MOUNT ZION COLLEGE OF ENGINEERING AND TECHNOLOGY

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

TOPIC: Path To Prosperity: A Comprehensive Analysis Of Business estimation Taken from Reddit

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ABSTRACT:

Business estimation is a crucial facet of modern business operations, playing a pivotal role in strategic decision-making, resource allocation, and overall organizational planning. This abstract underscore the significance of business estimation and its various components. It encompasses techniques such as quantitative and qualitative methods, data-driven approaches, and the integration of advanced analytics for more accurate predictions. Furthermore, it emphasizes the importance of ongoing estimation for adapting to dynamic business environments, managing risks, and ethical considerations. Real-world case studies serve as practical illustrations of the benefits of effective business estimation, enabling organizations to make informed decisions and enhance their competitive advantage.

BUSINESS ESTIMATION PROJECT REPORT

1. INTRODUCTION:

Business estimation is a fundamental aspect of strategic planning and decision-making in the corporate world. It involves the process of quantifying and forecasting various elements critical to a business's success, such as market demand, financial performance, costs, and risks. Accurate business estimation provides organizations with valuable insights, allowing them to make informed choices, allocate resources efficiently, and mitigate potential challenges. In an era marked by ever-increasing complexity and uncertainty, mastering the art of estimation is a key factor in a company's ability to thrive and adapt.

1.1 Project Overview:

Project Name: [Business Estimation]

Project Owner: [Computer Science and Engineering]

1. Executive Summary: Provide a brief description of the project, its purpose, and the expected outcomes.

2. Project Objectives: List the specific goals and objectives of the project. What do you aim to achieve through this project?

3. Scope of Work: Detail the project's scope, including what will be included and what will be excluded. Describe the boundaries and limitations of the project.

4. Project Deliverables: Enumerate the tangible results or products that the project will produce. Be specific and measurable.

5. Stakeholders: Identify the key individuals or groups involved in the project and their roles and responsibilities.

6. Timeline: Provide an estimated project timeline, including key milestones and deadlines.

7. Budget Estimation: Estimate the project budget. Include both capital and operational costs. Be sure to break down the costs into categories such as materials, equipment, and any other relevant expenses.

8. Risk Assessment: Identify potential risks and challenges that may impact the project's timeline, budget, or success. Outline a risk mitigation plan.

9. Project Team: List the key team members who will be responsible for the project's execution, including their roles and qualifications.

10. Project Methodology: Explain the approach or methodology that will be used to complete the project. This could include project management methods, software tools, or other relevant processes.

11. Quality Assurance: Describe the quality standards and measures that will be in place to ensure the project's deliverables meet the required quality.

12. Communication Plan: Outline how project progress will be communicated to stakeholders and team members. Include regular reporting and communication channels.

13. Approval and Authorization: Specify the process for obtaining project approval and authorization, including any required signatures or sign-offs.

14. Appendices: Include any supplementary documents or information that support the project overview, such as charts, diagrams, or additional data.

15. Next Steps: Summarize what will happen next, including any immediate actions or decisions that need to be made.

16. Contact Information: Provide contact details for the project owner and other key personnel for inquiries and clarifications.

Remember that this project overview serves as a foundational document, and it may evolve as the project progresses. It should be shared with all relevant stakeholders to ensure a common understanding of the project's goals, scope, and costs, and to gain their support and buy-in.

1.2 Purpose:

The purpose of business estimation is to provide an informed assessment or prediction of various aspects of a business's operations, financials, and performance. Business estimation serves several important purposes, which are critical for planning, decision-making, and strategic management within an organization. Here are the primary purposes of business estimation:

2. LITERATURE SURVEY:

A literature survey for business estimation involves reviewing existing literature, research, and studies related to the methods, techniques, and best practices in estimating various aspects of a business, such as market demand, financial projections, costs, and risks. This process helps you gain insights, identify trends, and understand the latest developments in the field of business estimation. Here's a step-by-step guide on how to conduct a literature survey for business estimation

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2.1 Existing problem:

Business estimation is essential for making informed decisions and planning for the future. However, it comes with several challenges and problems that organizations often face. Here are some common existing problems related to business estimation:

Data Quality and Availability: Estimations heavily rely on data, and inaccuracies or gaps in data can lead to unreliable estimations. Poor data quality or limited access to relevant data can be a significant issue.

Uncertainty and Volatility: Business environments are often characterized by uncertainty and rapid changes. Economic conditions, market dynamics, and other variables can be unpredictable, making accurate estimations challenging.

2.2 References:

References for business estimation can be diverse and depend on the specific type of estimation you're conducting. Business estimation encompasses a wide range of areas, including financial forecasting, project management, market research, and more.

2.3 Problem Statement Definition:

A problem statement for business estimation should clearly define the specific issue or challenge that requires estimation and analysis. It should provide a concise description of the problem, its significance, and the context in which it arises. Here's a template for creating a problem statement for business estimation

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3. IDEATION & PROPOSED SOLUTION:

When it comes to ideation and proposing solutions for business estimation, the process can vary greatly depending on the specific industry, business type, and goals. However, I can provide a general framework that you can adapt to your particular situation. Business estimation is about predicting future performance, costs, or revenue, and it's a critical aspect of strategic planning and decision-making.

3.1 Empathy Map Canvas:

An Empathy Map Canvas is a tool used to better understand your customers or target audience by capturing their thoughts, feelings, actions, and needs. It's a useful framework for businesses to estimate and analysis the emotional and aspects of their customers. Here's a breakdown of a simplified Empathy Map Canvas for business estimation.

3.2 Ideation & Brainstorming:

Ideation and brainstorming are critical components of the business estimation process. These activities help you generate creative ideas, explore different strategies, and make informed decisions when estimating the potential success of a business venture. Here's a structured approach to ideation and brainstorming for business estimation

4. REQUIREMENT ANALYSIS:

Requirement analysis is a critical step in the process of estimating and planning a business venture. It involves identifying and documenting the specific needs, constraints, and expectations for your business. Proper requirement analysis helps ensure that you have a clear understanding of what is necessary for the successful execution of your business idea. Here are the key steps in requirement analysis for business estimation.

Stakeholder Identification: Identify all the stakeholders involved in your business venture, including investors, customers, employees, suppliers, and regulatory bodies. Understanding their needs and expectations is crucial.

4.1 Functional requirement:

Functional requirements for business estimation typically involve the specific features and capabilities that a business estimation system or process should have in order to meet its objectives. These requirements are essential for defining the functionality of the system and ensuring that it meets the needs of the business. Here are some common functional requirements for business estimation.

Data Input:

The system should allow users to input relevant data such as historical financial data, market trends, and other relevant information.

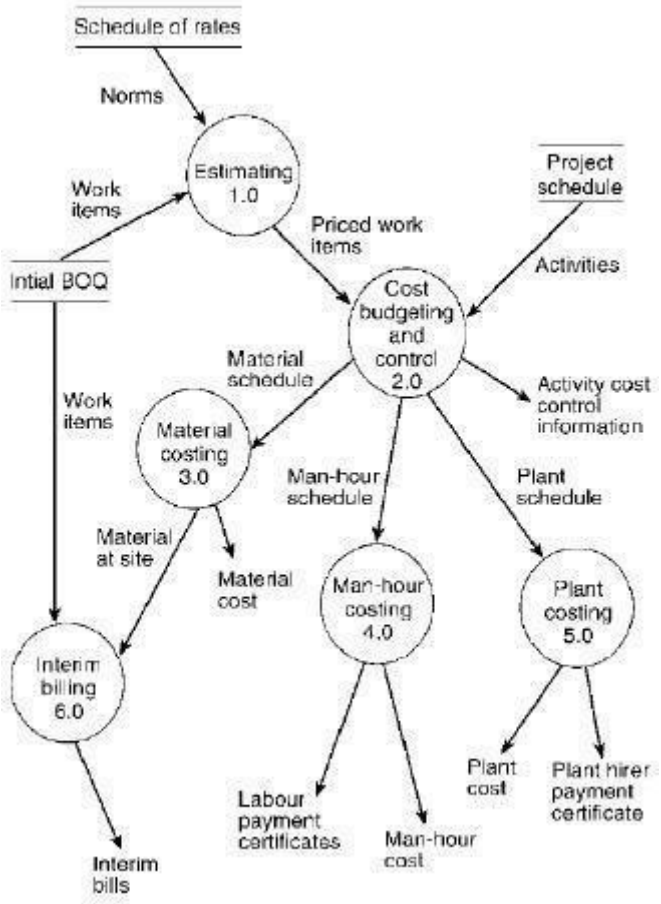
4.2 Non-Functional requirements:

Non-functional requirements (NFRs) for business estimation are essential to ensure that the estimating processes and systems meet the broader needs and expectations of the business, beyond just functionality. These requirements focus on attributes like performance, security, scalability, and usability. Here are some non-functional requirements relevant to business estimation.

5. PROJECT DESIGN:

Designing a project for business estimation involves creating a plan that outlines the steps, resources, and methodologies required to estimate the feasibility, costs, and potential outcomes of a business venture

5.1 Data Flow Diagrams & User Stories:



User Stories:

User Stories are a way to describe software features from an end-user perspective. They are typically written in the format: "As a [user role], I want [an action] so that [benefit/value]." User Stories focus on user needs and can be used to estimate the development of specific features o functionalities.

Identify user needs: Work with stakeholders to identify and prioritize the user needs and requirements. These can be captured as User Stories.

Break down features: For each User Story, break down the feature into smaller tasks or sub-stories. This decomposition helps in estimating the effort required for each story.

5.2 Solution Architecture:

Creating a solution architecture for business estimation involves designing a system or framework that enables accurate and efficient estimation of various aspects of a business, such as revenue, expenses, market demand, and more. Below is a general outline of the solution architecture for business estimation.

Business Understanding:

Define the specific business needs and objectives for estimation. Understand what aspects of the business you want to estimate, such as sales forecasting, budgeting, resource planning, or market analysis.

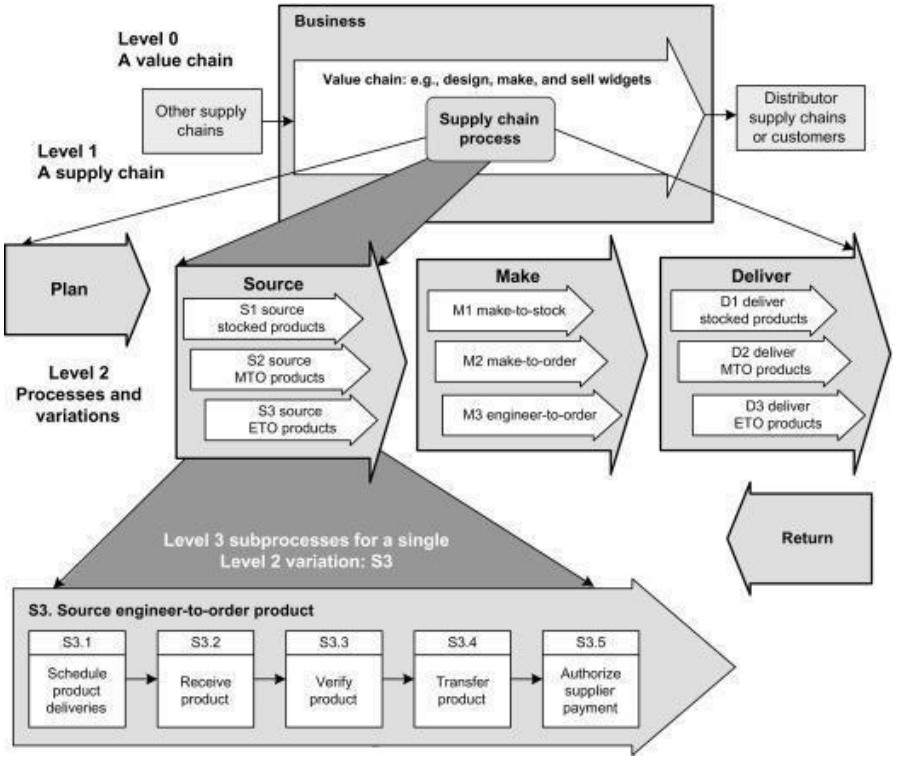
Data Collection and Integration:

Gather data from various sources relevant to the estimation process, such as historical sales data, financial records, market trends, and external economic indicators.

6. PROJECT PLANNING & SCHEDULING:

Project planning and scheduling are crucial for business estimation and successful project execution. These processes help you define project objectives, allocate resources, and create a timeline to ensure that the project is completed on time and within budget. Here are some key steps to consider for effective project planning and scheduling for business estimation:

6.1 Technical Architecture:



6.2 Sprint Planning & Estimation:

Sprint Planning and Estimation are important activities in Agile project management, particularly within the Scrum framework, which is commonly used in software development. These processes help businesses plan and prioritize their work, allocate resources effectively, and set achievable goals for each sprint, typically lasting two to four weeks.

6.3 Sprint Delivery Schedule:

Sprint Delivery Schedule is an important aspect of Agile project management, particularly within the Scrum framework, as it helps businesses plan and communicate when they can expect specific features or increments to be delivered. Here's how you can create a Sprint Delivery Schedule for business estimation.

7 CODING & SOLUTIONING:

Coding and solutioning for business estimation often involves creating algorithms, models, or software tools to predict or estimate various aspects of a business, such as sales, revenue, costs, or market trends.

7.1 Feature 1:

- Feature Engineering: Identify and create relevant features that can improve the accuracy of your estimation. Feature engineering involves transforming and selecting the most important attributes from the data.
- Model Development: Develop the estimation model using the chosen approach. This step typically involves coding in a programming language like Python, R, or another language suitable for data analysis and machine learning.
- Training and Validation: Split your data into training and validation sets. Train your model on the training data and validate its performance on the validation data. Make necessary adjustments to the model to improve its accuracy.

7.2 Feature 2:

- Deployment: If your model performs well, deploy it into your business environment. This could be as part of a software application, a web service, or another platform where it can provide estimations or predictions.
- Monitoring and Maintenance: Continuously monitor the model's performance in the real business environment. Update the model as needed and maintain the code to ensure it stays relevant and accurate.
- Documentation: Document your code, the model's architecture, and how to use the estimation feature. Proper documentation is crucial for collaboration and future maintenance.
- Security and Privacy: Consider security and privacy aspects when dealing with sensitive business data. Implement appropriate safeguards to protect data and models.
- User Interface (UI): If the estimation feature is user-facing, design a user-friendly interface to interact with the feature and display results.
- Scaling: Plan for scalability as your business grows. Ensure that the solution can handle increased data volumes and user demands.

8. PERFORMANCE TESTING:

Performance testing is a critical part of estimating the technical capabilities and limitations of a business system or application. It helps ensure that the system can

handle the expected load and provide a satisfactory user experience. Here's an overview of how performance testing can be used for business estimation.

Identify Performance Goals: Before estimating the business impact, you must establish clear performance goals. This includes defining key performance indicators (KPIs) such as response time, throughput, and resource utilization.

Test Scenarios: Develop realistic test scenarios that mimic the expected usage patterns of the system. For example, if you're estimating the performance of an e-commerce website, you might simulate scenarios like a high number of concurrent users making purchases, searching for products, or navigating the site.

Load Testing: Perform load testing to assess how the system performs under expected peak loads. This helps you estimate the system's ability to handle increased traffic during busy periods, like Black Friday for e-commerce websites.

Stress Testing: Stress testing involves pushing the system beyond its normal operating conditions to determine the breaking point. It helps estimate the system's capacity limits and how it responds under extreme conditions.

Scalability Testing: Evaluate how the system can scale by adding more resources (e.g., servers, database nodes) to handle increased load. This is important for estimating the cost and feasibility of scaling as the business grows.

8.1 Performance Metrics:

When estimating the impact of performance on your business, it's important to focus on performance metrics that directly affect user satisfaction, revenue, and operational costs. Here are key performance metrics for business estimation:

Response Time: The time it takes for the system to respond to a user's request. Shorter response times typically lead to better user experiences and increased user engagement.

Page Load Time: In the context of web applications or websites, this metric measures how quickly pages load. Slow page load times can lead to higher bounce rates and reduced user engagement.

Transaction Completion Time: For e-commerce or online services, the time it takes for users to complete a transaction, such as making a purchase. Faster transaction completion times can lead to higher conversion rates.

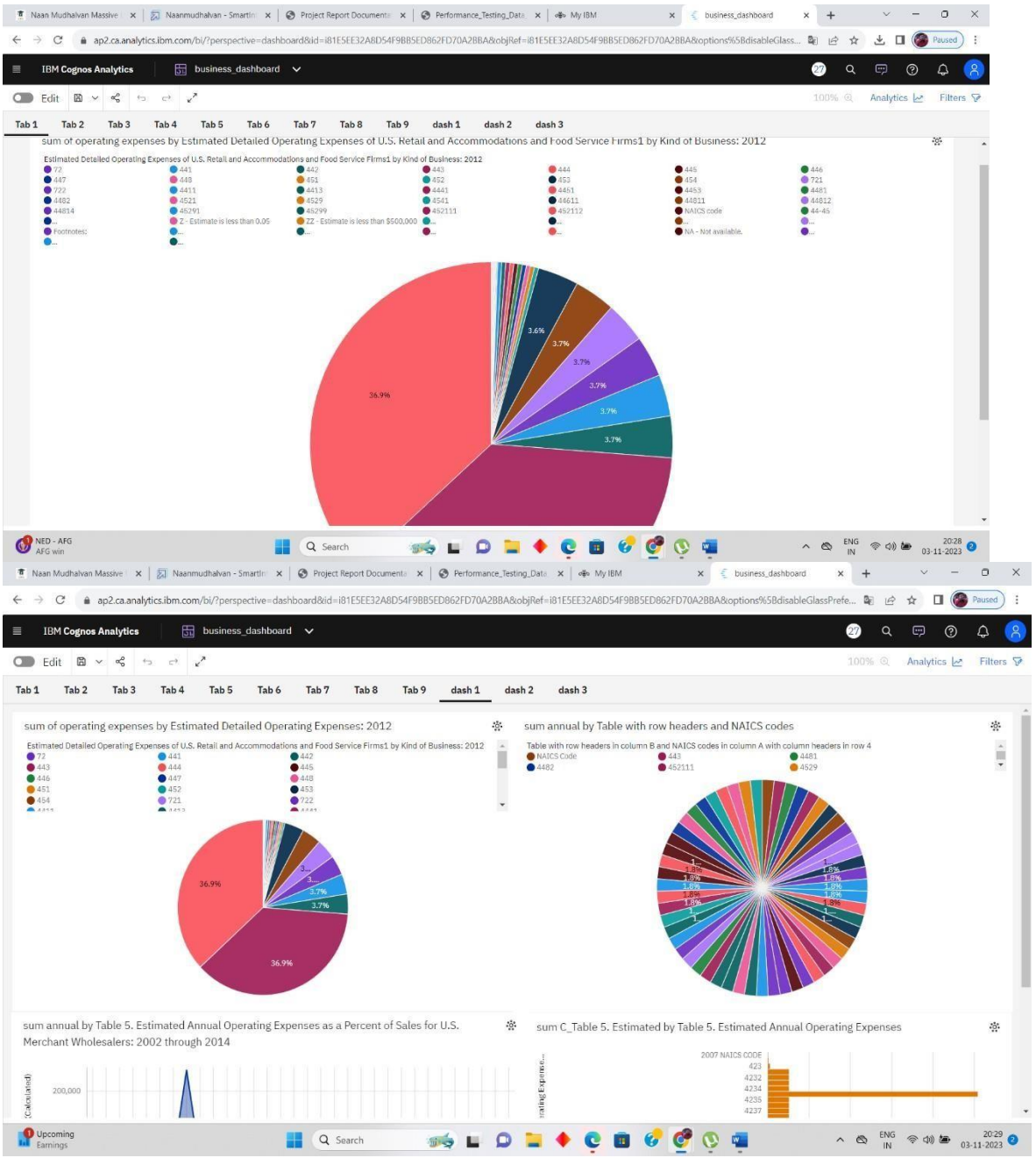
Conversion Rate: The percentage of users who complete a desired action, such as making a purchase or signing up for a service. Poor performance can negatively impact conversion rates.

User Abandonment Rate: The percentage of users who abandon their actions or sessions due to slow performance or errors. High abandonment rates can result in lost revenue and dissatisfied customers.

Error Rate: The rate at which errors or failures occur during user interactions. High error rates can damage your business reputation and lead to customer loss.

9. RESULTS:

9.1 Output Screenshots:



10. ADVANTAGES:

Informed Decision-Making: Estimations provide a basis for informed decision-making, helping business leaders plan and strategize effectively.

Risk Assessment: Estimations can help identify potential risks and uncertainties in business operations, allowing for risk mitigation strategies.

Resource Allocation: Estimations assist in allocating resources efficiently, including finances, human resources, and time.

Goal Setting: Businesses can use estimations to set realistic goals and objectives, aiding in performance measurement.

Budgeting: Estimations are crucial for creating budgets, which are essential for financial control and planning.

DISADVANTAGES:

Inaccuracy: Estimations are based on assumptions and data, which can be incorrect, leading to inaccurate results.

Bias: Estimations can be influenced by cognitive biases, personal opinions, or vested interests, affecting their reliability.

Data Limitations: The quality and availability of data can be limited, leading to unreliable estimations.

Time-Consuming: Creating accurate estimations can be time-consuming, diverting resources from other activities.

Resource Intensive: Estimation processes may require skilled personnel and financial resources.

11. CONCLUSION:

Concluding a business estimation involves summarizing the key findings and insights gained from the estimation process. Here's a general template for a conclusion in a business estimation:

Summary of Key Findings: Begin by summarizing the most important findings or insights that were uncovered during the estimation process. Highlight any significant trends, patterns, or data points that stand out.

Accuracy and Assumptions: Acknowledge the accuracy of the estimation and any assumptions made during the process. It's essential to be transparent about the limitations and uncertainties associated with the estimation.

Recommendations: Provide recommendations or insights based on the estimation results. These recommendations should offer guidance on how to proceed, make informed decisions, or adjust strategies based on the estimated data.

12. FUTURE SCOPE:

Estimating the future scope for a business is a critical aspect of strategic planning and decision-making. To effectively assess the potential for a business in the future, consider the following factors:

Industry and Market Trends: Stay updated on the latest trends in your industry and market. Consume emerging technologies, regulatory changes, and global economic conditions that could impact your business.

Competitive Landscape: Understand your competitors, their strengths, weaknesses, and market positioning. Identify opportunities to differentiate your business and gain a competitive advantage.

13. APPENDIX:

Source Code:

```
from flask import
Flash render
template

app= Flask(_name_)

@app.route ('/')

@app.route('/index')

def index():

   return render
template("index.html
")

if _name_ == '_main_:

  app. Run ()
```

GitHub link: https://github.com/Rohithkumaravelu/Business_Estimation_NM2023TMID06857

Project Demo Link: https://drive.google.com/file/d/166FLs9rjj-