**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.

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| **S.no** | **Business Problem** |
| **Hint:** | 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.  **Sol: Hint**  Business Objective:  Minimize: Churn rate (churning implies customers going to another company for their needs)  (or)  Maximize: Customer satisfaction (satisfaction will make customer more loyal to the brand)  Business Constraints: Lack of data coverage for all customers |
| 1 | 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.  Business Objective:  Maximize: 1.GIVE OFFER FOR DIFFERENT GROUP  2.TAKE FEEDBACK FROM CUSTOMER  Minimize: 1.REMOVE NEGATIVE FEEDBACK  Business Constraints: PRODECT CAN REACH TO CUSTOMER |
| 2 | 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.  Business Objective:  Minimize: REDUCE THE HARSHMATE CALL  Maximize: INCRESS THE BRANDWIDTH  Business Constraints: ENVIRONMENTAL CONDITION , PRICING LIMITS |
| 3 | Ensuring the high-quality performance of the product according to the customer’s requirement is not possible without applying smart data solutions.  Business Objective:  Minimize: customer negative feedback  Maximize:customer care personal so a provide high quality performance  Business Constraints: improve the quality of product |
| 4 | 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.  Business Objective:  Minimize:try to reduce negative reaction by providing quality feature  Maximize:base on negative reaction increase the quality of product  Business Constraints: positive & negative it effect on product sell |
| 5 | 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.  Business Objective:  Maximize:good quality servers and customer satisfaction  Minimize: operation coat & negative reaction  Business Constraints: market computation with other company |
| 6 | 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.  Business Objective: mange the customer lifetime  Minimize: increase the customer lifetime  Maximize: Swathing rate  Business Constraints:give offer is costly |
| 7 | 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.  Business Objective:  Minimize: the frauds at various point  Maximize: tract the bypass calling  Business Constraints: effect on company profit |
| 8 | 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.  Business Objective:handling the security issues  Minimize: finding the which type of threats  Maximize:secure the system by finding threads  Business Constraints: design best model to authentication |
| 9 | 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  Business Objective:  Minimize:product data can be correct all the aspect  Maximize: if sale is low then improve quality of product base on product sale  Business Constraints: mange all product information continually |
| 10 | 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.  Business Objective:  Minimize: give competitor match offers it can be loss for company  Maximize: give best offers compare to competitor  Business Constraints: offers can directly effect on company profit |
| 11 | 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.  Business Objective:  Minimize: inventory manage is take more place in company  Maximize: provide the right product at the right time is create a demand of product in market  Business Constraints: some product not profitable to company to stocking product |
| 12 | 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.  Business Objective: improve sale of store  Minimize: complaint of customer  Maximize: improve the customer reach on store  base on negative feedback increase the market strategies.  Business Constraints: customer feedback is help for store and increase the profit. |
| 13 | 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.  Business Objective:finding best location from store  Minimize: cost for land  Maximize: most visiting location place  Business Constraints: good location is effect on store sale |
| 14 | 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.  Business Objective: Predicting fuel from flight  Minimize: error in collecting the data  Fuel cost  Maximize: Optimization of fuel is required  Business Constraints: Environmental changes can effect |
| 15 | 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)  Business Objective:reduce the dynamic pricing  Minimize:losses of airline company  Maximize: customer sanctification  Business Constraints: Prediction of customer arrival |
| 16 | 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.  Business Objective:  Minimize: waiting time  Maximize: customer sanctification  Business Constraints: customer can prefer those company |
| 17 | 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.  Business Objective: identify credit card transaction fraud  Minimize: fraud transactions  Maximize: increase the company profit  Business Constraints: finding suspicious credit card transactions and detect fraudulent cases is critical to find |
| 18 | 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?  Business Objective:irline’s crew to maximize their productive time  Minimize: employee load  Maximize: productive time  Business Constraints: it important to company mange crew time |
| 19 | 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.  Business Objective:  Minimize:  Maximize:  Business Constraints: |
| 20 | If the job is boring, hazardous, tension ridden, and lacking in opportunities for advancement, very few people may be available for such jobs.  Business Objective: job requirement  Minimize: load  Maximize: improve job sanctification  Business Constraints: company need to improve their environment |
| 21 | One of the greatest challenges that an HR leader could face is keeping the staff satisfied.  Business Objective:  Minimize: work pressure  Maximize: Interaction with staff of HR  Business Constraints: if HR can communicate with staff it good fro company |
| 22 | 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.  Business Objective:  Minimize: training time  Maximize: hiring qualitative employee  Business Constraints: large training time take more coast that way hiring good employ |
| 23 | 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.  Business Objective:  Minimize:web traffic  Maximize: improve best sever for web side  Business Constraints: company have good server for hiring website it a costly |
| 24 | 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.  Business Objective:    Minimize: cost of certification  Maximize: training programs  Business Constraints: company need design best model |
| 25 | 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.  Business Objective:  Minimize: work load  Maximize: salary of employ  Business Constraints: company also need to improve their environment |
| 26 | 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.  Business Objective:  Minimize: scheduling problems  Maximize: employ sanctification  Business Constraints: mange the employ time |
| 27 | 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.  Business Objective:  Minimize: machine failure problem  Maximize: machine performance  Business Constraints: it monitor the machine data |
| 28 | 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.  Business Objective:  Minimize: errors and losse ,human effort  Maximize:improve quality of products and services  Business Constraints: need a strategy for improve quality of products and services |
| 29 | 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.  Business Objective:  Minimize: reduce flaws  Maximize: increase the quality  Business Constraints: inspection is effect on quality of product |
| 30 | 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.  Business Objective:  Minimize: customer negative feedback  Maximize: increase the customer sanctification  Business Constraints: company need upgraded the product time to time |
| 31 | 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.  Business Objective:  Minimize: customer negative feedback  Maximize: customer server  Business Constraints: good company servers |
| 32 | 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.  Business Objective:  Minimize: losses of company  Maximize: Improve quality of server  Business Constraints: improve logistics, inventory, assets, and supply chain management of company |
| 33 | 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.  Business Objective:  Minimize: Fraud in recruitments  Maximize: fast recruitments  Business Constraints: company hiring skill people |
| 34 | 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.  Business Objective:  Minimize: sport interest  Maximize: new games in market  Business Constraints: finding new trend in market |
| 35 | 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.  Business Objective:  Minimize:data loss  Maximize: increase the profits  Business Constraints: Deign best predictive modelling using machine learning techniques |
| 36 | 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.  Business Objective:  Minimize: coat of advertisements  Maximize: improve audiences engagement  Business Constraints: targeted advertisements |