BIG DATA

- Big Data refers to the large amounts of data that is pouring in from various data sources and has different formats.
- Even previously there was huge data which were being stored in databases, but because of the varied nature of this Data, the traditional relational database systems are incapable of handling this Data.
- Big Data is much more than a collection of datasets with different formats, it is an important asset that can be used to obtain enumerable benefits.
- Problems cannot be resolved just by accumulating large amount of data or setting a bunch of nerds loose on a pile of data.
- Solving a problem not only requires a high-level conceptual understanding of the challenge, but also a deep understanding of the nuances of a challenge.

➢ Problem Statement:

To comprehend people's fundamental understanding of big data, its applications in various sectors like Education, Health Care, Media and Entertainment industry, Marketing, Manufacturing and Sports and the challenges encountered when using big data.

➢ Target Audience:

- The target audience is between the ages of 18 and 50(The Age group include students, IT workers, Managers and many more, so they are included in this Age Group)
- We categorise the audience in various sectors such as Education, Health Care, Manufacturing, Marketing, Media and entertainment and Sports.

➢ Survey:

- **Google form Link:**

  https://docs.google.com/forms/d/1q-Ev4lvgwbZYWNn8PXwJ5y05aWNmYhScZbXVD_fCQPI/edit?usp=sharing

➢ Questionnaire:

1. Personal Profile details like Name, Age, Occupation, Location, Relational Status
2. Are you aware of big data?
3. What business functions in your company are the most important users of data and analytics?
4. How would you rate your company on the ability to use data and analytics to improve or transform the business?
5. What tangible benefits do you hope to achieve through your Big Data?
6. How accurate is big data?
7. How would you rate the analytics capabilities in your organization?
8. Are there significantly greater concerns about Big Data initiatives as compared to any new application or system?
9. What analytic benefits are driving the use of Big Data?
10. How challenging is it to source analytical skills in general?
11. How Likely is it that you would recommend big data?

➢ Results:

Name

9 responses

Nikita Kanwar

Haider Alam Khan

Sagar Joshi

Khayaal Shah

Sayyed Ahmed Faraz

Inayat choudhary

Arsalan Ahmad Khan

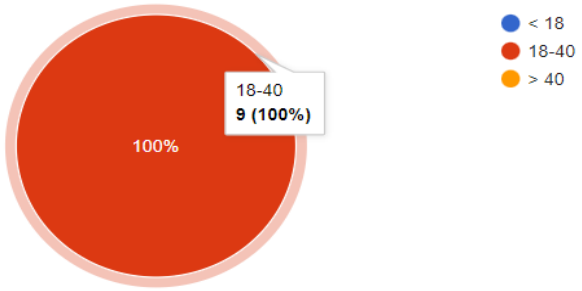
Khan Masood

Khan Abuzar

Age

Copy

9 responses



Are you aware of Big data?

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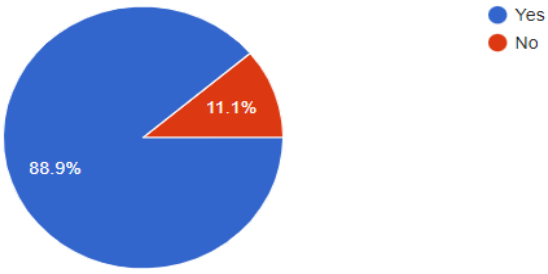

Does your organization work with Big Data/Data Analytics?

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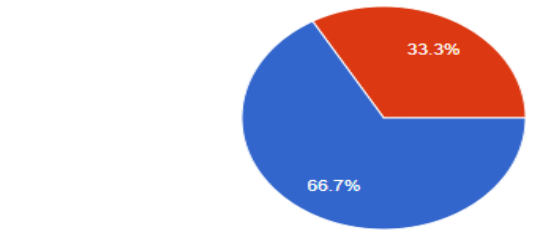
9 responses



What business functions in your company are the most important users of data and analytics?

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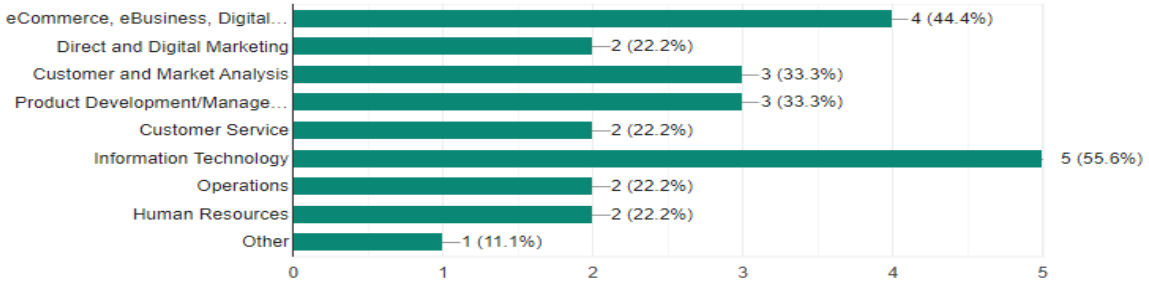

How would you rate your company on the ability to use data and analytics to improve or transform the business?

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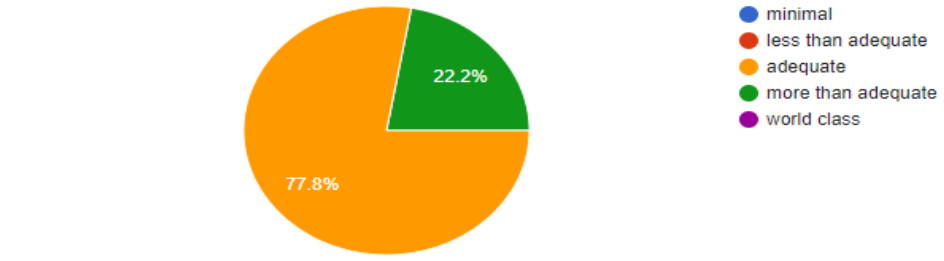

What tangible benefits do you hope to achieve through your Big Data?

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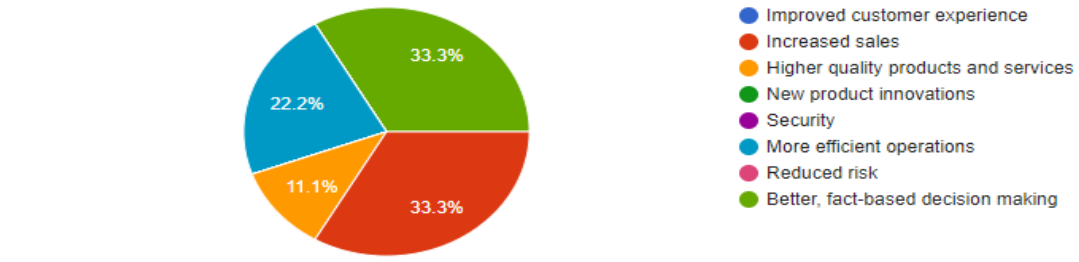

How accurate is big data

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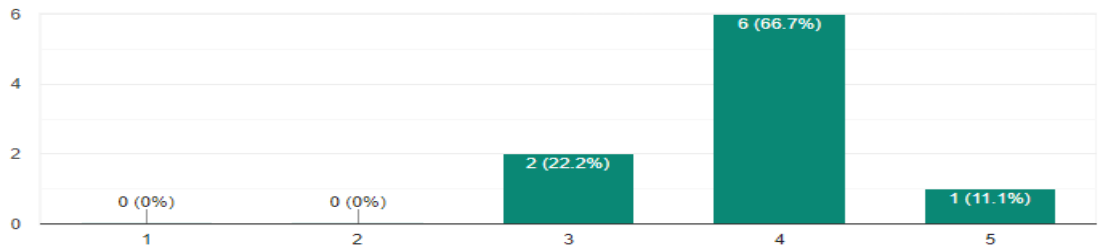

How would you rate the analytics capabilities in your organization ?

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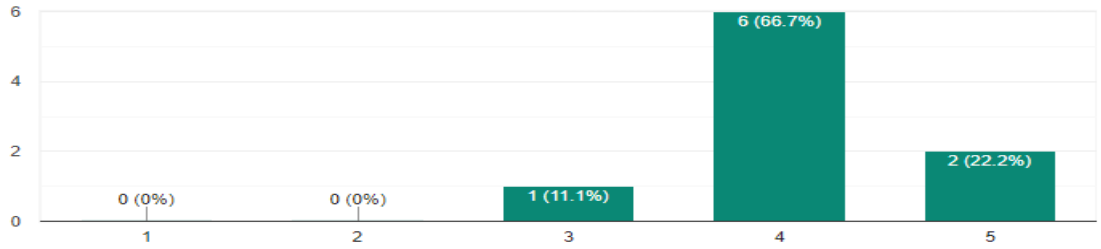

Are there significantly greater concerns about Big Data initiatives as compared to any new application or system?

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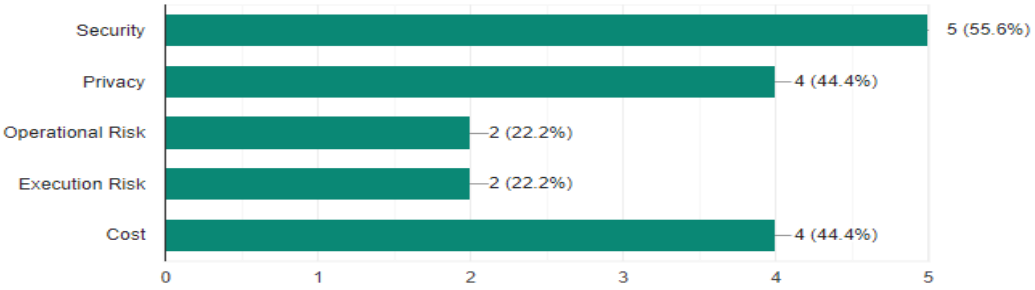

What analytic benefits are driving the use of Big Data?

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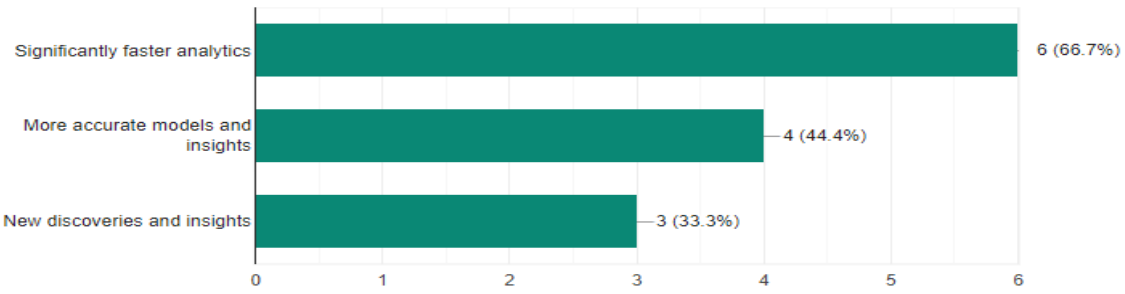
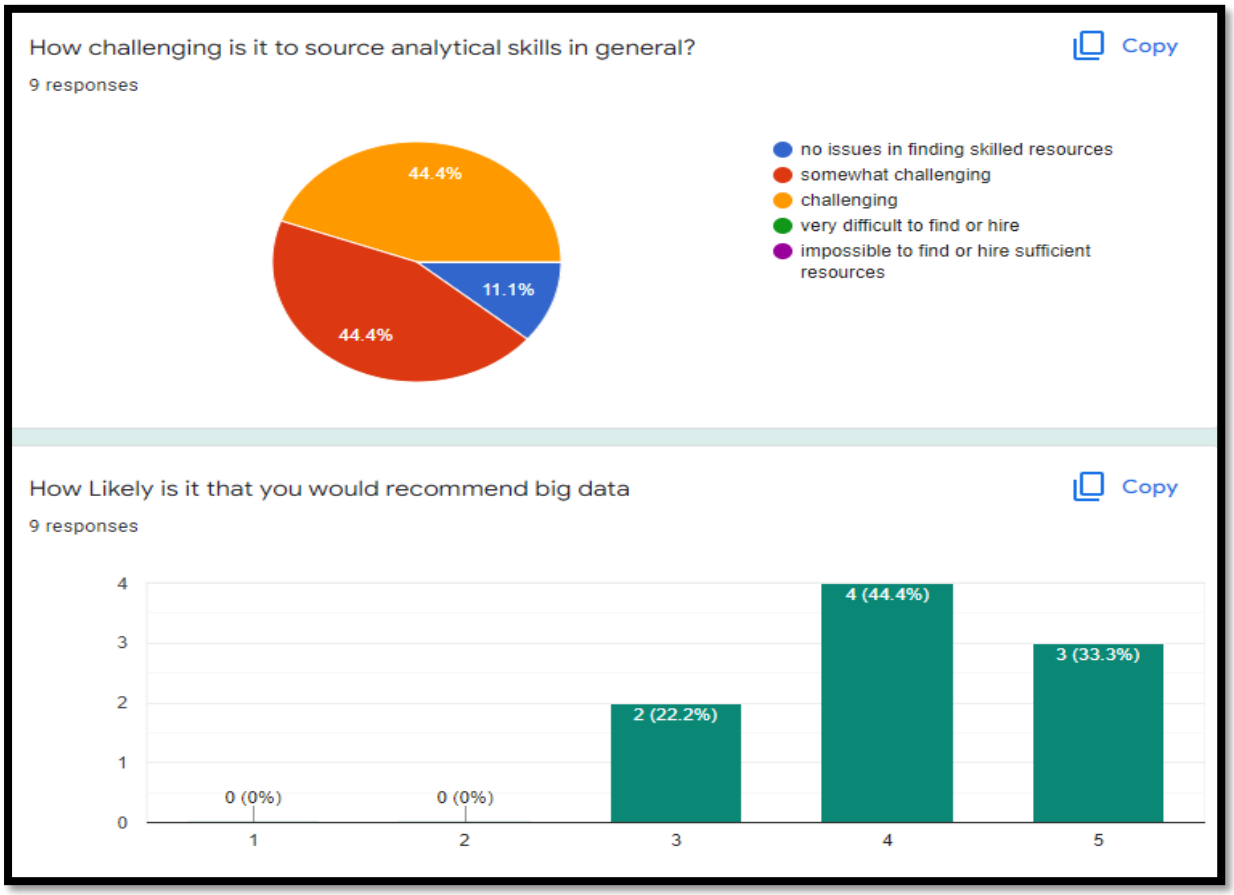




➢ Questionnaire:

1. Personal Profile details like Name, Age, Educational Level Occupation, Location, Relational Status.
2. Incline towards technology?
3. Are you familiar with the debate on Big Data? If so, how would you define Big Data?
4. How useful is big data in your organization?
5. How would you rate your organization on the ability to use big data to improve or transform the business?
6. Does it provide satisfactory answer to your queries?
7. How accurate is big data in the scale of 1 to 5 with 1 being the lowest and 5 highest.
8. What is the primary reason drives you to consider Big Data?
9. Does your organization have desired tools to handle big data?
10. What do you think is the biggest opportunity for using big data in your organization?

11. What are the biggest challenges of using big data in your organization?
12. How affordable is big data?
13. How likely is it that you would recommend big data?

Result 2:

Person 1:

Name: **NAAZIA AZMI**

Age: **37**

Occupation: **Professor at KHMW College (Management)**

Location: **Mumbai**

Relational Status: **Married**

- Yes, I am familiar with big data and its applications. Big data refers to large, difficult-to-manage amounts of data.
- Panorama Education is a management platform for administrators and school districts to support students' learning skills, track progress and improve communication between schools, teachers, students, families, and staff.
- The data in Panorama provides a whole view of each student, from attendance and classroom behavior to academic performance and social-emotional learning. The platform provides insights that help identify at-risk students early and helps educators support students in areas they need it.
- Because our institute is at the forefront of big data application, we are constantly striving to improve in every aspect possible.
- We tend to identify areas where students struggle and to develop strategies for personalized learning, improvising teaching learning experiences of various learners

based on their competencies, skills, interests etc. while prioritizing their needs, pace of learning and developing evaluation/assessment techniques to cater to individual needs.

- In the initial stages, accuracy is close to 5 (on the scale of 1-5)
- Since we professors are basically from non-technical background so having analytics skills is less, but we are getting use to the system and its quite compactable.
- Challenge due to lack of Talent (experts) and access to technologies, storage, scalability, and security Issues.
- Cost is also a major concern in usage of big data but it depends on the organization and I think its affordable.
- Yes, I would recommend big data

Person 2

Name: **MENON KHAN**

Age: **48**

Occupation: **RADIOLOGISTS**

Location: **Lucknow, India**

Relational Status: **Single**

- Yes, being a doctor and having inclination towards new technology is no harm.
- "Big data" refers to large amounts of data from areas such as the Internet and mobile communications, the financial industry, the energy industry, many more and which are stored, processed, and evaluated with special solutions.
- Big Data has great potential to change the healthcare landscape. It can save people's lives by preventing diseases, forecasting medical outcomes, and reducing medical errors. Also, it can improve the quality and cost of care.
- Being a Radiologists and receiving large amount of data in different formats like MRI images,

  Scans, reports, etc. it sometime becomes difficult to maintain everything so we as an organization uses different software and app to identify different problems.
- Yes, it provides satisfactory result faster than the manual process.

- Accuracy is close is 99% (scale of 1-5) I can say 5.
- Yes, we do have desired tools, software, and apps to handle big data. New developments are still happening so it's a great news.
- We need Big Data to reduce loss of life by detecting diseases, recommending the most viable treatment options available and forecasting medical outcomes, to reduce medical errors, prevent mass diseases such as covid pandemic, detecting diseases at their early stage to provide more accurate and low risk treatment and to identify and assist high-risk patients.
- Big data and its applications are still in their nascent stage of development, maintaining privacy, ensuring security, establishing standards and governance is a challenge.
- Yes, I would recommend the use of big data.

Person 3

Name: **KHAYAAL SHAH**

Age: **28**

Occupation: **Data Analyst (Media and Entertainment Company)**

Location: **Mumbai, India**

Relational Status: **Single**

- Yes, I do have inclination towards technology as I have been working on this sector for over 4 years.
- Big data is a term used to describe larger and more complex data sets, especially from new data sources. These data sets are so extensive that classic data processing software cannot manage them.
- The Media and Entertainment Industry also combines and collects the same kind of data from various sources to be able to understand the viewer behaviour and improve themselves in the way which will make them excel and be the favourite of the viewers amongst all of them. This is a well-known fact of marketing and profit making that the more you know your customer the more you can abide by what is liked by them and can set price, content, and user interface accordingly.

- It helps in helps in Predict Audience Interest, Optimization and Monetization, Understanding Audience Disengagement and Role of Advertisements.
- Provide insights from big data, media and entertainment companies can understand when customers are most likely to view content and what device they'll be using when they view it, and it also helps media and entertainment companies generate more revenue.
- Traditional storage can cost lot of money to store big data.
- I would rate it 4 and very close to 5.
- Biggest benefits it helps in identifying consumer needs, behaviour and expectations while maintaining customers privacy, predicting audience interest, buying habits, and preferences for optimising user experience and measuring the impact of advertisements and other important metrics like audience engagement rate, buying trends, consumer insights.
- The challenges involve massive volumes, includes personal and financial details of the consumer which raises data privacy concerns as well as high operating costs.
- Yes, I would recommend the big data.

Person 4

Name: **AHMED KHAN**

Age: **31**

Occupation: **Marketing Analysts lead**

Location: **Mumbai, India**

Relational Status: **Married**

- Yes, I am inclined towards technology.
- Big data is the collection of the data which is also growing exponentially with time. Big data is large and complex in its size and storage that it is unable to be deciphered and understood efficiently by the traditional data management tools.
- Use to gather, analyse massive amounts of digital data to improve business operations such as 360-degree audience views, brand awareness, customer engagement, and improved customer acquisition for analysing customer consumption patterns,

preferences, and information for providing customised benefits to prospective customers.

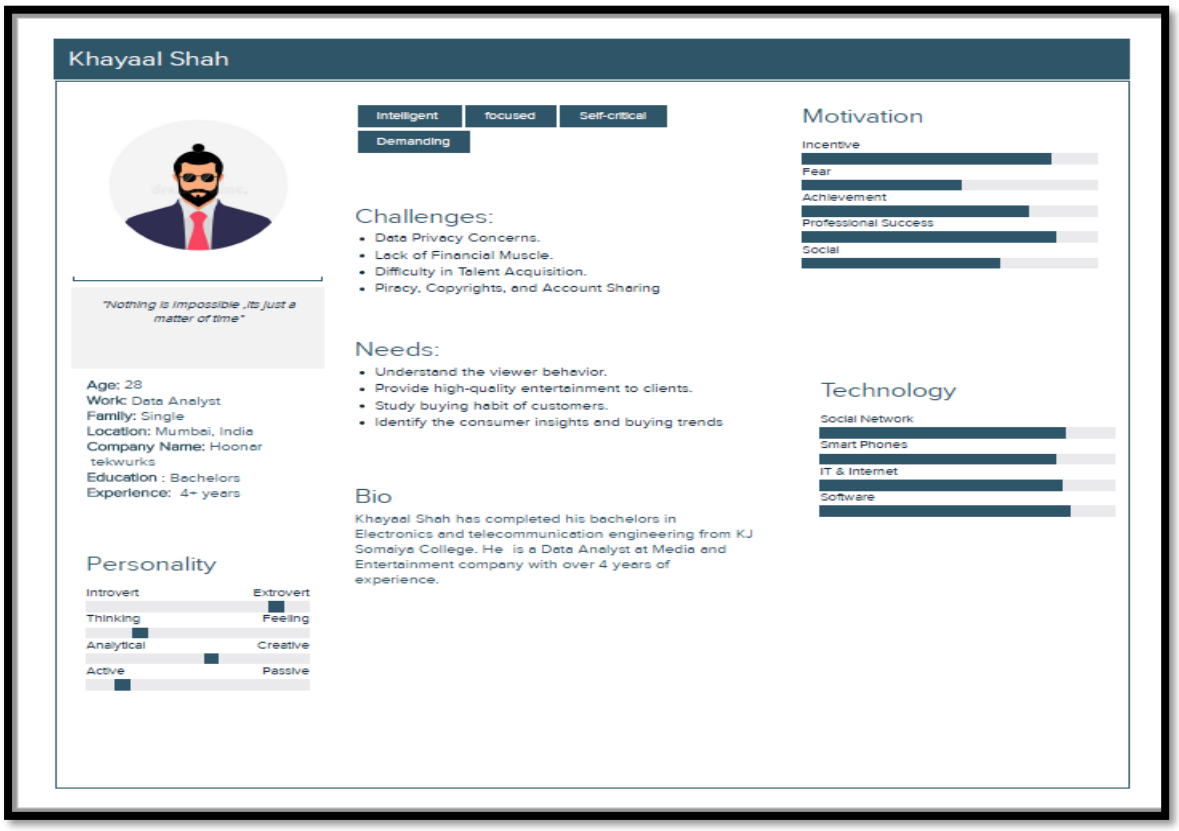
- Overall, the strengths of the big data techniques for marketers are mainly in the fact that skilful use of advanced analytics technologies helps a specialist to develop strategies more easily for promoting a product or service on the market.
- For analysing the consumption patterns, preferences, and information of customers and offering customized benefit to prospective customers.
- Big data issues of scalability, heterogeneity of customers, lack of structure, error-handling, privacy, timeliness, provenance, and visualization, etc are some of the key hindrances that big data possesses for marketeers.
- Yes, I would recommend big data.

User Persona:

Person 1:

Person 2:

Person 3:



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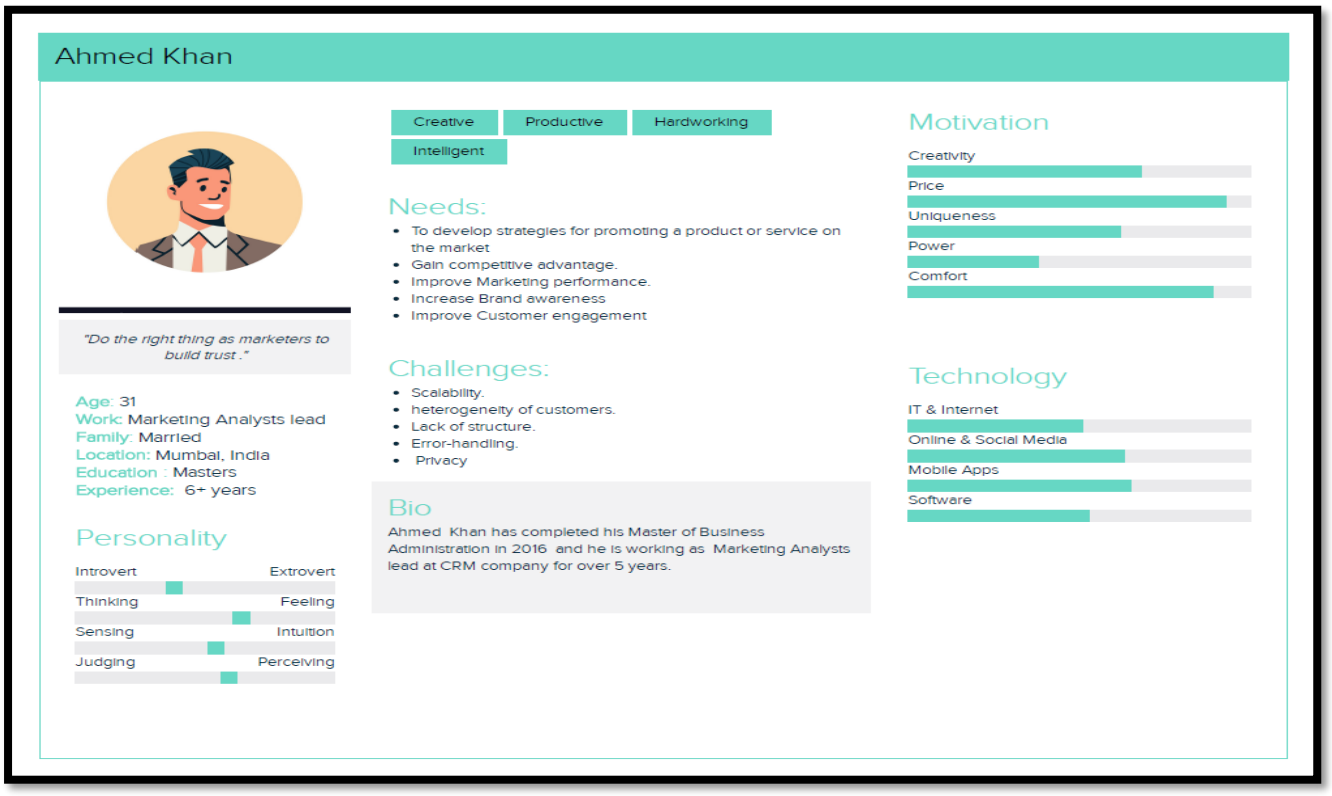
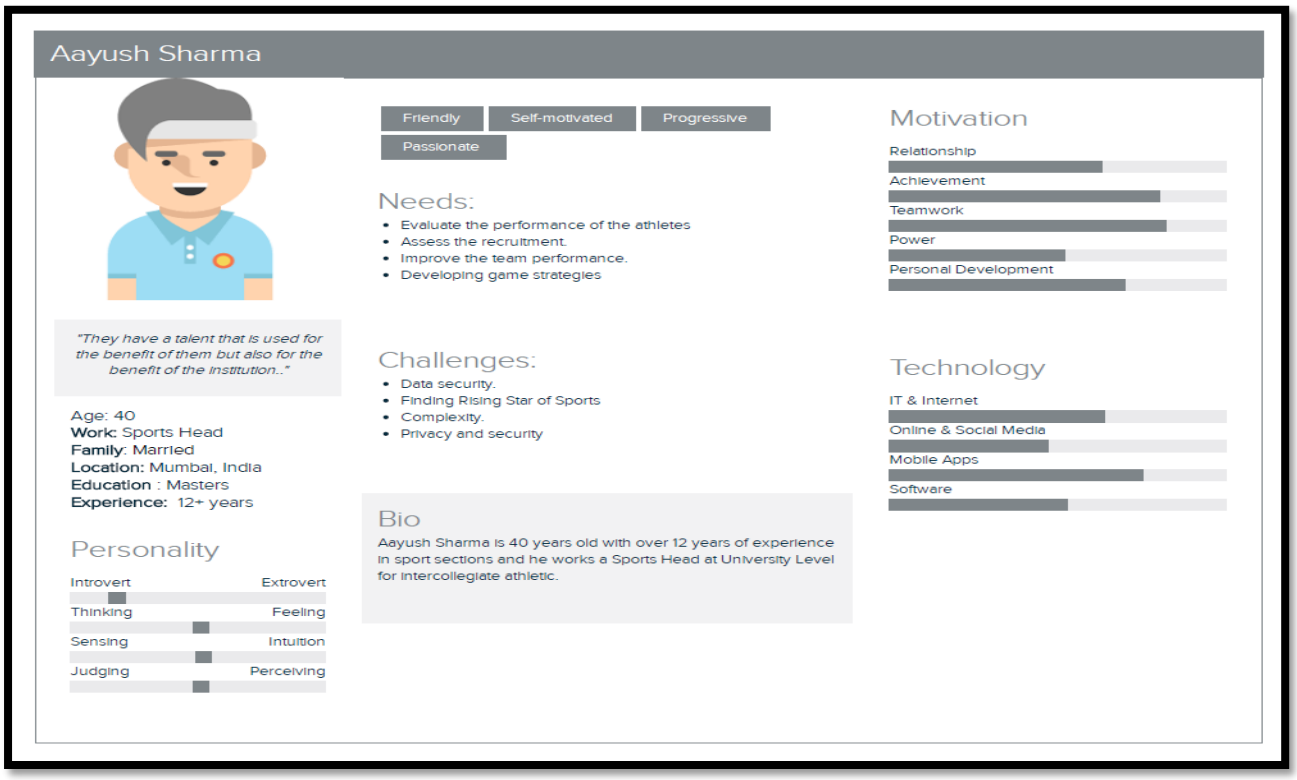


Person 5:

Person 6:



Point-of-View (POV)

- **EDUCATION:**

User	Need	Insights
Naazia is a professor/teacher at a private institute with over 4 years of experience in education sector.	To Identify areas where students struggle and develop strategies for personalized learning	For improvising teaching learning experiences of various learners based on their competencies, skills, interest etc. while prioritising their needs, pace of learning and developing evaluation techniques to cater to individual needs

- **HEALTH CARE**

User	Need	Insights
Menon is Radiologists at a private institute with over 14 years of experience in medical field.	Need to reduce loss of life through detecting diseases, suggesting most viable treatment available while forecasting medical outcomes.	To Reduce medical error, prevent mass diseases like covid pandemic, detecting diseases at their early stage to provide More accurate and minimal risk treatment and its cost, Identifying, and assisting high-risk patients

- **MEDIA AND ENTERTAINMENT INDUSTRY**

User	Need	Insights
Khayaal is Data Analyst at Media and Entertainment company with 5 years of experience	To study consumer needs, behaviour and expectations while maintaining the customer privacy	For Predicting Audience Interest, buying habits and preferences for optimization of user experience and measure the impact of advertisements and other important metrics like audience engagement rate, buying trends, consumer insights.

- **MARKETING**

User	Need	Insights
Ahmed is Marketing Analysts lead at CRM company with 5 years of experience	Need to gather, analyse huge digital information to improve business operations such as 360-degree view of the audiences, Brand awareness, Customer engagement and Improved customer acquisition	For analysing the consumption patterns, preferences, and information of customers and offering customized benefit to prospective customers.

- **MANUFACTURING**

User	Need	Insights
Akshay is a Sales Head at a mobile phone manufacturing firm	Need to identify the latest information and recognize patterns that enhance the manufacturing processes, boost supply chain efficiency, and determine variables that impact production.	Big data enables companies to create new products and services, enhance existing ones, create innovative after-sales service, raise their productivity by increasing efficiency and improving the quality of their products, and reducing costs

- **SPORTS**

User	Need	Insights
XYZ is State level athlete.	Need help in evaluating the performance of the athletes and assess the recruitment necessary to improve the team performance	For customising exercises, performance, health data, training statistics and analysis which can effectively help athletes in daily training and developing game strategies for winning competitions

➢ POV

- **POV 1 (Education):**

Naazia is a professor/teacher at a private institute with over 4 years of experience in the education sector and needs to identify areas where students struggle and she has to develop strategies for personalized learning, improvising teaching learning experiences based on students' competencies, skills, interests etc. while prioritising their needs, pace of learning and developing evaluation techniques to cater to individual needs.

- **POV 2 (Healthcare):**

Menon is Radiologists at a private hospital with over 18 years of experience who needs Big Data for detecting diseases in early stage to provide more accurate results with low risk and viable treatment alongside forecasting its outcomes, reduce medical errors, identify, and assist high-risk patients.

- **POV 3 (Media and Entertainment):**

Khayaal is a Data Analyst at a Media and Entertainment Company with 5 years of experience who uses Big Data to research consumer needs, behaviour, and expectations while protecting customer privacy, predicting audience interest, buying habits, and preferences for optimising user experience.

- **POV 4 (Marketing):**

Ahmed is Marketing Analysts lead at CRM company with 5 years of experience uses Big Data to gather, analyse massive amounts of digital data in order to improve business operations such as 360-degree audience views, brand awareness, customer engagement, and improved customer acquisition for analysing customer consumption patterns, preferences and information for providing customised benefits to prospective customers.

- **POV 5 (Manufacturing):**

Akshay is a Sales Head at a mobile phone manufacturing firm hence he needs to identify the latest information and recognize patterns that enhance the manufacturing processes, boost supply chain efficiency, and determine variables that impact production. The Big data is used to create new products and services, enhance existing ones, create innovative after-sales service, raise productivity by increasing efficiency and improving the quality of their products, reduce costs.

- **POV 6 (Sports):**

Aayush is a Sports Head at University Level for intercollegiate athletic events who requires Big Data in evaluating athletes' performance and assessing the recruitment and training required to improve team performance for customising exercises, performance, health data, training statistics and analysis that can effectively aid athletes in daily training and developing game strategies for competition victory.

➢ IDEATE

Ideate Phase (2-3-5 Method)

Sl. No	Idea 1	Idea 2	Idea 3
Iteration 1 (Saud)	**Cloud Storage like private and public clouds** (To overcome storage issue along with cost reduction)	**Cybersecurity professionals, Data Encryption techniques, Real Time Cyber Security Monitoring** (For Securing Data)	**Recruitment of skilled professionals and organizing training programs.** (Lack of Knowledge)
Iteration 2 (Vishnu)	Data Restriction to certain personnel and implementing Data Usage Controls	Educate Healthcare Staff on Data Analysis and Interpretation	Mitigating Risks from connected Devices and conduct timely Risk Assessments
Iteration 3 (Saud)	**Data Cleaning** (IT Solutions to automate the Data Cleaning Process to get more accurate, correct, consistent, relevant data)	**Improve Decision Making** by identifying patterns	**Remote Monitoring**
Iteration 4 (Vishu)	Focus more on Purpose for the Data collected to reduce risks involving Data Privacy	Develop sensors or implants to read status of a patient and store the collected data	**Modern techniques** to handle these large data sets like Hadoop, NoSQL, etc
Iteration 5 (Combine)	Allocating time to update medical Records in the Database	**Implement Data Visualization** to better interpret and access patients' data to recognise trends and symptoms.	Understanding the volatility of big data to avoid unnecessary duplicate records by automating the process.

➢ DOTMOCRACY (BETWEEN TWO TEAM MEMBERS)

Red colour: Saud Idea.

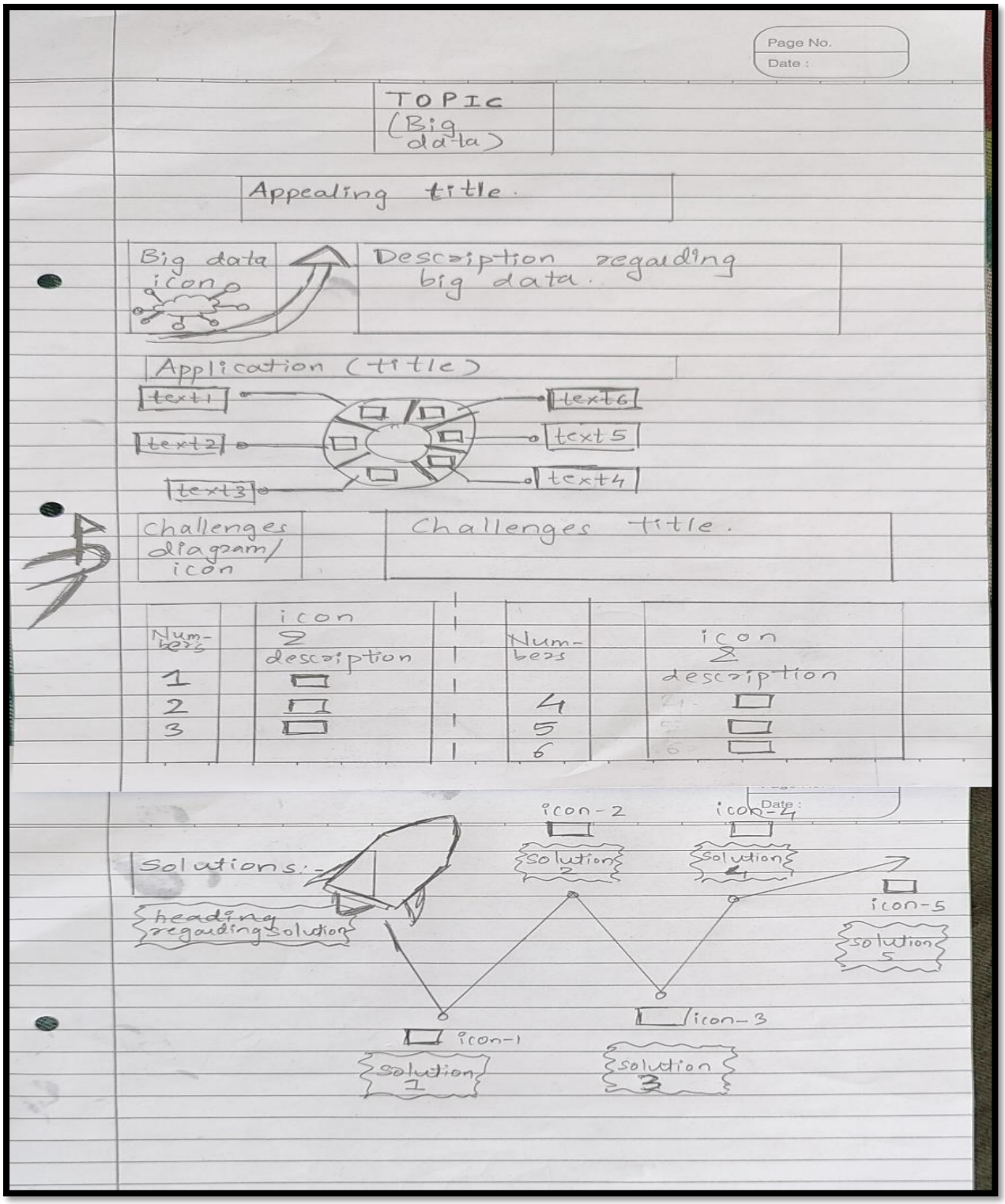
Blue Colour: Vishnu Idea.

Green Colour: Common Idea.

Sl. No	Idea 1	Idea 2	Idea 3
Iteration 1	Cloud Storage to store huge amounts of Data	Data Encryption, Real Time Cyber Security Monitoring	Investing money recruiting skilled professionals to handle big data
Iteration 2	Data Restriction to certain personnel and implementing Data Usage Controls.	Educate Healthcare Staff on Data Analysis and Interpretation	Mitigating Risks from connected Devices and conduct timely Risk Assessments.
Iteration 3	IT Solutions to automate the Data Cleaning Process.	Improve Decision Making by identifying patterns	Remote Monitoring
Iteration 4	Focus more on Purpose for the Data collected to reduce risks involving Data Privacy	Develop sensors or implants to read status of a patient and store the collected data.	Usage or Building Data Models/Sources for coping with Data Scalability.
Iteration 5	Allocating time to update medical Records in the Database	Implement Data Visualisation to better interpret and access patients' data to recognise trends and symptoms.	Understanding the volatility of big data to avoid unnecessary duplicate records by automating the process.

➢ PROTOTYPE:

Paper Prototype:



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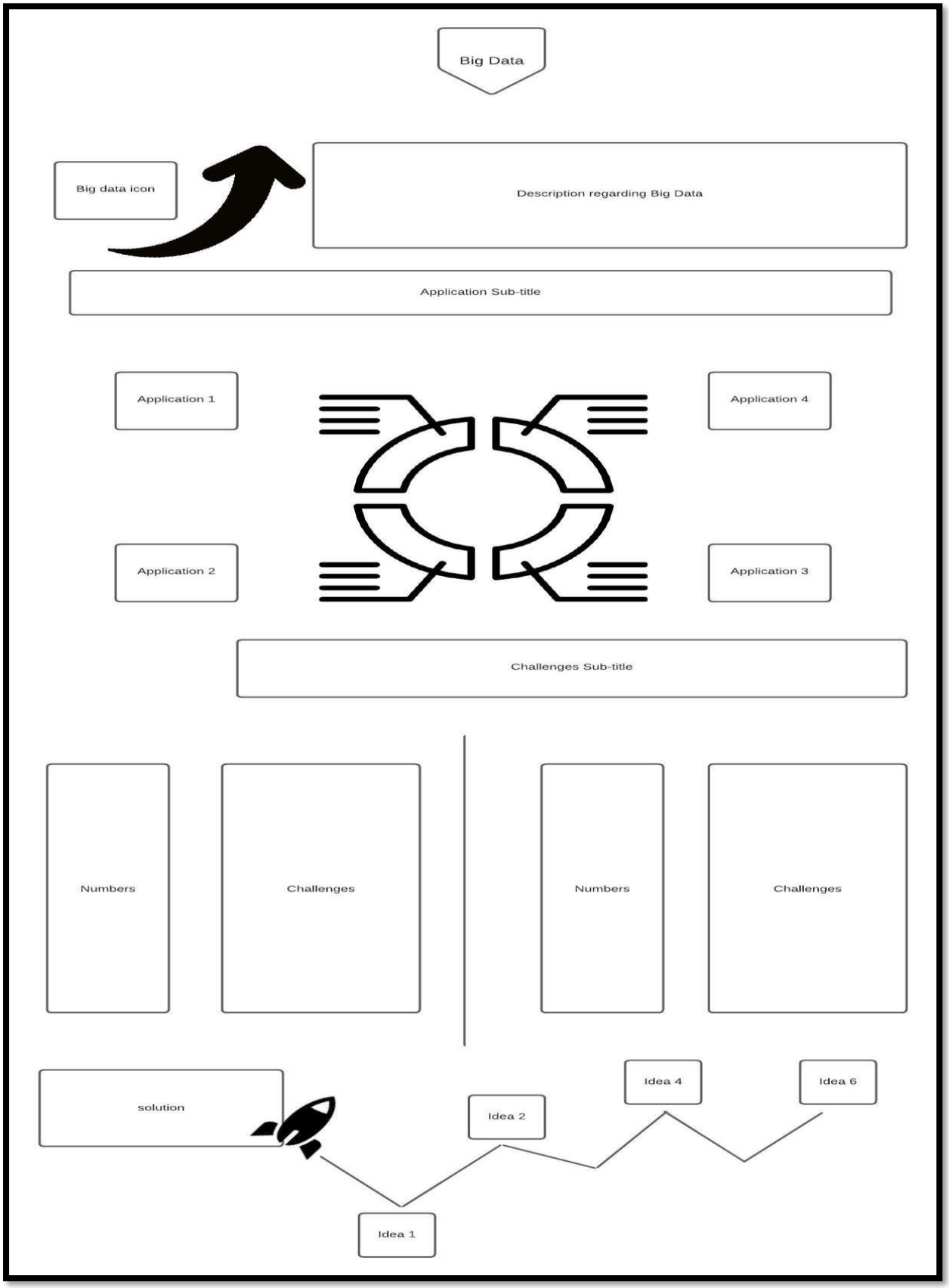
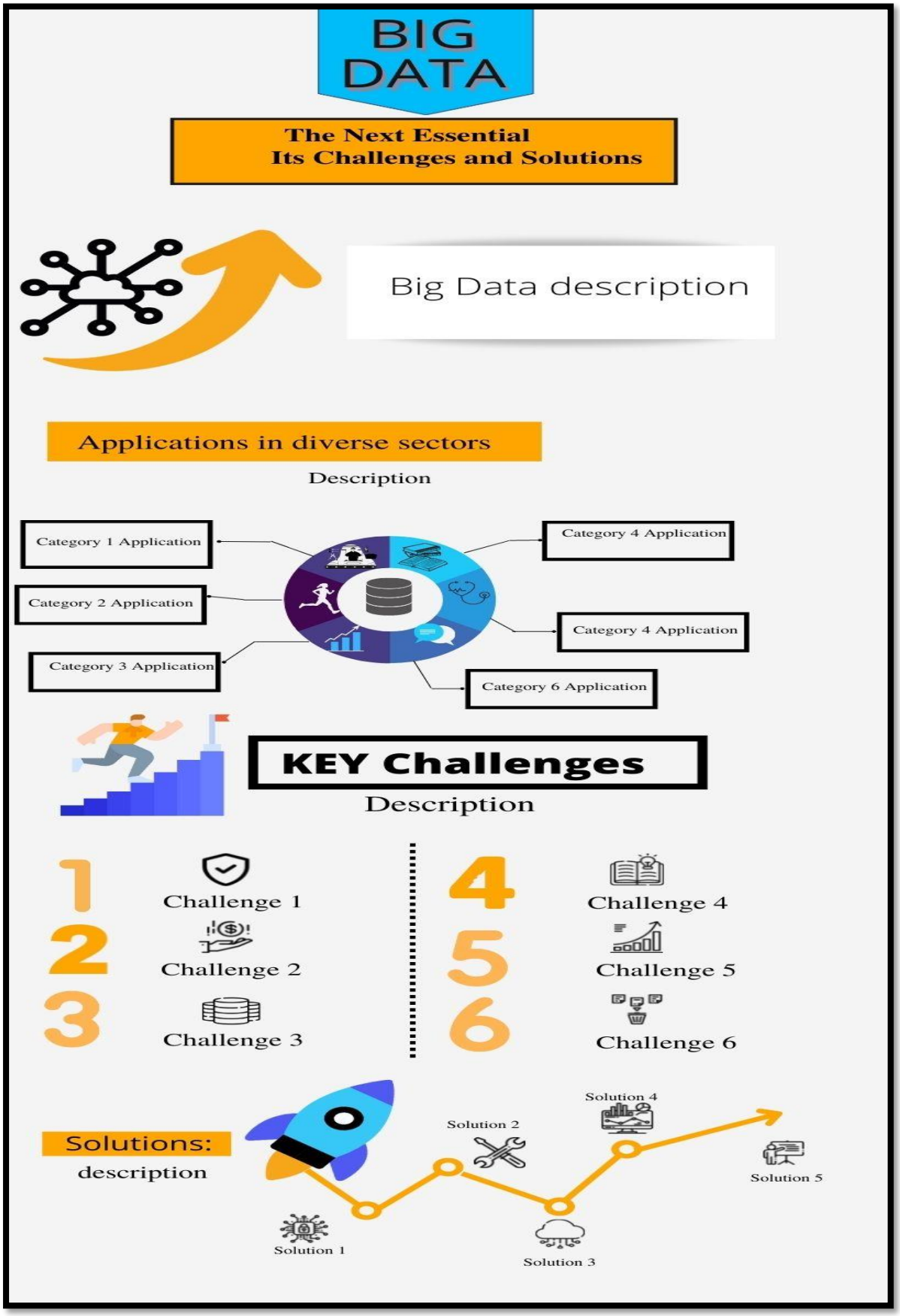

Big Data
Big data icon
Description regarding Big Data
Application Sub-title
Application 1
Application 4
Application 2
Application 3
Challenges Sub-title
Numbers
Challenges
Numbers
Challenges
solution
Idea 1
Idea 2
Idea 4
Idea 6

Mockup:


BIG DATA
The Next Essential
Its Challenges and Solutions
Big Data description
Applications in diverse sectors
Description
Category 1 Application
Category 2 Application
Category 3 Application
Category 4 Application
Category 4 Application
Category 6 Application
KEY Challenges
Description
1
Challenge 1
2
Challenge 2
3
Challenge 3
4
Challenge 4
5
Challenge 5
6
Challenge 6
Solutions:
description
Solution 1
Solution 2
Solution 3
Solution 4
Solution 5

FINAL INFOGRAPHICS:

An infographic is a visual representation of any kind of information or data (information + graphics)

Type: Informational infographics

Category: Technology

Font: Times New Roman, Open Sans bold text

Background: Sky Blue

Size: 800 x 2000 px

Colour: (effectively conveys a message)

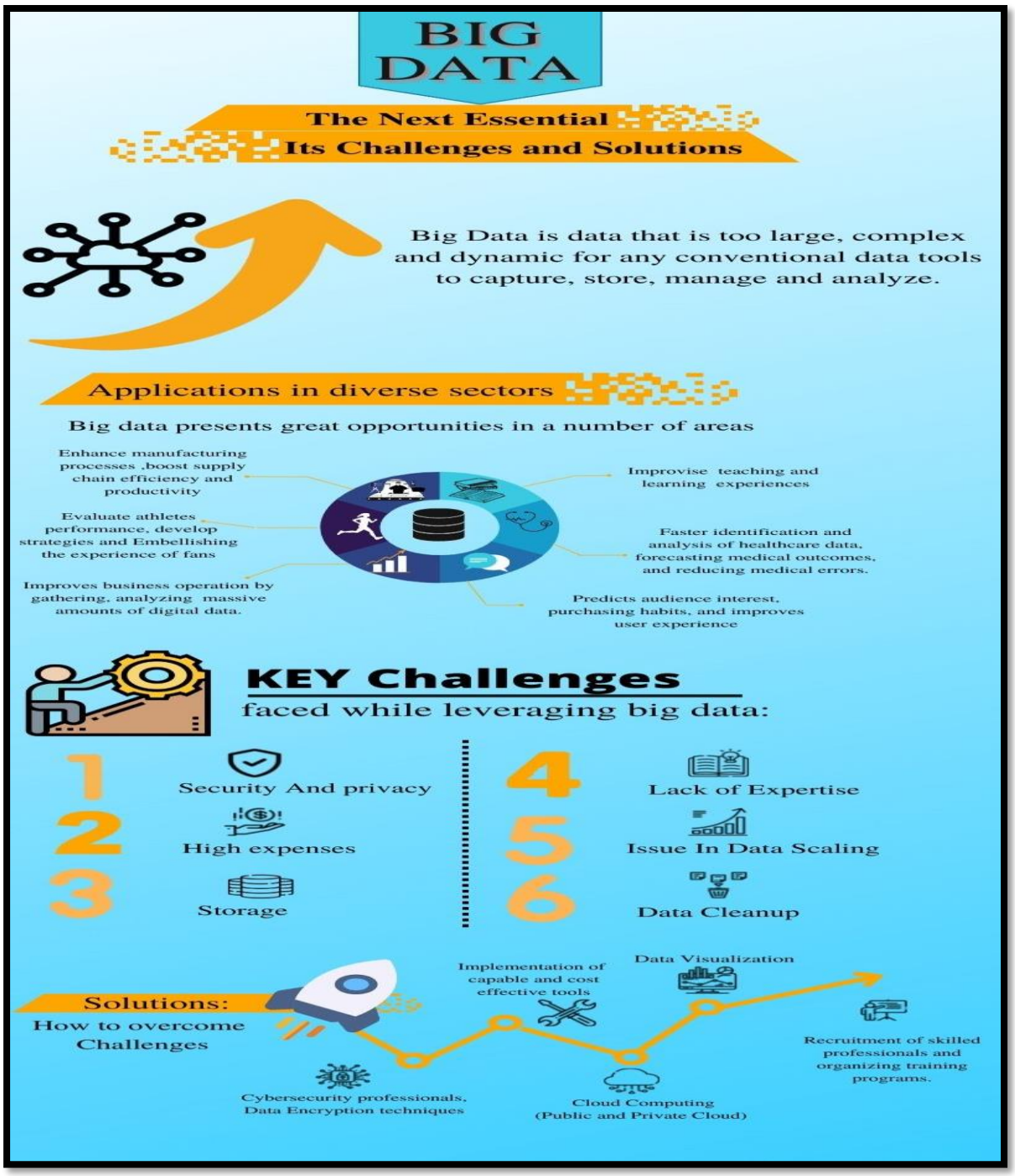
Blue colour: It symbolizes Trust, security, and Responsibility. It also represents Technology with power and Success as motto. (For e.g. All the technology company has blue colour either in theme or as a logo)

Orange Colour: It is used to compliment the blue colour. It represents passion and vibrant nature.

Infographic link:

https://www.canva.com/design/DAFA27GFcjc/SuwSHjNTS0y1CHXBsCdeMA/view?utm_content=DAFA27GFcjc&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

Initial Infographics



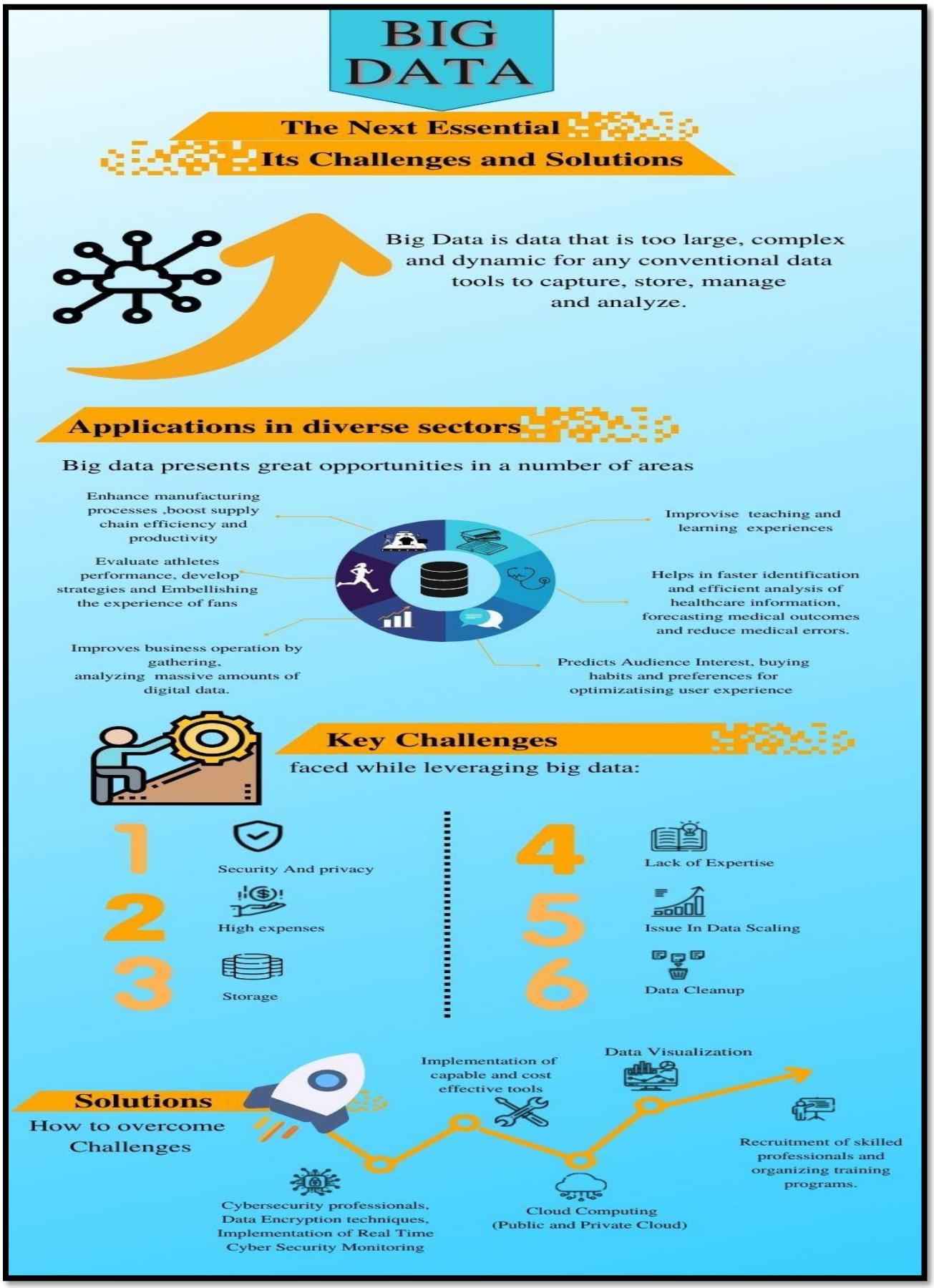
Changes Recommended After Status Call:

- Reduce Text content.
- Shift the content to the right side.
- Maintain Unity regarding Text.

Infographic Link:

https://www.canva.com/design/DAFA27GFcjc/J_dRCQO3yMQVwc4rlX9Q9A/view?utm_content=DAFA27GFcjc&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink

Final Inforgraphics:



➢ USER TESTING (BEFORE FINAL INFOGRAPHICS).

FEEDBACKS:

- Reduce Text content.
- Shift the content to the right side.
- Maintain Unity regarding Text.

SOURCES/ REFERENCE LIST:

Infographics: Canva(https://www.canva.com/)

Icons: Flaticon (https://www.flaticon.com/)

Persona: Xtensio (https://xtensio.com/)

Images: Google