Data Science, it's uses in Banking and it's final deliverable

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[Shareable Link](https://in.coursera.org/learn/what-is-datascience/peer/dgsjq/final-assignment/review/kFwRAGELEeyZgBKRrAlULw)

**PROMPT**

Based on the videos and the reading material, how would you define a data scientist and data science? **(3 marks)**

**Data Science** is the study of data. It can also be described as an art of uncovering the insights and trends hidden behind data.

Data Science involves various steps in order to solve any business problem -

1. To understand the requirement
2. To figure out which all data is required to solve the problem
3. To collect the data from various structured or unstructured sources of data
4. To clean the data and make it structured
5. To analyze data and find insights or trends hidden behind data
6. To use storytelling to present the insights to stakeholders either in verbal or written form

Organizations can use Data Science to understand their environments, analyze existing issues or reveal any hidden opportunities.

**Data Scientists** are the people who performs Data Science to help any organization, firm or individual to take informed decisions or solve any business problem.

**RUBRIC**

According to the reading material, a data scientist is someone who finds solutions to problems by analyzing data using appropriate tools and then tells stories to communicate their findings to the relevant stakeholders. Data science is defined as what data scientists do. Is the student's definition close to what is defined in the course material?

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| --- | --- | --- |
|  | 1 point  Poor. The student provided a non-coherent definition of data science and data scientist. The student did not mention anything about **using tools to find solutions to problems** and **communicating their findings through story-telling**. |  |
|  | 2 points  Good. The student provided definitions close to the ones discussed in the course material but the definitions are still incomplete. For example, the student forgot to mention that in addition to **using tools to find solutions to problems**, a data scientist also **communicates their findings through story-telling**. Or, the student forgot to mention that a data scientist, in addition to communicating their findings to the relevant stakeholders, they use tools to find solutions to problems. |  |
|  | **3 points**  **Excellent. The student provided a complete definition of a data scientist. The student explicitly stated that a data scientist uses data to find solutions to problems and tells stories to communicate their findings.** | C  J |

**PROMPT**

As discussed in the videos and the reading material, data science can be applied to problems across different industries. Give a brief explanation describing what industry you are passionate about and would like to pursue a data science career in? **(2 marks)**

I am passionate about banking sector and would like to pursue data science career in it. There are mainly 2 reasons for it -

1. It directly or indirectly represents the progress and growth of a state or country which means data science in this industry can make huge impact on the growth of a state (or country).
2. It stores the most crucial data of people (it's customers) which opens up immense number possibilities to help bank as well as it's customers by analyzing customer's spending habits, customer segmentation, banking product performance analysis, etc.

There are many ways in which data science can be used in banking industry -

1. **Fraud Detection** - This is one of the most critical part of banking industry and it's necessary to implement data science to detect any kind of transactions which seems to be fraud including unusual high amount transactions, unusual opening of many bank accounts with similar information. The early the fraud gets detected, the faster banks would take necessary actions to reduce any kind of financial losses.
2. **Customer Segmentation** - It means grouping customers into categories in terms of sex, nationality, age, spending behavior, etc. Every customer doesn't need to be interested in same set of products offered by the bank, so customer segmentation helps to target customers who are more likely to avail those products or services.
3. **Customer Support** - Data Science can help customers to automatically suggest solutions for most of their queries and can greatly improve productivity of banks by reducing human interference, etc.

**RUBRIC**

Has the student shared what industry they are passionate about?

|  |  |  |
| --- | --- | --- |
|  | 0 points  No, the student did not supply what industry they were passionate about |  |
|  | 1 point  Yes, but the student did not offer any explanation on why they were passionate about the industry. |  |
|  | **2 points**  **Yes and the student also gave an explanation on why they were passionate about the industry.** | C  J |

**PROMPT**

Based on the videos and the reading material, what are the **ten** main components of a report that would be delivered at the end of a data science project? **(5 marks)**

The main components of a report that would be delivered at the end of a data science project are --

1. Cover page - It should contain at-least title of the report, names of authors, their affiliations, contacts, publisher and date of publication.
2. Table of Contents - It is like a map needed for a trip never taken before. It helps to take a glimpse of what lies in the document and for easy navigation to a specific sections.
3. Abstract / Executive Summary - It is helpful for the reader to understand briefly what's exactly present in the report.
4. Methodology section - It includes research methods and data sources used for the analysis.
5. Results section - It presents empirical findings which includes descriptive statistics and illustrative graphics.
6. Discussion Section - In this section, writer use power of narrative to communicate his thesis to readers and craft main arguments.
7. Conclusion - It is used to generalize and promote specific findings and not let readers stuck in the caveats which were outlined earlier. It might also include future possible developments in research and applications that could result from the report.
8. Housekeeping
9. List of references - To list down every reference used in analytics or report.
10. Acknowledgement section - Acknowledging the support of those who have enabled your work is good.
11. Appendices (if any)

Reference - Course Text Book: ‘Getting Started with Data Science’ Publisher: IBM Press; 1 edition (Dec 13 2015) Print.

**RUBRIC**

According to the course material, a final deliverable in the form of a report, has the following 10 main components:

1. Cover page
2. Table of contents
3. Executive Summary
4. Introductory section
5. Methodology section
6. Results section
7. Discussion section
8. Conclusion section
9. References
10. Acknowledgment

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| --- | --- | --- |
|  | 2 points  Incomplete answer. Not all the ten components were listed. |  |
|  | **5 points**  **Complete answer. The student listed all ten components of a data science report.** |  |