

Business Understanding

Instructions:

Please share your answers filled in-line in the word document. Submit code separately wherever applicable.

Please ensure you update all the details:

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Topic: Business Understanding

Instructions: Learn to understand the business objective(s) and constraint(s) based on the business problem statements. You should identify and frame statements using the words “maximize” and/or “minimize” for objective(s) and constraint(s) (for example: “maximize profit” “minimize risk”, etc.)

Q1. For the below listed business problems, draft the business objectives and constraints.

Hint:

- Objective(s) implies the goals to be achieved in terms of maximizing & minimizing.
- Constraint(s) are the challenges/limitations in achieving the objectives.

S.no	Business Problem
Hint :	<p>Smart data platforms can bring together customer transactions data and data from real-time communication streams to disclose the insights concerning customers feelings about the services which allows addressing the satisfaction-related issues and churn prevention.</p> <p>Sol: Hint</p> <p>Business Objective:</p> <p>Minimize: <u>Churn rate (churning implies customers going to another company for their needs)</u></p> <p>(or)</p> <p>Maximize: <u>Customer satisfaction (satisfaction will make customer more loyal to the brand)</u></p> <p>Business Constraints: <u>Lack of data coverage for all customers</u></p>

1	<p>Advanced targeting allows predicting needs, preferences, and customers' reaction to the telecommunication services and products on offer by segmenting their market and targeting the content according to each group.</p> <p>Business Objective:</p> <p>Maximize: <u>the filter preferences according to customer need..</u></p> <p>Minimize: <u>segmentation of services and products.</u></p> <p>Business Constraints: <u>To target the one optimize service or product.</u></p>
2	<p>Telecommunication companies tend to regard the customers' engagement process and internal channels as a guarantee of smooth functioning of the operations. Network management and optimization gives an opportunity to identify the root causes.</p> <p>Business Objective:</p> <p>Minimize: <u>the loop holes of the project.</u></p> <p>Maximize: <u>the loop holes of the project functioning if the operations,</u></p> <p>Business Constraints: <u>To improve network management and optimization.</u></p>
3	<p>Ensuring the high-quality performance of the product according to the customer's requirement is not possible without applying smart data solutions.</p> <p>Business Objective:</p> <p>Minimize: <u>large amounts of data and cheap solution</u></p> <p>Maximize: <u>Give optimize data solution</u></p> <p>Business Constraints: <u>To improve the performance of large amount of data.</u></p>

4	<p>Collection of positive & negative reactions to the service or product from social media sources, recent trends via customer sentiment analysis may provide an opportunity to utilize mechanisms for direct responding.</p> <p>Business Objective:</p> <p>Minimize: <u>negative feedback of the customer</u></p> <p>Maximize: utilizes mechanisms for direct respond.</p> <p>Business Constraints: <u>Customer sentiment analysis provide the good opportunities</u></p>
5	<p>Acquiring as many subscribers as possible remains a critical goal. In recent years, the number of users has been growing extremely fast and pricing emerged as a tool to limit congestion and increase revenue at the same time.</p> <p>Business Objective:</p> <p>Maximize: <u>revenue of the company</u></p> <p>Minimize: <u>limit congestion</u></p> <p>Business Constraints: <u>study why the number of user growing so fast</u></p>
6	<p>Customers usually search for better & cheaper services so the telecommunication companies measure, manage, and predict the customer lifetime value (CLV). Smart solutions process real-time insights based on customer purchasing behavior, activity, services utilized, and average customer value.</p> <p>Business Objective:</p> <p>Minimize: <u>product price</u></p> <p>Maximize: <u>better and cheaper services (low price and high quality)</u></p> <p>Business Constraints: <u>Real time insights. /Find customer solution</u></p>

7	<p>In telecommunications, companies prevent bypass fraud by using big data to review the source of transactions, the cost of the call, and the destination number, in real-world situations.</p> <p>Business Objective:</p> <p>Minimize: <u>Minimize Fraud</u></p> <p>Maximize: <u>destination number, in real-world situations</u></p> <p>Business Constraints: <u>review the source</u></p>
8	<p>Identify security issues, conduct predictive analysis, and use machine learning-based solutions to analyze any patterns of threats and automated escalations to resolve issues before they cause serious damage.</p> <p>Business Objective:</p> <p>Minimize: <u>escalations</u></p> <p>Maximize: <u>Resolve issues before a time</u></p> <p>Business Constraints: <u>Identify all issues, analysis, and pattern / time-consuming process</u></p>
9	<p>Retail industry uses AI systems with built-in machine learning algorithms to collect and analyze data regarding products, transactions, etc. Based on findings from data, systems estimate the best strategies that can be implemented for the profit of the business</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>using best strategies for profit</u></p> <p>Business Constraints: <u>using machine algorithms / data availability</u></p>

10	<p>The price determination process depends not only on the costs to produce an item but on the wallet of a typical customer and the competitors' offers. The tools for data analysis bring this issue to a new level of its approach.</p> <p>Business Objective:</p> <p>Minimize: <u>low price/ budget friendly</u></p> <p>Maximize: <u>product quality and more sell</u></p> <p>Business Constraints: <u>Data analysis / Data visualization</u></p>
11	<p>Inventory deals with stocking goods for their future use. Inventory management refers to stocking goods to use in times of crisis. The retailers aim to provide the right product at the right time in the proper condition.</p> <p>Business Objective:</p> <p>Minimize: <u>crisis</u></p> <p>Maximize: <u>better services (proper condition, time, place, product)</u></p> <p>Business Constraints: <u>inventory management / product storage space and , more money</u></p>
12	<p>Customer feedback is taken as an important aspect of the retail store. Considering customer feedback and making changes can increase the store profits and customer satisfaction.</p> <p>Business Objective:</p> <p>Minimize: <u>product fault</u></p> <p>Maximize: <u>increase the profits and customer satisfaction</u></p> <p>Business Constraints: <u>collect customer feedback / survey</u></p>

13	<p>Businesses have to be extremely cautious about choosing a new store's location. To make such a decision, a great deal of study regarding the location is required which gives us a basis for understanding the potential of the market. Also, special settings concerning the location of other stores are considered.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>promote business and cover new location</u></p> <p>Business Constraints: <u>New store's location</u></p>
14	<p>Airlines use AI systems with built-in machine learning algorithms to collect and analyze flight data regarding each route distance, altitudes, aircraft type, weight, weather, etc. Based on findings from the data, systems estimate the optimal amount of fuel needed for a flight.</p> <p>Business Objective:</p> <p>Minimize: <u>low fuel/less distance</u></p> <p>Maximize: <u>high accuracy</u></p> <p>Business Constraints: <u>collect and analyze data</u></p>
15	<p>Airlines and flight operators can significantly reduce their operational costs and overhead by optimizing their sales revenue in the longer term with AI-powered systems (dynamic pricing)</p> <p>Business Objective:</p> <p>Minimize: <u>Cost</u></p> <p>Maximize: <u>sales revenue / profit</u></p> <p>Business Constraints: <u>NA</u></p>

16	<p>As flight delays are dependent on a huge number of factors, an intelligent system can be applied to analyze huge datasets in real time to predict delays and re-book customers' flights in time.</p> <p>Business Objective:</p> <p>Minimize: <u>flight delays</u></p> <p>Maximize: <u>real time and easy way to book seat</u></p> <p>Business Constraints: <u>Analyze huge data</u></p>
17	<p>By analyzing specific customer's flight and purchase patterns, and coupling it with historic data, algorithms are able to point out suspicious credit card transactions and detect fraudulent cases thereby saving airline and travel companies millions of dollars every year.</p> <p>Business Objective:</p> <p>Minimize: <u>eliminate fraudulent</u></p> <p>Maximize: <u>purchase patterns</u></p> <p>Business Constraints: <u>analyze specific customers 'flight</u></p>
18	<p>What is the optimal way to schedule an airline's crew to maximize their productive time and balance their working hours to increase employee retention?</p> <p>Business Objective:</p> <p>Minimize: <u>schedule</u></p> <p>Maximize: <u>their time and increase employee retention</u></p> <p>Business Constraints: <u>The way to schedule</u></p>

19	<p>The image of the enterprise in the community largely influences the recruitment process. A person may not be interested in applying for a job in an enterprise whose goodwill is low.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>finding the right candidate</u></p> <p>Business Constraints: <u>organization policies</u></p>
20	<p>If the job is boring, hazardous, tension ridden, and lacking in opportunities for advancement, very few people may be available for such jobs.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>NA</u></p> <p>Business Constraints: <u>find right candidate</u></p>
21	<p>One of the greatest challenges that an HR leader could face is keeping the staff satisfied.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>staff satisfaction</u></p> <p>Business Constraints: <u>problem of staff</u></p>

22	<p>Organizations face huge costs resulting from employee turnover. Some costs are tangible such as training expenses and the time it takes from when an employee starts to when they become a productive member.</p> <p>Business Objective:</p> <p>Minimize: <u>Save Money</u></p> <p>Maximize: <u>minimize costs</u></p> <p>Business Constraints: <u>Organizations face huge costs</u></p>
23	<p>Attracting the attention of a candidate and driving the traffic towards a company's hiring page is one place where an AI can see widespread use.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>get more traffic at the company's hiring page</u></p> <p>Business Constraints: <u>Attracting the attention of a candidate</u></p>
24	<p>HR departments are responsible for the implementation of training programs. Some of these programs are designed to ensure your staff follows policies and procedures while others are used for job advancement. In some job settings, employees are required to complete certain certification programs.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>provide program to all employers and complete that</u></p> <p>Business Constraints: <u>implementation of training programs</u></p>

25	<p>Understanding people and why they decide to stay at or leave a job is arguably one of the most important questions for HR to answer. Identifying attrition risk calls for advanced pattern recognition in surveying an array of variables.</p> <p>Business Objective:</p> <p>Minimize: <u>minimize job leave ratio</u></p> <p>Maximize: <u>NA</u></p> <p>Business Constraints: <u>Identifying attrition</u></p>
26	<p>Your HR department likely deals with many requests and queries from employees throughout the day. This could include queries about available time off, vacation time, or HR issues with their paycheck. They may also receive requests for shift swaps and other scheduling problems.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>solve all the problem</u></p> <p>Business Constraints: <u>create the new schedule and, time management</u></p>
27	<p>In modern manufacturing, production can often depend on a few critical machines or cells. The same data that provides a manufacturer real-time monitoring can be analyzed through data science to improve asset management and prevent machine failure.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>less machine failure and maximize production</u></p> <p>Business Constraints: <u>analyze real-time data and used it in real-time manufacture</u></p>

28	<p>Plan to help manufacturers analyze if their product and services are meeting all objectives for initial processes such as the DMAIC framework. They need a strategy to be used to determine which product has the highest impact. Helping in minimizing errors and losses and eliminating unnecessary human effort can increase the overall quality of products and services.</p> <p>Business Objective:</p> <p>Minimize: <u>errors and losses and eliminates unnecessary human effort</u></p> <p>Maximize: <u>manufacturers analyze</u></p> <p>Business Constraints: <u>without unnecessary human effort done work /analyzing data</u></p>
29	<p>Some flaws in products are too small to be noticed by the naked eye even if the inspector is very experienced. The time taken for inspection also slows down the production.</p> <p>Business Objective:</p> <p>Minimize: <u>time taken for inspection</u></p> <p>Maximize: <u>NA</u></p> <p>Business Constraints: <u>find an experienced inspector</u></p>
30	<p>A business wants to make design enhancements/upgrades to the current version of the product to increase consumption of the product and thereby the brand image. They need to identify the features which most of the customers use and they need to understand customer behavior towards the product, brand, and their interests.</p> <p>Business Objective:</p> <p>Minimize: <u>Customer Problem</u></p> <p>Maximize: <u>Increase Customer Interest</u></p> <p>Business Constraints: <u>upgrade design and current version, brand image</u></p>

31	<p>For many contract manufacturers, product development is part of the service they provide so having data to validate their choices to their customer is crucial. To validate the choices, they need to depend on a wide range of factors such as value for money, quality, reliability, and service. It is crucial to gather such data.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>product development and best service</u></p> <p>Business Constraints: <u>understand data</u></p>
32	<p>Manufacturers are able to detect all kinds of issues on their routine methods of production, from bottlenecks to unprofitable production lines. Companies are taking a deeper look into their logistics, inventory, assets, and supply chain management. The insights will bring high-value insights that uncover potential opportunities not just in the manufacturing process but also in the packaging and distribution.</p> <p>Business Objective:</p> <p>Minimize: <u>detect all kind of issues / minimize unprofitable production line</u></p> <p>Maximize: <u>NA</u></p> <p>Business <u>Constraints: maintain, packaging and distribution</u></p>

33	<p>The Department of Employment, Skills and Small Business carries out research to identify skill shortages in the labor market. Factors for skilled labor shortage analysis are adequate availability of vacancy, job postings and recruitments, applicants' qualifications for the job, factors affecting the position to be filled, such as required licensing requirements, qualification and experience requirements are few of those constraints that should be considered.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>job posting and recruitments</u></p> <p>Business: - <u>Constraints: identify skill/employ/ labor / find perfect candidate</u></p>
34	<p>The world is constantly changing. Thus, the sports industry is faced with the challenge of trying to predict the next trend, the next big idea that will capture their audience. Coupling this challenge with that of technology, it's clear that some sports teams and venues will always be at odds.</p> <p>Business Objective:</p> <p>Minimize: <u>NA</u></p> <p>Maximize: <u>go with the trend and capture all audience</u></p> <p>Business Constraints: <u>some sports teams and venues will always be at odds</u></p>
35	<p>Betting companies analyze the massive amounts of data generated by sporting events all around the world to come up with probabilities for future outcomes. Goes without saying that predictive modelling using machine learning techniques plays an important role in this.</p> <p>Business Objective:</p> <p>Minimize: <u>minimize event cancellation</u></p> <p>Maximize: <u>future outcome</u></p> <p>Business Constraints: <u>analyze the massive amounts of data</u></p>

36	<p>Stadium management and sponsors have studied the average profile of their audience carefully and have made targeted advertisements that appeal to their audiences. The broadcasters and stadium management have placed those ads carefully after conducting a careful analysis of its own resources for maximum impact.</p> <p>Business Objective:</p> <p>Minimize: <u>appeal selected people and save money</u></p> <p>Maximize: <u>NA</u></p> <p>Business Constraints: <u>collecting information from audience data</u></p>
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