segments in the ecosystem. Interestingly the Digital solution which is deployed and worked well for a particular industry might not be a fitting one for the other. Different problems demand distinct Digital solutions. This calls for highly personalized solutions from the vendors with the requisite and voluminous enterprise data. The enterprise data is growing exponentially and needs Digital technologies such as AI to analyse and derive insights on the go for agile fact based decision making.

IV. IMPACT OF DIGITAL TECHNOLOGIES ON ONLINE SHOPPING

The traditional retail businesses are witnessing a downward trend due to the growth of Digital technologies and the turmoil created by the pandemic. Customers due to the parameters mentioned earlier prefer online shopping that offers them a rich and frictionless experience. Moreover customers do expect personalized services which are possible only with the customer preferences captured. Customers are loyal to the brand that understands their needs and offers personalized services. The customer data is rising exponentially with respect to volume, variety, velocity and value along with every transaction between the customer and the brand. Every transaction has the potential to improve the loyalty quotient with the customers and increase the revenue. Increase in operating margins as high as 60 percent are observed for the brands which have adopted AI (Ransbotham, 2017). The retailers essentially have to create opportunities that ensure a constant dialogue with the customers as per their preferences and choices. In the current scenario where decision are data-driven and internet is pervasive, every retailer needs to have an online presence. Customers need an Omni channel experience that is possible with the data driven disruption in the retail transactions. In the online shopping business, vital role is played by AI in personalizing the customer experience and keeping them engaged. The gap between the physical and virtual channels is narrowed down creating significant business opportunities creating unique and sustainable business models. Online retail businesses necessarily have to create involved business processes reimagining the customer experience incorporating business strategy and not just implementing Digital technologies. It requires an optimum blend of people, process and technology for the strategy to get converted into reality in the market amongst other competitive brands. It is very difficult to acquire customers and hence emphasis must be given to improve the customer service transforming them into loyal customers and finally brand ambassadors. Technologies such as AI that make effective use of the data collected are working in the forefront which are required to be supported ably by the backend processes. There are many online retailers / E commerce businesses who have embraced the Digital technologies such as Internet of Things, Artificial Intelligence and are reaping the benefits (Duan, Edwards & Dwivedi, 2019). There is a positive impact recorded on the financials while businesses have achieved a sustainable growth. Some of the key benefits achieved with the help of this Digital revolution are:

- 1. Personalized product search:** The portals used by the customers while browsing for their products are powered by the intelligent Digital technologies. The primary objective of these search engines working behind the user interface is to gather the browsing data and record the time customer is on a particular page/product. This enables the search engines to execute the recommendation algorithm which displays similar products and bundled products to the customer. The algorithms are required to predict with a fair degree of accuracy else if the customers find the recommendations irrelevant, there is a possibility of abandoning the search engine. Various algorithms work in the background to predict and display the right products to the customers. With the recommendation engine, there is also a possibility of cross sell and upsell products which is common in online shopping. Significant opportunities open up for the businesses ensuring competitive edge for the brand (Kumar et al., 2019).
- 2. Customer acquisition:** As per a survey there are some unforeseen cracks in the physical process due to which around 33 percent of the potential customers are not contacted by

the sales team. This is a straight loss of revenue for the business. Further in the physical process although there are significant opportunities of data gathering but that is not realized in the physical process apart from the transactional data. Hence the businesses which are not having Digital business process starve customer data. There are some businesses who have included Digital technologies in their business processes to such an extent that AI is enabling them record the customer sentiments through facial recognition. This is also implemented in some of the physical stores wherein even if customers are observing certain sections of the store, this info is used to bundle products and offers (Choi, Bell & Lodish, 2012).

- 3. Digital sales channel:** In the current era customers are highly influenced by the advertisements that they watch on different Digital channels. Voice mobility has already grown exponentially and has spread its wings in almost all the sectors. Customer try searching for the products on the different channels such as websites, mobile browsers or devices such as Alexa etc. This is critical information for the retailers for potential customer identification. Gathering this information and following up on these leads helps the retailers convert them into sales. This emerges as a prominent and promising Digital sales channel for the retailers (Zhu, 2019; Gentsch, 2018).
- 4. Omni channel experience:** The AI engine is responsible to gather the customer data from the different customer interaction channels. Personalization has reached a new level with the customer data captured and the customer being identified on all the interaction channels. This is called a multichannel approach where the efforts are to offer an Omni channel experience to the customers. The customers get in touch with the brand on the website, mobile application or a sms / email campaign. The AI engine is continuously monitor all these channels to create a single view of the customer such that his choices and preferences are captured and the experience can be personalized. It does not stop here but other details such as device information from which the customer has accessed the brand is also captured so that cross selling of products can be explored. With the spread of SMART wearables, it has opened another channel for the Digital sales. The data collected by these wearables is used to pitch appropriate products to the customers as the data collection is attached to the same customer account. AI powers the personalization and recommendation engine offering new opportunities of partnerships to the e-commerce retailers (Gentsch, 2018).
- 5. Chatbots powered by artificial intelligence:** Many online retailers are starting to use sophisticated tools such as Chatbots powered by AI which are used for conversational commerce. Chatbots offer a remarkable amalgamation of voice, visual and written capabilities with prediction features to convert the lead into sale. Chatbot is fundamentally an algorithm that is created to simulate a human like conversation with the customer over the Internet. Chatbots are supported with Natural Language Processing and a knowledge database. Keywords are defined and stored to respond during the conversation, while it trains itself in the process registering newer words and their meanings. Chatbots interact with the customers and simultaneously with the enterprise systems to process transactions such as orders, complaints, service requests etc. This is a low cost solution to process transactions between the customers and the brand where Chatbots can be trained to share product information simultaneously. Customers enjoy the

self- service experience with entire control in their hands. It is one of the fastest and most convenient methods supporting online shopping (Ikumoro & Jawad, 2019).

V. DIGITAL REVOLUTION: DIGITAL TECHNOLOGIES BOOSTING THE ECONOMY IN PANDEMIC (COVID19)

Most of the retail brands in order to sustain their business were forced to embrace online Digital channels due to the pandemic. The year on year growth in the online retail channel was observed to be 146 percent by April'2020. Consumers have realized the benefits of online shopping and enjoyed the convenience from their homes. With the number of cases increasing every day it's highly unlikely that there will be a disruption in the trend. It was a relatively convenient with the retail businesses who had their Digital presence but significantly difficult for others who were new in this domain.

The market size of the global Digital transformation reached USD 470 billion in 2020. It is expected to cross USD 1000 billion by 2025 which is a Compound Annual Growth Rate (CAGR) of 16.5%. The reason for this growth is directly attributed to the boost in the Digital technologies. There have been momentous innovations in the Digital technologies that have taken over major physical processes with increasing adoption of cloud technology. Amidst the pandemic world has recorded a noteworthy contribution of Internet and cloud technologies. Remote working and social distancing became the new normal amidst which the businesses had to sustain. Individuals to cater their daily and essential needs are dependent on the online services. Digital technologies have accelerated the growth of online businesses and their supply chains by more than 3 years, while the share of Digital products in the market has increased by more than 5 years. Businesses have realized that from sustainability point of view, it is vital to increase the investment in Digital technologies. Along with investments need was felt to draw new strategies and business processes. Identification of cost efficiencies and requirement of talented resources became the next immediate need. The experimentation process in the firms speeded up and process innovations continuously increased. The percentage of customer interactions over the Digital channels amplified by more than double between the years 2017 to 2020 from 20 percent to 58 percent. Different industries reacted differently during the pandemic developing Digital products and services for its customers but the rate of adoption is almost constant across all the parts of the world. It is also observed that the response time of the firms has increased drastically wherein solutions are offered during the pandemic in few days which earlier were taking months (Kalia, Kaur & Singh, 2018; Chakraborty et al., 2016). Digital technologies have influenced all the interactions between the customers and businesses. From order to cash, Digital technologies played a critical role in ensuring that the businesses continued. Pandemic forced the adoption of Digital technologies, but soon businesses realized the benefits in terms of efficiency and convenience. Innovative ways have emerged in the e-commerce domain allowing it to gain popularity in the unexplored parts of the world. Digital technologies with augmented and virtual reality accelerated the growth of livestreaming in e-commerce, since lockdowns were enforced around the world. Physical sales soon transformed into online sales with salesman using livestreaming to interact with the customers. First country announcing the pandemic i.e. China witnessed e-commerce multiplying seven times with livestreaming on e-commerce platforms. Virtual introduction of products to the customers by the sellers became an integral part of the Digital sales process. While delivery of products was a physical process, some parts of the world initiated and

practiced product delivery with the help of autonomous robots and drones. This soon became popular as there was no human contact while the essential products were delivered. Digital technologies fostered the growth and soon became responsible for the new and emerging businesses with improved productivity. Businesses developed newer alternatives for the existing business processes that were jeopardized by the pandemic. Implementation and using Digital technologies has become the core for the recovery strategy of the economy.

On a year on year basis the online retail business has recorded a growth of 9% and is expected to reach USD 1.3 trillion. Incidentally the retail industry was the worst affected by the pandemic. The shops were completely closed and physical shopping was banned in order to enforce the social distancing norm. The share of e-commerce in the retail sales worldwide was registered as 14.1 % in the year 2019 while it is envisaged to touch 22 % in 2023. With regards to the online activities, customers spent most of the time either browsing for products or buying them. Reports state that until third quarter of the year 2020 post the lockdowns were enforced due to COVID19 share of online shopping done by the consumers reached 80%. This implies that out of every four consumers, three of them were shopping online across all the continents. This pushed the retailers to explore unique business models that generated new avenues of business. Digital technologies continuously powered the e-commerce engine by building ecosystems that supported the customer's preferences and choices. Customers expect enhanced services with every interaction and continuously look out for paybacks in terms of their loyalty towards the brand. This makes the retailers fight for every customer and win back the parted ones. The survival of the retailers will depend on their Digital footprint in the market. Since the business scenarios and challenges have changed, businesses had to redefine their strategies in order to remain competitive. The Digital technologies and its adoption has seen a significant adoption at all levels. For retailers, the pandemic era unfolded a very important phase. Newer ways were identified to gather customer data and build new engagement channels to enhance sales. More importantly products which were never envisaged to be sold online found greater spaces on the online portals. This accelerated the Digitalization and spread of online business amongst the consumers. The changes were getting implemented at a rapid pace in the environment. The changes which were not on priority earlier i.e. before the pandemic took precedence and were implemented in few days as agility is the vital in online businesses. During the pandemic, online was the only channel for the customers and retailers to transact and the only support for the economic growth powered by Digital technologies. Let's discuss some turnaround use cases on online business (Papadopoulos, Baltas & Balta, 2020; Columbus, 2020).

VI. TURNAROUND CASE DISCUSSION ON ONLINE BUSINESSES REVEALING THE BENEFITS OF DIGITAL REVOLUTION (OKA, GHAI, VENKATESAN & BAGRI, 2017)

Often the Digital transformations are associated with the cost reductions or increase in the sales revenues. Very few understand that Digital transformation is planning and strategizing of business process model generating unlimited value for the customers. It requires a distinct approach and innovative ways to get the Digital transformation in its entirety that benefits the organization. As discussed earlier there are different transformations driving the changing customer behaviour and provoking the online retail channel such as:

1. Omni Channel shopping experience: Customers expect Omni channel shopping experience while shopping from different channels.
2. Diminishing borders of Digital and physical experiences during shopping which is a vital element
3. Volatility in supply chain where it is envisaged to delivery with agility
4. Global competition where online is the only channel of interaction between the customers and the brand
5. Opportunities arising out of data analytics and new data models probing business process changes
6. Customers demanding higher level of personalization which is actually a bit difficult for retailers without customer data.
7. Pandemic like COVID19 forcing physical businesses to go online releasing new avenues for customers to interact with brands
8. Immersive experiences increasing substantially
9. Exponential growth of mobility

Some of the turnaround cases are discussed here for clear understanding of online businesses. There are different types of Digital disruptions the world recorded such as Internet of Things, Big Data Analytics, Artificial Intelligence, Dark Analytics, Virtual Reality, Blockchain etc. More than business, it was important for the retailers to stay relevant using Digital Technologies. Customer Segmentation was the key that emerged rapidly as one of the success factors in retail. Earlier era witnessed a handful of segments but with the support from Advanced Analytics, retailers are able to create accurate and optimum segments. Artificial Intelligence further enabled the retailers with not just the segments but also predict and track the customer journey.

Case 1: One of the largest Chinese market places deployed Digital Technologies for lifestyle and retail brands. Customer segmentation was derived with the help of Big Data Analytics. The segmentation of the customers was successfully completed while the platform was continuously refined with the data gathered. The retailers were benefitted to a very large extent wherein the brands were able to share customized content with the prospects. This was innovation in the pre-sales domain which nudged the prospects to get converted into potential customers. The results were encouraging with the conversion rate increasing to as high as 6 %.

Case 2: One of the food retailers from Carolina and Virginia states, Lowes Foods found an innovative way of engaging the customers. Characters from the Disneyland were deployed to transform the entire store into themed entertainment marketplace. This worked well in terms of invoking the child in each of the customers making the retailer an experience oriented retailers. Digital Technologies such as Virtual Reality (VR) was used to enhance the experience which entertained the customers and drove them away from their routine and mundane shopping activity. This resulted in a considerable increase in the basket size of the customers hitting super high transactional volumes.

Case 3: The case in study here is about an American retailer dealing with luxury apparels. The challenge faced by the brand was of excessive competition and race to innovatively engage the customers. With large number of brands competing in this space customer acquisition and customer engagement became the focal point. To enhance the customer

experience during the online shopping Digital Technology was deployed to create an option of “memory mirror”. The fundamental job of this option was to create a 360° video for customers while they selected different clothes. It also stored the option for the customer to view later and decide demonstrating it to friends and relatives. This option resulted into the brand soon transforming as the most customer centric and engaging brand. The results were obviously increased number of loyal customers with higher volume of sales. The results achieved were due to the confidence which the memory mirror granted to the consumer due to the creative visualization.

Case 4: Adidas group encompasses about 500 Adidas stores and 250 plus stores of Reebok. The group decided to offer an Omni channel experience to its largest customer base in India. In the year 2015, the group implemented a concept with the help of Digital Technologies wherein they created a friendly shopping experience for the customers. The group acknowledged three main pillars of success which were creating robust stores experience, usage of Advanced Analytics techniques on the data gathered and offering channel agnostic customer experience. While the website and mobile application was launched by the brand, customers were also provided with iPads to use the “Endless Aisle” technology. This technology granted the customer power to order on the iPad for the products that are out of stock. This was enabled by connecting the stores enabling cross channel coverage and automation simultaneously. This was a highly successful innovation and in just two years the group managed to expose all the stores on this channel.

Thus we can observe the dominant role of Digital Technologies in retail, ironing the daunting tasks and re-defining the business processes. With the measured impact on performance, most of the brands decide to re-draft their strategy in order to capitalize on the technology investments and ensure market share.

VII. DIGITAL TRANSFORMATION CHALLENGES (FORBES, 2019)

Different owners drive the Digital transformation which bring about the IT modernization in an enterprise. The collective objective of all is to assist the systems to support the Digital transformation. The business goals are to be achieved with agility for which the brands deploy different Digital technologies that support the modernization and sophistication of IT. Newer business models emerge in this journey which make a profound foundation and enrich the support to sustainability. The emphasis of the enhanced/ new business models remains on the delivery of value to the customers, employees and all stakeholders. Although the Digital technologies are modernizing the Information Technology departments of different industries, but simultaneously the infrastructure requirements are growing increasingly complex. Retail firms are profoundly getting into the designing of newer business models and changes in the service models. With the cloud first approach taken by most of the industries, the businesses will have to either replace or modernize the existing legacy systems so that become compatible with the new age technologies. This is one of the biggest challenges faced by the firms in business since a long time. Operational risks and data security become major hurdles as it requires a change in mind-set implementing and moving the on premise applications to cloud. Most of the times it calls for a major investments during the transition which is beyond the budgetary reach for start-ups. This is foremost challenge for the adoption of Digital transformation.

VIII. DIGITAL TRANSFORMATIONS – DOWNSIDES (MC SHANE, 2017)

As discussed earlier while Digital transformations help new business models to emerge but alongside invite issues such as data security and privacy. Along with such issues, we will discuss other major downsides of Digital transformations in this section.

Data security and data privacy are critical for the organizations especially the strategic data. Privacy protocols have to be strengthened to ensure that the real time data emerging from the IoT landscape is protected. This data is very useful for the competitors who are on a continuous hunt to get this data for building different strategies against the leading organization. The breach of data has the capability to disrupt the organizational strategies and up-root the businesses. Such issues don't go in the favour of digitization. The systems have to be safeguarded such that every data generating point, network, gateways deployed, sensors and smart devices do not share data with unintended participants. Policies such as "Bring Your Own Devices (BYOD)", are the biggest threats to data security. The devices have to be hardened to prevent the vulnerabilities due to the data loss and leak risks.

Digital Technologies are sophisticated IT systems and require the deployment of subject matter experts to transform the implementation into a success. Recruitment and sustaining the right experts needs a completely different organizational approach. These resources are costly and have to be deployed for a long term in order to achieve the optimum value of implementation. These resources are highly deployable and hence in demand. Appropriate and careful succession planning is essential wherein businesses mitigate these risks by strong business processes and document / knowledge management.

Another interesting fact of Digital transformation is the constant upgrades of Digital technologies. Organizations struggle to remain current with the newer versions creating major issues. In case of a technical upgrade, there could be some serious issues such as compatibility of the different systems which work coherently in the ecosystem to deliver the business benefits. Software engineers are deployed constantly so that customer get a seamless experience with Omni channel capabilities. Such issues could lead towards jeopardizing the sustainability. Digital requires a collaborative mind-set of all the stakeholders while it's a Top management agenda.

IX. CONCLUSION

In the current era the customer journey is implicitly woven with the future of the organization. Globalization and new age competition has created a challenge with the retailers to keep customers interest and attention sustained for a longer time. The personalization delivered by the Digital technologies is one of the solutions to acquire and retain the customers. But the mistake online retailers commit is to personalize on the basis of what they think the customer needs. This approach does not work in maximum number of cases causing the customer dissatisfaction. Advanced Analytics solutions work in such cases in combination with Artificial Intelligence. Recent studies in USA have reported that 88% of the online retailers have been successful in increasing the percentage of repeat purchases with personalized experiences offered to the customers. The average increase in the sales transaction value increased by about 20% with this offering. Retailers offering products online equipped with personalization get an implicit tool to track the customer's behaviour.

Customers browsing patterns are gathered monitored and products or services are offered to them as per their product views. With relevant products offered the brand meets and at times excels the customer expectations resulting into a higher Net Promoter Score (NPS). From the business transactions perspective, personalization assists in reducing the sales churn and increasing the up/cross selling prospects. Personalization is offered by the brand in one of the following ways:

1. **Loyalty programs:** There are different types of loyalty programs offered by the brands to the customers basis their buying patterns and likings. Studies in the past have reported that loyalty programs have a success rate of about 75% amongst the customers.
2. **Educational programs:** Basis the customer selected or bought product / services retailers offer free webinars and material educating the customer about the product / service. This is very important from the retailer's point of view as it creates an opportunity of customer engagement. Gathering customer data is critical and this opportunity proves to be a crucial one. In the process it also trains the customers for the usage of the products / services in an optimum way. This initiative adds significant value to the life of the customers.

The Digital Revolution alongside personalization offered to the customer adds numerous benefits for the retailers which have been discussed in the previous section. Major ones include increased sale revenues, repeat purchases, up/cross sell opportunities, business sustainability with improved customer satisfaction. Emerging businesses adds up to the revenue streams for the retailers. With online retail business the physical borders are blurred with newer markets opening for retailers. The global online business market concept surfaces that enables retailers to sell their products in global markets. Customers get immense benefits getting to purchase products which were not available locally. There are certain fundamental disruptions that we conclude with the help of the above sections of this chapter. These include (Forbes, 2019):

1. **Conjunction or merging:** The hard physical boundaries between the different sectors and markets is blurring with physical and Digital channels merging. The Digital revolution brings about a fundamental change in the ways businesses were carried out such as online payments, shopping carts, personalized loyalty models etc.
2. **Customer centric approach:** The customer centric approach deployed in the organization fundamentally gets deployed with a change in the business processes and technologies surrounding the innovation. The discussion in a customer centric organization always starts with the question on what the customer wants instead of what to produce? By the shopping cart and browsing behaviour greater personalization is achieved provoking the customers to buy from the brand.
3. **Collaborative approach:** There are many organizations that realized that the competition is fierce and the customers are looking for a one stop solution. The idea of collaboration which earlier was restricted within the organization expanded to include the suppliers too. There are strong linkages formed such that the suppliers and the retailers compete in the market as one unit building stronger customer values.

- 4. Co-creation:** Since the online customer is a much learned customer as compared to the physical customer where the sales man guided him, retailers use this opportunity to co-innovate products and services. Customers experiences are gathered online and suggestions are taken to incorporate the same in the products. Customers assist the value generation by co-creating and co-innovating the products / services along with the manufacturer giving periodic and genuine feedback.

Digital revolution did not just revolutionize the business process but majorly brought all the relevant stakeholders who play a vital role in the economy together. While the world is fighting the pandemic COVID 19, online retail proves to be the only respite for the purchase of essential products. Retail business quickly calibrated their business processes in the pandemic and transitioned online. The businesses which were already online and had gained the early mover advantage transformed into an agile force. Online businesses supported the economy bringing the world together on the same platform for customer interactions and sale of products / services with a strong Digital footprint that created the Digital revolution. There are some noteworthy predictions regarding e-commerce that clearly depict the growth and are critical for the retailers to align their strategies. Major ones are as follows (Mohsin, 2020):

- Penetration rates of e-commerce in the year 2020 are recorded to be 15% and will grow to a substantial 25% in 2025.
- It is envisaged that by the year 2021, 73% of the e-commerce transactions will take place on mobile phones.
- Social shopping will grow substantially by 2023, while young consumers have increased their spent online by 67% as compared to the period before the Pandemic COVID19. Interesting fact being 70% of the customer refer the previous buyers review before buying.
- Digital technologies such as AR will play a major role in the year 2022, wherein 1.2 L online stores are expected to deploy AR.
- Future sales will be influenced largely (more than 50%) by personalization.
- In the year 2026, image recognition will impact the growth in e-commerce. The global value growth is envisioned to reach USD 82 Billion.

With the above discussions and predictions, we can clearly visualize the impact of digital revolution on the online shopping that will get the world together, especially in pandemic such as COVID19.

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