# Executive Summary:

After going through case study provided about commerce business on the internet called SkyMall this report is prepared. This report provides brief description on Big Data and its implementation in SkyMall online business and how it can be advantageous to SkyMall. Competitiveness from the heated global market including the one which are specific to a country or a region having no global presence and their understanding with their customers’ preferences habits better than SkyMall leads to this report writing for the implementation of Big Data. From research, we agree that Big Data has a great potential for SkyMall and other business as long as huge amount of user generated data is generated. After going through various reports, articles and blogs on the internet, this conclusion is made. Main objective of this report is to leverage Big Data for decision makings for everyday tasks and give head-on competition with the other rivalries. This report focuses on big data usage with respect to responsibilities of SkyMall. Ethical issues along with possible solutions, privacy and social issues are also highlighted in this report along with recommendations on how SkyMall can utilize big data on their business. SkyMall can use big data to enhance and improvise their business by having recommendation section on their platform where depending on the user history database and the products being sold mostly depending on location, time period and more for better user experience. Detail dive in with some clarification and justification about Big Data with SkyMall will be provided in upcoming future reports.

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# Introduction

SkyMall – global largest platform as a service provider that charges monthly subscription fee for their platform with more than 100 million active users and 2 billion product listings. Individual or partners can have their footprint on the internet for their business with worldwide customers. Shops on the internet has an exponential growth since last 10 years reducing cost on labor, operational overhead and access to possible clients. Even though SkyMall charges as low as possible for every sale transaction, there were around 0.5 trillion-dollar transaction in 2019. Due to the global competency and lack of knowing their customers has resulted to significant drop in sales. To recover and make some steep progress, SkyMall’s CIO planned to use big data for day-to-day activities go head to head with competitors. One of their staff suggested to have two solutions which are to use application in user’s mobile for tracking location to obtain users choices in certain region or locality and obtain huge data from customers and sharing them with third parties using terms and conditions section. Assumptions made for this report are that SkyMall has growth potential along with capable systems to implement Big Data. Another is that SkyMall is well aware about big data on which this report is being made to support their decision on implementing big data. Aim of this report is to provide formal report to have their knowledge improved on big data along with their pros and cons for their business. Some of the objectives to prepare this report are provide short introduction on Big Data as a technology and their application for SkyMall along with some applications addressing the responsibilities of SkyMall. The report has sections like introduction on big data with all facts and findings, applications of big data which comes with responsibilities for SkyMall, ethical issues along with proposed solution, privacy issues and social issues and some recommendation on how big data can increase the profit margin.

# Big Data: The Technology

Big Data (BD) is a collection of huge volume of high velocity, heterogenous complex data which need a competent methodologies and expertise to make it useful and for managing and breakdown of data (Gandomi & Haider, 2020). The term Big Data is confusing for whole lot of people but it is a collection, selection and analysis of huge data collection. Big data is not always defined by amount of available data but by our current capability to search, inter-relate, use technology, analysis and methodologies.

# Positive and negative aspects of big data:

When using a certain technology and tools, it comes with its own positive aspects and negative aspects. Big data also comes with the positive and negative aspects. It is all on the business how they handle these aspects to expand the business. Some of those aspects are as follow:

## **Positive aspects:**

1. **Reducing the cost:**

While handling the orders where all the products are stored in SkyMall warehouse, there can be problematic situation. There could be more than required products or less than needed product. So, there is a need to record every stock and optimize regularly. This is costly. With use of big data, optimizing stock levels can be cheap, unnecessary cost can be cut down.

1. **Improvised customer service:**

SkyMall can utilize the big data in their already collected sales transactions and improvise the customer service. Customer relationship management (CRM) systems can also be introduced to serve all customers including future customers. From this, customer complain including the business owners on the platform can be handled very properly and actions can be taken in an instant.

1. **Fraud detection system:**

Every user data is unique and they leave a trail of their data. So, it can be used to learn a patterns and possible anomalies. This can catch fraud business owner on the platform, illegal items sold, illegal transactions. This also leads to improve policy.

1. **Better marketing:**

Getting customer to buy a product to make business owner or normal user to join the platform as a customer can be well played using marketing strategy with Facebook and google. But for this huge data should be analyzed that can be done with big data technology. From the data that users search for products, trends and location can be great for the marketing strategy. These key words can be generated and predicted by big data tools.

## **Negative aspects:**

1. **Cost on implementation:**

Even though most big data tools are open-sourced which reduces the cost on software, the cost does not limit on that. There is cost on staffing, hardware needed, maintenance and much more. This is very costly when it comes in the initial phase and if business is not prepared for that budget then they might get bankrupt before they get result from the big data technology and tools.

1. **Talent demand:**

Big data is not something one can use and work on data in an instant. Talents like data scientists and experts on big data are needed to toe knots on those data. These talents do not come in cheap. Even to hire staff and train them is costly. On the other hand, it takes time to get the necessary skill set professionals.

1. **Quality of data:**

Big data can not be implemented on data that SkyMall have collected from their sell transaction. Data should be relevant to the task, accurate and in proper format. Huge amount of time is needed to make random data in high quality data. And talented and skilled personnel is needed for this.

1. **Prone to hack:**

Having big data which are highly sensitive can make business vulnerable to cyber-attacks. Business needs to be prepared for such breaches and should have separate hardware and staff ready for that.

# Big data for SkyMall:

To apply big data technology in business, huge data is required which SkyMall has. This data should be of very high quality and if not then it should be made using skilled person with talent for that. This can cost extra bucks for SkyMall. After researching on pros and cons of big data for business and ecommerce, SkyMall can implement big data technology and application as follow:

## **Predict the demand:**

Demand plays an important role in steep growth of revenue by crossing and optimal turnover of products (Lypchenko, S., 2015). For the product to be in warehouse, if kept for longer it increases cost and if less stock in warehouse then demand cannot be fulfilled increasing the customers bad experience. This is one crucial responsibility to consider for SkyMall. For this if big data is implemented, they can forecast demand for future and also manage stock in warehouse whether it is low or high. This in turn makes picking, packing and shipping much easier and convenient.

## **Service Improvement:**

When a business exists only due to customers, that business should be customer-oriented and if a customer has a bad experience and if it is not known to the business and even when known, if not handled properly, customer can be lost. For this SkyMall can collects feedback, have user testing the platform and use those data collected with big data technology and improve the services for customers. For SkyMall, Customers are both the business owner in the platform, and other buyers. Better the service, higher the number of customers as more people will prefer the platform making SkyMall a step ahead than other competitors.

## **Improvised Personalization:**

McDanial (2019) argues that 86% of customers agrees that their shopping experience is hugely affected by personalised ads and other personalised factors. From the current crisis situation also, most people are attracted more towards online shopping. Every customer can have personalization based on the location obtained from GPS of mobile phones, gender details from their registration details and linked social media with technologies based on big data. Then with this customer can be targeted with marketing strategies through Facebook and Google ads. This can again increase customers number in the platform, increase engagement when business is slowed.

## **Secured Wired Payments:**

Payment is an important aspect in a business. Every one think about security when it comes to payment. And everyone needs to feel secured on payment. Now here big data can play crucial role by understanding every individual purchase history and can notify customers when doubtable events occurred.

# Issues on ethics with SkyMall:

## **Tracing GPS:**

Every person has their own privacy and getting tracked for where they are or where they have been of course violets privacy. Even when one agrees to provide location data, one is forced to do it else they would not be able to access the platform. There is no place where user can consent to provide location data to SkyMall.

## **Selling data:**

What a person buys and spends on is something that is confidential to all. When a person signs up and fill the form, they do it mostly to access the platform. When consumer ticks the box for terms and conditions to agree, that person or mostly none go through those terms and conditions and there is the fact that there is no section where it says where their data is being used or sold. No user provides their data for selling. When customer gets to know about the data being handled by the third parties then legal issues can arise. This in turn can make customer loose trust on SkyMall and number of users and business owners can get reduced.

# Issues and concerns:

When a huge number of data are being collected from the user there will be some privacy concerns related to what data are being collected, how are they being used and who have access to it. When a site like Amazon uses big data technologies, they provide us with recommendation products with what other people have bought with the similar product. But there is a dark side to it too. Some of the issues are:

1. **Privacy:** Data are being collected where it invades privacy and can increase corporate control. Collected data from a single individual can define the whole personality of a person. So, the business/ organization is liable for security with usage policies that they use. User data are also being accessed by inside business user, third party contractors, government bodies and other business partners that the quote for research purposes. So, when huge data is collected via terms and conditions and sharing with the third parties always raises the privacy issues. Tracking the location using GPS from phone of the user is to improve recommendation violates the privacy when the user is not aware and does not consent to it.
2. **Social:** When user use the SkyMall platform and in general gives out there photos, personal data and if these data are not regulated and managed, provided to third parties then it can be used to track the user using facial recognition, try manipulating there decision with respect to there shopping preferences and data collected. Even while using GPS raises ethical issues.

# Conclusion:

In general, this report is completely based on Big Data, its applications and technology used in ecommerce and business. To give better understanding, big data concept is discussed with respect to online retails in various sections. This explains how effective is big data to implement for current situation. Various functions that can be achieved in online business is also included with their own disadvantages that comes with it. Also, functionalities like improvised personalization, secure payment, demand control and more can be obtained using big data is also concluded. Furthermore, report contains issues / problems of big data and have some recommendation to minimize them using big data technology and tools. With that all possible issues including possible ethical issues that might come upon utilizing big data, privacy and social issues are also considered and with the room to improvement, SkyMall’s big data implementation to achieve growth and success is highlighted. In addition, there is no full in-depth analysis on how the BD algorithms and technology works. With more research and details on big data, its technology and tools for online business can done in next report.

# Recommendation to take advantage:

## **Special offers with promotions customized with customers:**

Everyone has their own unique choices so treating all as same customer is not a good idea which may lead to decrease in number of customers. With BD algorithms and technologies, every person needs and choices can be analyzed and be treated with respect to it by providing personalized promotions. This makes customer experience better impacting hugely on sales, profit and not to forget customer loyalty. Personalized ad can be used for marketing which can increase the customer engagement in the platform.

## **Know and fix Customer challenges:**

Customer judge everything with their perspective and their experiences. If they fail to sense the challenges that bothers them then they eventually fail to find possible solutions. Business should always know the challenges that customers have and solve them thereby increasing customer experience. With use of big data, SkyMall should be able to know the current customer challenges and solve them and also be able to predict future challenges that might arise and take action likewise. This includes filtering out fake, illegal products out of the platform, handling complaints also.

## **All new products and changes with services:**

This is one important aspect of using big data where all new products and services are introduced by using user generated data. This is something that all business whether it is on the internet or offline should work on. By use of data analytics on big data that SkyMall has with all those 0.5 trillion-dollar transactions of sales, new services for the customer can be introduced with all new products.

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