National University
of computer and emerging sciences

FINAL PROJECT REPORT

Title:Airline Reservation System
Course:Business Process Engineering

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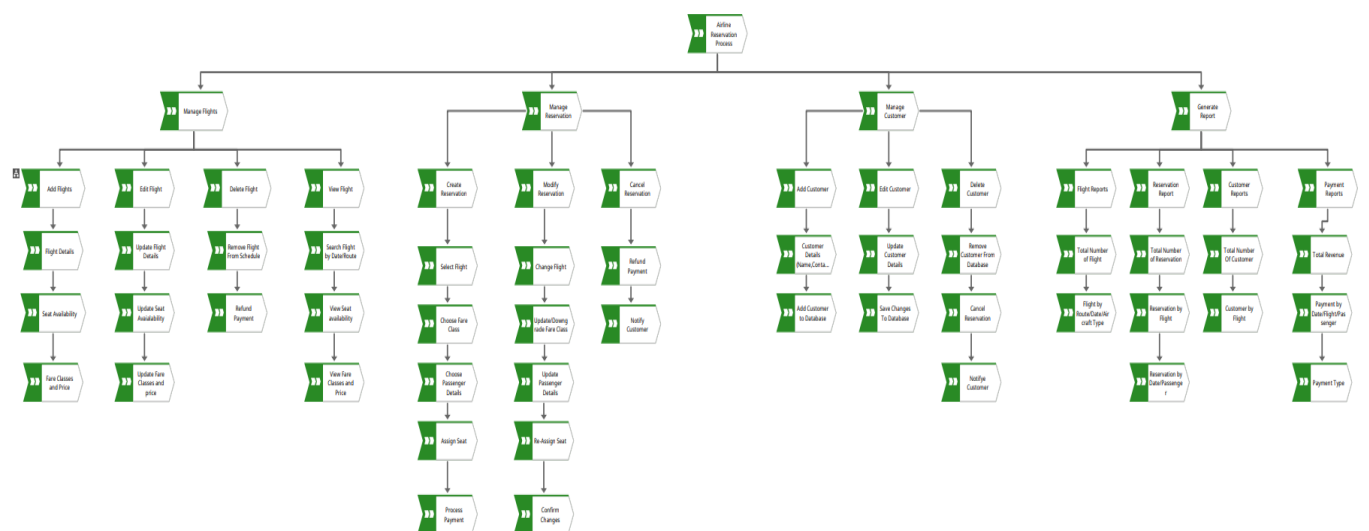
Section:
BS-SE (6A)

Fast Nuces, Karachi

1. Description Level

The Airline Reservation System is designed to provide a reliable and efficient way for customers to book flights and manage their travel plans. With the system, customers can easily search for available flights, select their preferred seat, and make payments securely. The system also allows customers to modify or cancel their reservations as needed. The system is designed to provide a user-friendly interface that is easy to navigate, making it convenient for customers to use. With the Airline Reservation System, customers can be assured that their travel needs are taken care of in a timely and efficient manner.
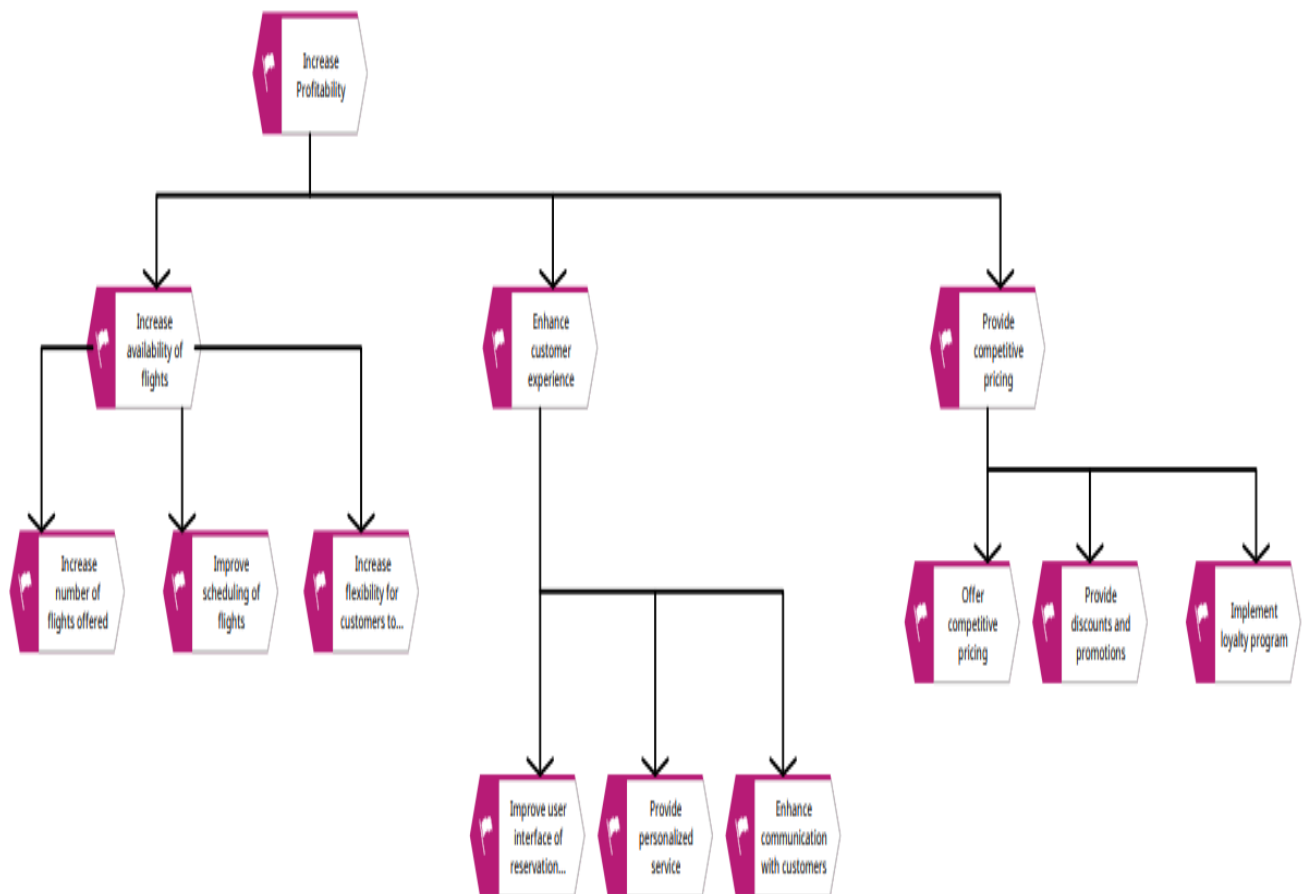
2.Functional View

a.Function Tree

Shows the hierarchy of functions performed in a process, helping to identify sub-processes and key activities

b.objective diagram

Depicts the objectives of each function and how they contribute to the achieve overall goal of the Organization

```
Increase Profitability
├── Increase availability of flights
│   ├── Increase number of flights offered
│   ├── Improve scheduling of flights
│   └── Increase flexibility for customers to...
├── Enhance customer experience
│   ├── Improve user interface of reservation...
│   ├── Provide personalized service
│   └── Enhance communication with customers
└── Provide competitive pricing
    ├── Offer competitive pricing
    ├── Provide discounts and promotions
    └── Implement loyalty program
```

3. Data View

a.ERM

The ERM model consists of entities, attributes, and relationships.Entities are objects or concepts within the organization, such as customers, employees, products, or orders. Attributes are characteristics or properties of the entities, such as name, address, or quantity. Relationships define how the entities are related to each other, such as "one-to-one", "one-to-many", or "many-to-many" relationships.

b. Authorization Hierarchy

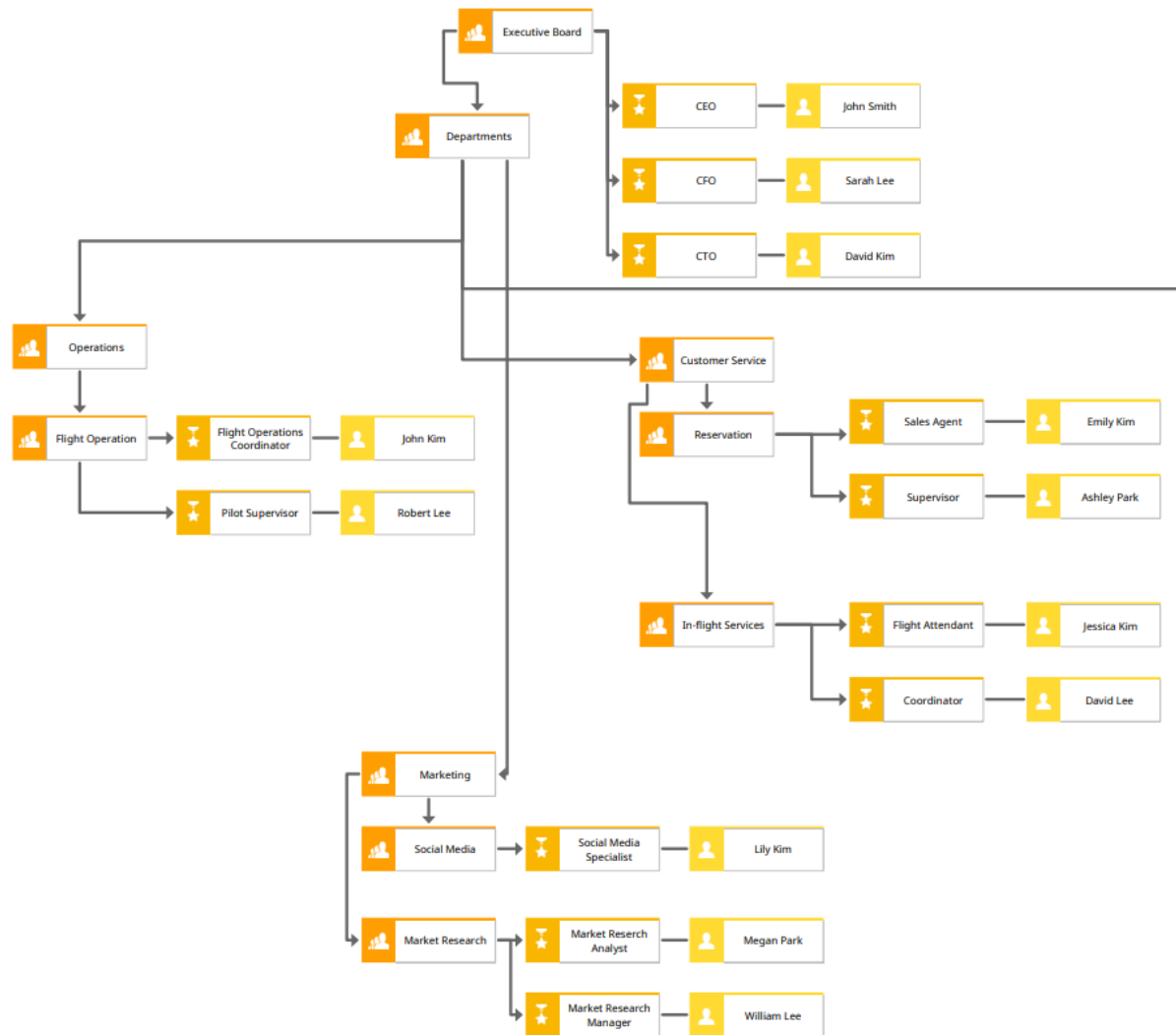Displays the relationships between authorizations assigned to roles in an organization.
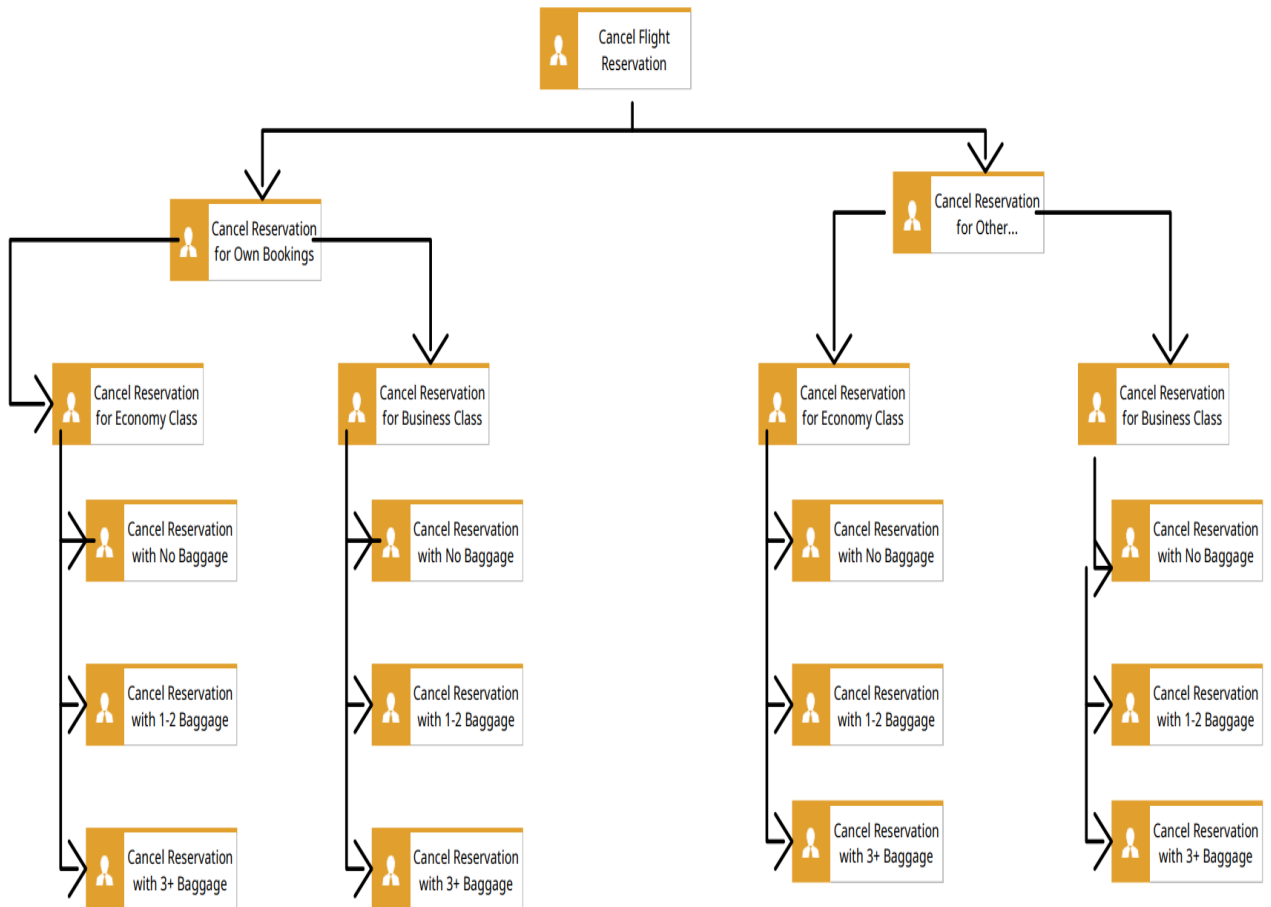
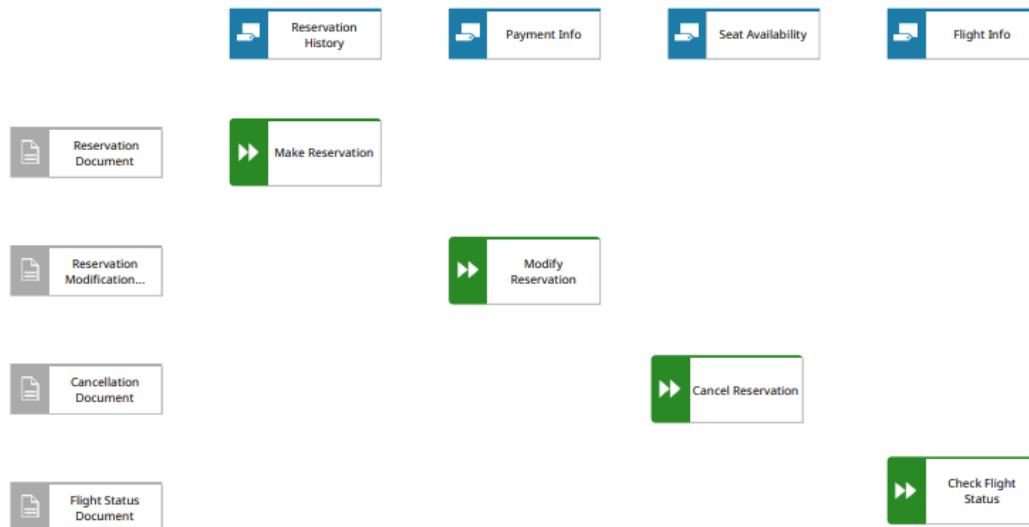# 4. Organizational View

a. Organization Chart:

Shows the structure of the organization and the roles and responsibilities of individuals in the process.

5- Process View

a-Input Output Diagram

Shows the inputs and outputs of each function in the process and their relationship to other functions.

	Reservation History	Payment Info	Seat Availability	Flight Info

Reservation Document	Make Reservation

Reservation Modification...		Modify Reservation

Cancellation Document			Cancel Reservation

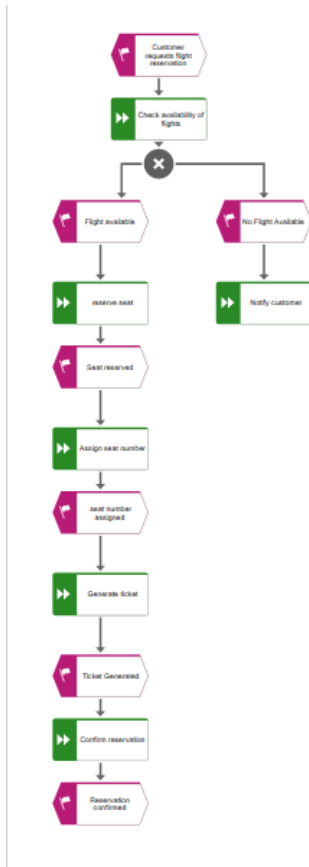| Flight Status Document				Check Flight Status

b-Role Assignment Diagram

Shows which roles are responsible for which functions in the process.

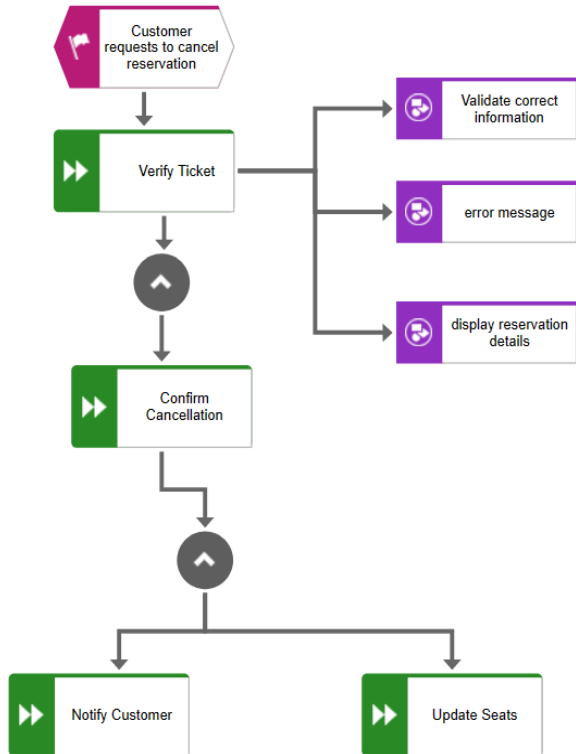| Us...	Executive Assistant	Operation Manager	HR Manager	Brand Manager	Finance manager
Screen	Calender	Operation Report	Employee Information	Brand Management	Financial Report
Screen	Email	Flight Scheduling	HR Report	Branding Material	Accounting Report
Screen	Task Manager				

c. Entity Process Chain (EPC)

Depicts the process flow and interactions between functions, data, and organizational units.
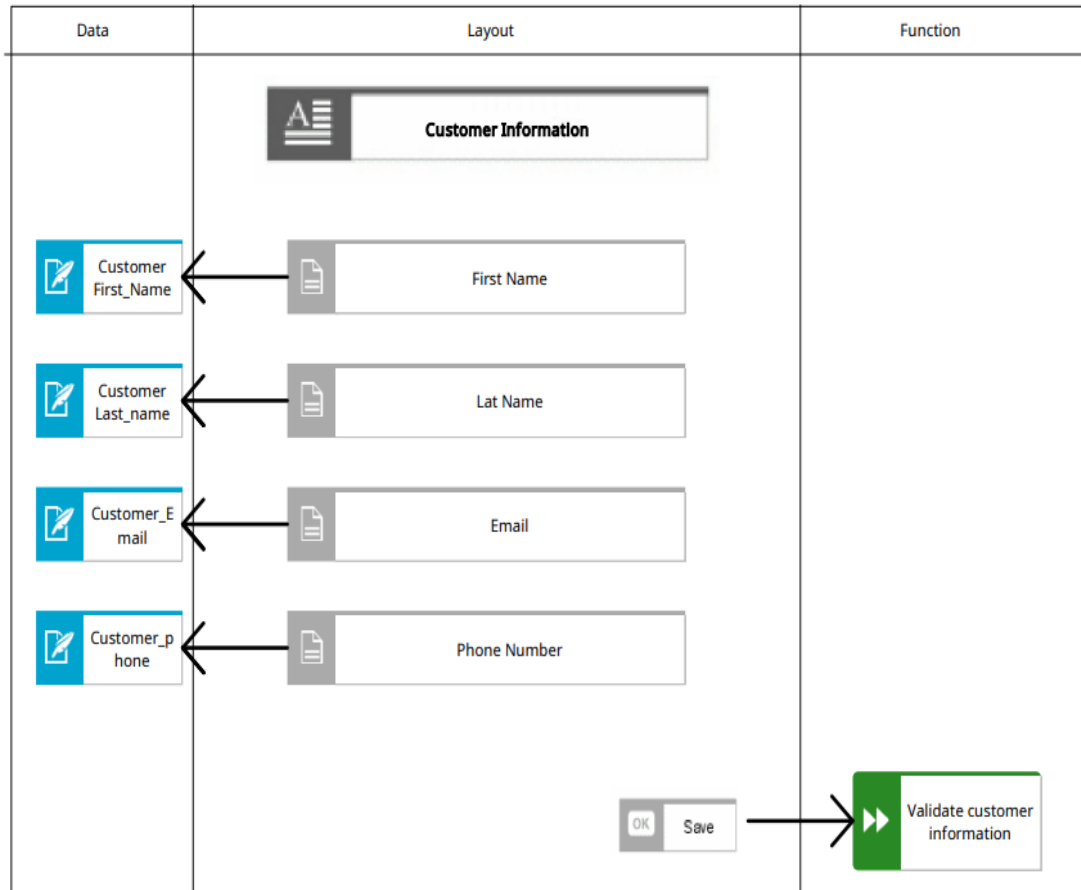
1.Reservation EPC

2.Cancel Reservation EPC

```
┌─────────────────────┐
│ Customer            │
│ requests to cancel  │
│ reservation         │
└─────────────────────┘
         │
         ▼
┌─────────────────────┐        ┌──────────────────────────┐
│ Verify Ticket       │───┬───▶│ Validate correct         │
└─────────────────────┘   │    │ information              │
         │                │    └──────────────────────────┘
         ▼                │
       ( ∧ )              ├───▶┌──────────────────────────┐
         │                │    │ error message            │
         ▼                │    └──────────────────────────┘
┌─────────────────────┐   │
│ Confirm             │   └───▶┌──────────────────────────┐
│ Cancellation        │        │ display reservation      │
└─────────────────────┘        │ details                  │
         │                      └──────────────────────────┘
         ▼
       ( ∧ )
         │
    ┌────┴────┐
    ▼         ▼
┌──────────┐ ┌──────────┐
│ Notify   │ │ Update   │
│ Customer │ │ Seats    │
└──────────┘ └──────────┘
```
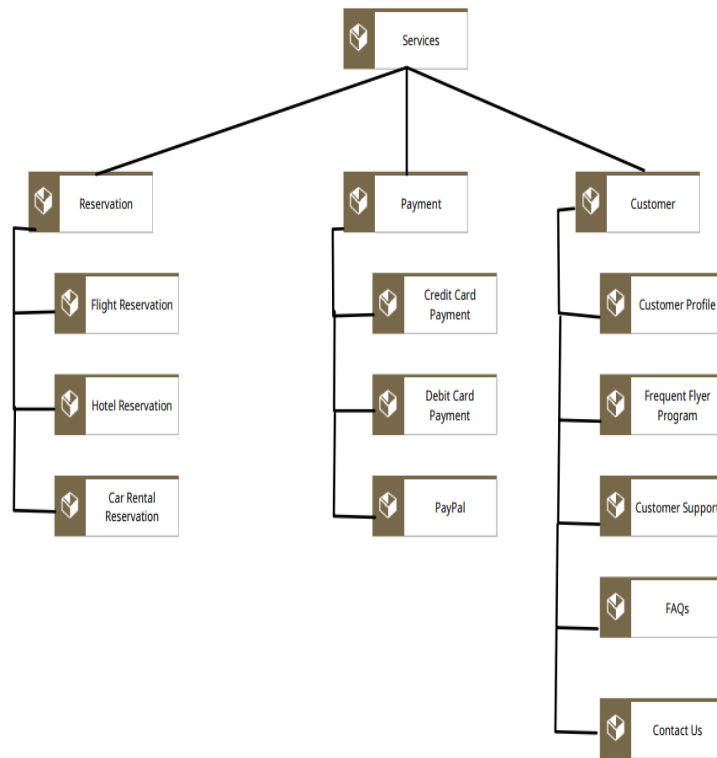
d.Screen Design

Depicts the process flow and interactions between functions, data, and organizational units.

6. Product/service modeling

Depicts the structure of a product or service and its components.

a.Product Tree

b.Competition Model

Supports the analysis and assessment of a company's competitive environment.

AIRLINE RESERVATION SYSTEM

Flight Booking Service

Competitor:Expedia

Customer

Travel Agent

Substitution: Direct Booking with Airlines