Phase 2: Business Process Modeling

RwandAir Flight Booking and Ticket Management

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1. Define the Scope

Business Process: Flight Booking and Ticket Management for RwandAir

Relevance to MIS:

This process involves the automation and digital management of flight bookings, ticket issuance, and customer records. It integrates data from passengers, crew, flights, and payments to support decision-making across departments such as operations, finance, and customer service.

Objectives:

- Streamline booking and ticketing to reduce human error.

- Provide real-time updates and data for informed decisions.

- Enhance efficiency and customer satisfaction.

Expected Outcomes:

- Efficient service delivery and reduced overbooking.

- Improved accuracy in financial and passenger records.

- Optimization of resources like flight crew and aircrafts.

2. Identify Key Entities

- Passenger: Initiates booking and manages ticketing.

- Booking System: Registers bookings and stores data.

- Payment Gateway: Processes payments securely.

- Airline Staff: Assists in registrations and customer queries.

- Flight Schedule System: Provides up-to-date availability.

- Finance Department: Tracks revenue and generates reports.

- Database (PL/SQL): Stores all operational and customer data.

3. Use Swimlanes for Clarity

The swimlane diagram includes four main participants:

- Passenger

- Airline Staff

- Booking System

- Payment Gateway

These swimlanes clarify responsibilities at each step of the booking process.

4. Apply UML/BPMN Notations

The business process is modeled using BPMN with standardized symbols:

- Events (Start/End)

- Tasks (Processes)

- Gateways (Decisions)

- Data Flows

The diagram ensures consistency in visual representation.

5. Ensure a Logical Flow

The process flows logically from flight search to booking and payment confirmation:

1. Passenger searches flights.

2. System checks availability.

3. Passenger makes a payment.

4. Booking and ticket are registered.

5. Finance logs the transaction.

Decision points and data flows are clearly mapped.

6. Prepare an Explanation

The BPMN diagram illustrates how each entity interacts to complete the booking process. This process improves MIS functionality by enabling real-time tracking, decision-making support, and error reduction. Its importance lies in enhancing service efficiency, minimizing revenue loss, and ensuring data accuracy. This model serves as the backbone for developing an automated, secure, and scalable airline booking system.

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Appendix: BPMN Diagram