

Assignment 4:

**Take one domain and build business
Understanding**

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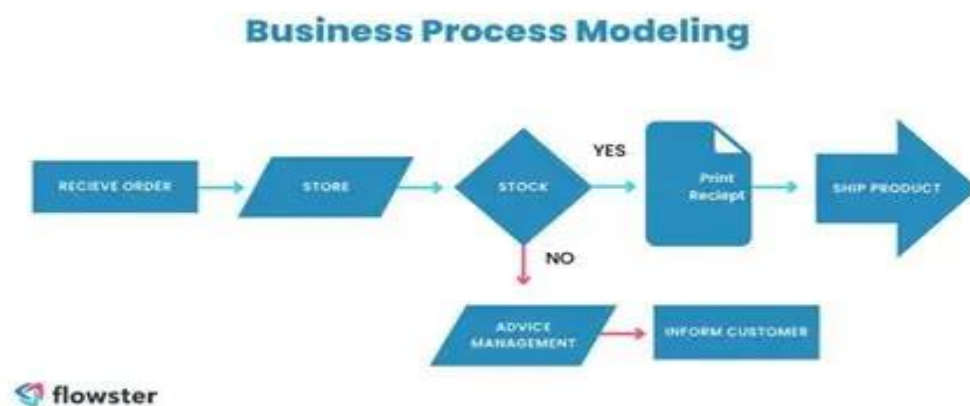
Section : A

1. Introduction

Business Understanding is the first and most critical phase in any data analytics or machine learning project. Before collecting data, selecting algorithms, or building predictive models, it is essential to deeply understand the business environment, its objectives, challenges, and expectations. A technically strong model that does not solve the actual business problem has little value. Therefore, business understanding ensures alignment between organizational goals and analytical solutions.

In this report, we explore Business Understanding in the context of an Online Food Delivery Platform. This domain is highly competitive, data-driven, and operationally complex, making it an ideal example for demonstrating how business objectives translate into analytical strategies. The report explains the business environment, identifies core challenges, defines measurable objectives, discusses stakeholder expectations, outlines risks and constraints, and connects business goals with data-driven solutions in a detailed and continuous manner.

2. Domain Overview: Online Food Delivery Business



The online food delivery industry operates as a digital marketplace connecting customers, restaurants, and delivery partners through mobile applications and web platforms. Customers place orders through an app, restaurants prepare the food, and delivery partners transport the orders to customers' locations. Behind this seemingly simple process lies a highly coordinated system involving order management, real-time tracking, logistics optimization, payment processing, and customer service.

Revenue in this domain typically comes from multiple sources, including commission from restaurants, delivery charges, subscription services, and promotional partnerships. Because

competition is intense and customer loyalty can shift quickly, businesses in this domain must continuously improve service quality, reduce delivery time, and maintain competitive pricing.

Understanding this operational ecosystem is the foundation of business understanding. It allows analysts and decision-makers to clearly identify what needs improvement and how data can support strategic growth.

3. Defining the Core Business Objective

In the online food delivery domain, the primary objective is not merely to process orders but to ensure long-term profitability and customer retention. A sustainable business model depends on balancing customer satisfaction, operational efficiency, and revenue growth.

For instance, the organization may aim to increase monthly order volume while reducing average delivery time. However, increasing order volume without improving delivery efficiency could lead to delayed deliveries, dissatisfied customers, and negative reviews. Therefore, business objectives must be interconnected and realistic.

A well-defined objective in this domain might be to increase repeat customer rates by improving delivery reliability and optimizing logistics. This objective is measurable, actionable, and aligned with long-term business sustainability.

4. Understanding the Business Problem

One of the most common issues in online food delivery services is delayed delivery during peak hours. When customer demand exceeds delivery capacity, orders are delayed, leading to dissatisfaction and cancellations. This affects brand reputation and revenue.

Another challenge is uneven distribution of delivery partners across different areas. Some regions may have excess delivery personnel, while others experience shortages. Without proper demand forecasting and resource allocation, operational inefficiencies arise.

Customer churn is another serious concern. Customers may switch platforms due to poor experiences, higher prices, or faster alternatives offered by competitors. Understanding why customers stop using the platform requires analyzing behavioral patterns, service quality, and promotional effectiveness.

By clearly identifying these problems, the business can define analytical goals that address root causes rather than symptoms.

5. Stakeholder Expectations and Their Impact

Business understanding requires identifying all stakeholders and analyzing their expectations. In an online food delivery system, customers expect timely delivery, accurate orders, and reasonable pricing. Restaurants expect increased visibility, higher order volumes, and fair commission structures. Delivery partners expect optimized routes, consistent earnings, and fair incentive systems. Meanwhile, management focuses on profitability, market expansion, and operational efficiency.

Conflicts may arise among these stakeholders. For example, reducing delivery charges may attract more customers but reduce revenue margins. Increasing commission rates may increase profits but discourage restaurant partnerships. Therefore, business decisions must balance stakeholder interests while prioritizing sustainable growth.

Understanding stakeholder perspectives ensures that analytical solutions do not favor one group at the expense of overall business stability.

6. Translating Business Goals into Analytical Objectives

Once business problems and objectives are clearly defined, they must be translated into analytical tasks. For example, if delivery delays are a major concern, the analytical objective might be to build a predictive model that estimates delivery time based on traffic conditions, order volume, and restaurant preparation time.

If customer churn is increasing, the analytical goal may involve developing a churn prediction model that identifies customers likely to stop using the service. This allows the marketing team to design targeted retention campaigns.

If uneven delivery partner distribution is an issue, clustering and optimization algorithms can be used to allocate resources efficiently across regions.

Thus, business understanding acts as a bridge between organizational strategy and technical implementation.

7. Data Requirements and Relevance

To achieve meaningful insights, the business must identify relevant data sources. In this domain, important data includes order timestamps, delivery duration, customer ratings, location coordinates, restaurant preparation times, payment methods, and traffic patterns.

However, collecting data is not sufficient. The business must ensure data accuracy, completeness, and consistency. Poor-quality data leads to incorrect conclusions, which can negatively impact strategic decisions.

Understanding what data is needed—and why it is needed—is a crucial component of business understanding. Data should always support a defined business objective.

8. Constraints and Risk Factors

Every business operates within constraints. Budget limitations may restrict hiring additional delivery personnel. Infrastructure limitations may prevent real-time tracking improvements. Regulatory policies may restrict data usage or impose compliance requirements.

Seasonal fluctuations also pose risks. For example, festive seasons may drastically increase demand, while off-season periods may reduce order volume. Unexpected disruptions such as extreme weather conditions can also affect operations.

Recognizing these constraints ensures that proposed analytical solutions are practical and implementable within organizational boundaries.

9. Measuring Business Success

Business success must be measurable. In this domain, success indicators include reduced average delivery time, increased customer satisfaction scores, improved repeat purchase rate, lower cancellation rate, and increased monthly revenue.

For example, if average delivery time decreases from 45 minutes to 30 minutes, and customer retention increases by 15%, the analytical intervention can be considered successful.

Continuous monitoring of these metrics ensures that business strategies remain aligned with performance goals.

10. Long-Term Strategic Impact

Effective business understanding does more than solve immediate problems; it contributes to long-term strategic growth. By leveraging data-driven decision-making, the company can expand to new geographic areas, optimize pricing strategies, personalize recommendations, and enhance user experience.

Over time, improved operational efficiency reduces costs, while better customer experiences increase brand loyalty. This creates a competitive advantage that is difficult for competitors to replicate.

Thus, business understanding is not just the first phase of a project—it is an ongoing strategic process that evolves with market conditions and organizational goals.

11. Conclusion

Business Understanding is the foundation upon which successful analytics and machine learning projects are built. In the online food delivery domain, clearly defining objectives such as reducing delivery time, minimizing cancellations, and increasing customer retention ensures that analytical solutions deliver tangible business value.

By thoroughly understanding operational processes, stakeholder expectations, data requirements, constraints, and measurable success criteria, organizations can design strategies that align technology with business goals.

In conclusion, effective business understanding transforms raw operational challenges into structured analytical problems, enabling organizations to make informed decisions, improve efficiency, and achieve sustainable growth in a competitive marketplace.