

Integrated Strategy in Designing an Effective Ship Ticket Sales and Scheduling Management System

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Abstract

In the era of globalization and technological advancements, shipping agencies play a central role in connecting regions, facilitating trade, and promoting the growth of the tourism industry. Ship ticket sales and travel scheduling are pivotal elements in the operations of a shipping agency. However, the challenges posed by operational complexity and intense competition necessitate innovative approaches to enhance efficiency and service quality.

This research aims to design an integrated system that manages the processes of ship ticket sales and travel scheduling in XYZ Shipping Agency. In this approach, we identify key requirements through a preliminary study, design an effective system concept, and test the resulting model through simulations.

The results of the research reveal that the integrated system holds the potential to enhance operational efficiency of the shipping agency, reduce potential errors, and provide superior services to customers. While real-world implementation challenges remain, the evaluation results provide a positive outlook on the potential of the integrated system in improving the agency's performance.

This study contributes to the development of the integrated system concept for ship ticket sales and travel scheduling management in the shipping industry. However, further steps are required to test and implement this model in day-to-day operational settings, while adapting it to evolving technological advancements and shifting market demands.

Keywords— Integrated system, Ship ticket sales, Travel scheduling, Shipping agency, Operational efficiency.

INTRODUCTION

In the era of globalization and the development of information technology, the sea transportation sector has an increasingly important role in connecting various regions, facilitating international trade, and driving the growth of the tourism industry. In order to meet the ever-evolving market demands, shipping agents have a great responsibility in providing efficient and reliable services in terms of selling and scheduling ship tickets.

Ship ticket sales and travel scheduling are vital components in shipping agent operations. The challenges of intense competition and the complexity of operational processes demand an innovative approach capable of synergistically integrating these two aspects. This kind of integration is expected to improve the quality of customer service, reduce the risk of operational errors, and enable more informed decision-making based on accurate data.

This study has the main objective of developing an integrated system that manages the process of selling ship tickets and scheduling trips at the shipping agent PT. XYZ. With a focus on designing a holistic and effective system, this research is expected to make a significant contribution to the operational development of shipping agents and related fields. Within this

framework, optimizing operational efficiency, reducing potential errors, and improving service quality to customers are the central points.

This introductory chapter will discuss the background context of the research, identification of the problems encountered, the aims of this research, as well as the expected contributions and benefits of the research results. In addition, the limitations taken in this study will be described to provide guidance for readers in understanding the scope of the research comprehensively.

RESEARCH METHODS

This research will use a development research approach with a focus on designing an integrated system for the management of ship ticket sales and travel scheduling at the shipping agent PT. XYZ.

The steps to be taken in this research are as follows:

- **Preliminary Study:** This stage involves gathering information about the ship ticket sales process and itinerary scheduling at the shipping agency PT. XYZ. This information will be obtained through interviews, observation, and study of related documents.
- **Needs Analysis:** The results of the preliminary study will be used to identify the main requirements in the integrated system design. This includes an understanding of the features required, the desired workflow, and the key aspects that need improvement.
- **Concept Design:** Based on the needs analysis, an integrated system concept design will be carried out. This includes workflow design, interaction between modules, and desired system integration.
- **Model Development:** In this stage, a conceptual model of the integrated system will be built. This model will serve as a guide in designing system elements in more detail.
- **Detailed Design:** The conceptual model will be detailed in this stage. The design will include user interface designs, data structures, and algorithms used in the ship ticket sales process and trip scheduling.
- **Concept Validity Test:** The conceptual model will be tested for validity by involving related parties from the shipping agent PT. XYZ. Feedback from the validity test will be used to improve and perfect the model.
- **Concept Implementation:** Based on the refined model, the concept implementation stage will be carried out. This involves applying the conceptual design steps to an integrated system model.

This method approach is expected to provide an in-depth understanding of the process of selling ship tickets and scheduling trips at XYZ shipping agents, as well as designing integrated solutions that meet needs. Be sure to adapt the steps of this method to your research goals and guidelines.

RESULTS AND DISCUSSION

Build or Revise Mockup

In the mockup building phase, developers create a visual design of the interface as a representation of the system that will be developed. This enables developers to gauge user satisfaction and promptly make corrections in case errors or shortcomings are identified.

1. Admin Login Page:

- **Username and Password Input:** This section will have two input fields where the admin needs to enter their username and password.
- **Login Button:** The admin can press the "Login" button after entering their credentials to access the system.
- **Forgot Password Link:** Admin can select this link if they forget their password. It will direct them to a page to reset their password.
- **Back to Home Link:** This link can redirect the admin to either the public home page or the main system dashboard after logging in.
- **Error Message:** If the admin enters incorrect credentials, an error message might appear, notifying them that the input they provided doesn't match.
- **Security:** Ensure that the login page has adequate security measures, such as password encryption and protection against brute-force attacks.



Figure 1. Admin Login Page

2. Dashboard Page:

- **Summary section:** This section provides a brief overview of key performance indicators (KPIs), such as total ticket sales, occupancy rate, revenue and upcoming departures. It provides a quick view of the agent's overall performance.
 - **Notification Panel:** A panel that displays important notifications and alerts, such as schedule changes, urgent messages, or promotions. Admins can quickly respond to important updates.
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- **Sales Analysis:** Graphs and charts depicting ticket sales trends over time, by route and ticket type. This provides insight into demand patterns and aids in decision making.
- **Itinerary Overview:** A calendar style view showing upcoming itineraries, showing departure and arrival times, vessel details, and occupancy status. Admins can quickly assess agent schedules.
- **Financial Summary:** Section showing the agent's financial status, including revenue, expenses and profit margin. This helps track financial health and identify areas that need improvement.
- **Customer Activity:** A brief overview of recent customer activity, such as bookings, cancellations and modifications. Admin can quickly deal with customer problems.
- **Operational Efficiency:** Metrics related to operational efficiency, such as average ticket processing time, boarding time and return time between trips. This helps in optimizing the process.

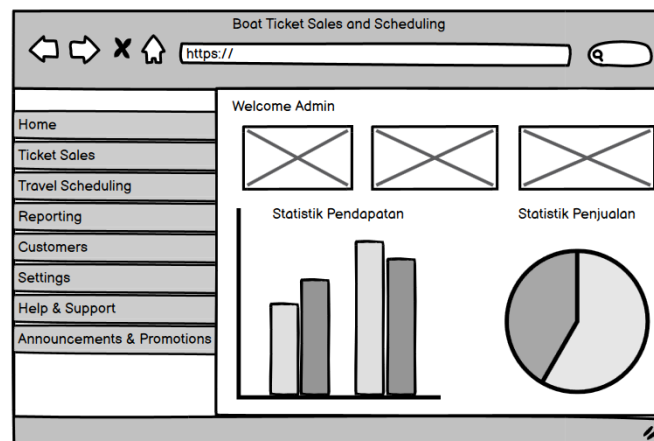


Figure 2. Dashboard Page

3. Ticket Sales Page:

- **Route Search:** A feature to search for ship routes based on departure and destination locations. Users can choose the route according to their preferences.
- **Date and Time Options:** Users can choose the departure date, time, and available ship schedule options.
- **Ship Details:** Information about the ship in operation, including facilities, room types, and passenger capacity.
- **Ticket Options:** Available ticket types, such as economy, business, or VIP class. Users can choose the type of ticket according to their needs.
- **Passenger Information:** A section where the user enters passenger information, such as name, identification number and contact.
- **Price and Payment:** Information on the price of the selected ticket and the total payment will be displayed. Users can choose a payment method and proceed to the payment process.
- **Confirmation and E-Ticket:** After successful payment, the user will receive an order confirmation and e-ticket which can be printed or saved in digital format.
- **Booking History:** Users can view their booking history, including details of previous trips and tickets purchased.

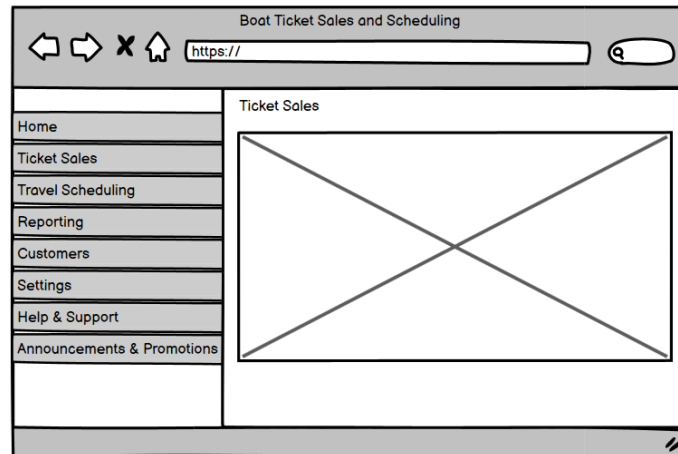


Figure 3. Ticket Sales Page

4. Trip Scheduling Page:

- **Travel Calendar:** A calendar view that displays the ship's itinerary for a certain period. Users can see the departure and arrival of ships.
- **Filter and Search:** Features to filter and search for itineraries based on a particular route, date, time or ship.
- **Trip Details:** When users select an itinerary, they will see full details, including boats, schedules, route maps, and availability.
- **Direct Booking:** Users can directly book tickets for certain trips by filling in the passenger information and selecting the ticket type.
- **Available Places:** Information about the number of places available for a particular trip, helps users choose the right time.
- **Related Schedules:** A section that displays related itineraries, such as the same ship going to different destinations or ships departing in the near future.
- **Upgrade Options:** Users may be given the option to upgrade certain tickets or perks, such as room service or meal plans.
- **Confirmation and E-Ticket:** After a successful booking, the user will receive a travel confirmation and e-ticket which can be printed or saved in digital format.
- **Trip History:** Users can view their travel history, including details of previous trips and purchased tickets.
- **Help Link:** A link that directs users to guidance or support if they need assistance with booking a trip.

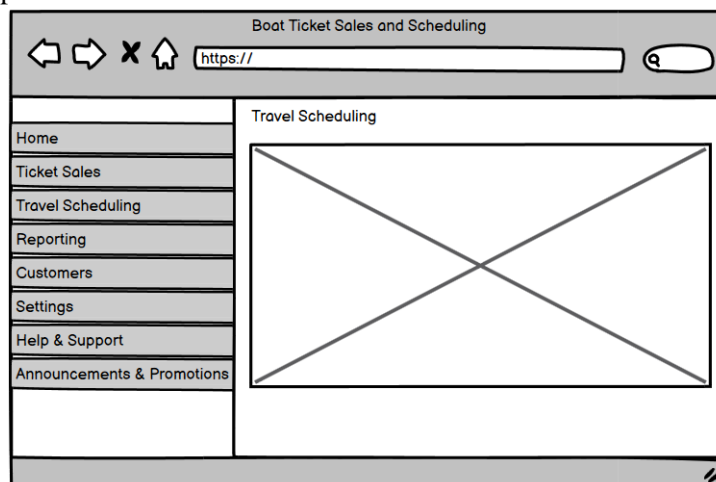


Figure 4. Trip Scheduling Page

5. Customer Management Page

- **Customer List:** View the list of customers registered in the system, including information such as name, contact, travel history, and preferences.
- **Search and Filter:** Search and filter features to help admins find customers based on certain criteria, such as name or identification number.
- **Customer Details:** When an admin selects a customer from the list, they'll see full details, including booking history, past trips, and other activity.
- **Contact Information:** A section containing the customer's contact information, such as email address, telephone number, and home address.
- **Order History:** Admin can view the customer's ticket order history, including travel routes, dates, and types of tickets purchased.
- **Customer Preferences:** Sections where admins can view customer-specific preferences, such as seating preferences, room type or food preferences.
- **Edit Information:** Admins can edit customer information if there is a change, such as a new address or contact number.
- **Customer Notes:** Admins can add special notes about customers, such as special requests or issues that need attention.
- **Customer Service:** A section that lists customer service that has been provided to customers, such as responses to questions or complaints.
- **Interaction History:** Admins can view the history of interactions with customers, including messages sent, calls, or emails.

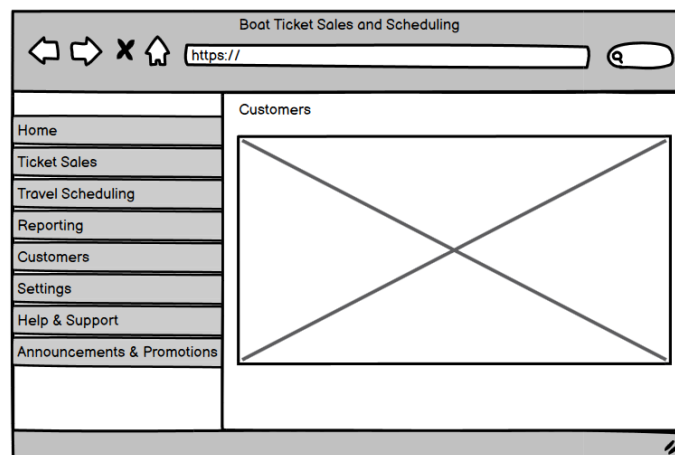


Figure 5. Customer Management Page

6. Help and Support Pages:

- **User Guide:** A section that contains complete guides on how to use various features in the system. This will help users, both admins and customers, understand the functionality of the system well.
- **FAQ (Frequently Asked Questions):** A list of frequently asked questions and their answers. This can help users find solutions to common problems.
- **Help Search:** A search feature that allows users to search for specific solutions or information.
- **Contact Support:** Contact information for the technical support or customer service team, such as a phone number, email address, or contact form.
- **Support Status:** A section that displays the current status of support services, such as hours of operation, expected response time, or important announcements.

- **Quick Links:** Direct links to specific help pages, such as user guides, FAQs, or contact forms.
- **Inquiry Form:** Users can fill out the form with their questions or concerns and send it to the support team.
- **Technical Guide:** A more in-depth section on system technicalities, for users who want to understand in more detail how the system works.
- **Problem Report:** Users can report technical issues or bugs in the system for the development team to fix.

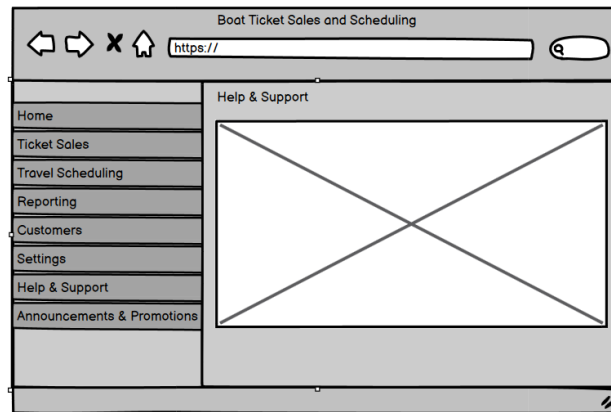


Figure 6. Help and Support Pages

7. Announcement and Promo Page:

- **Latest News:** Sections that display the latest news in the shipping industry, companies or important changes in the system.
- **Company Announcements:** A place to share important company announcements with customers and admins, such as policy changes or the latest developments.
- **Promotions and Discounts:** A section that announces ongoing promotions, special discount offers, or holiday packages.
- **Promo Details:** When users select a particular promotion, they will see full details about that promotion, including terms and conditions.
- **Package Offers:** Section that displays special travel packages that customers may be interested in, including routes, facilities and prices.
- **Special Notices:** Special information provided to customers or admins, such as information about sudden schedule changes.
- **Help Link:** A link that directs users to guidance or support if they need help with a promotion or announcement.
- **Promo Search:** A search feature that allows users to search for promotions or special offers based on certain criteria.
- **Newsletter:** A section that allows users to subscribe to the company's newsletter to receive the latest updates straight to their inbox.

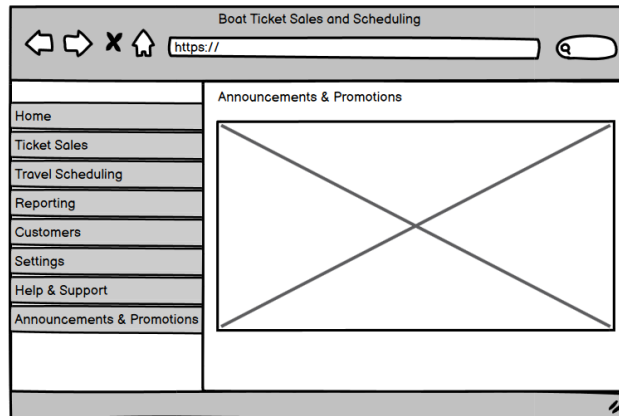


Figure 7. Announcement and Promo Page

Customer Test Drive Mockup

The final stage in the prototyping method is the "Customer Test Drive Mockup." In this stage, testing is conducted within the Pendar Education division. Testing is carried out through face-to-face interactions, where the prototype is demonstrated directly to the users, followed by asking several questions.

| Question | Answer |
|---|--------|
| What is your response to the appearance of this mockup? | Yes |
| Is this interface easy to understand and use? | Yes |
| Are there any parts that are confusing or difficult? | Yes |
| Are there any design elements that caught your attention? | Yes |
| How do you feel about the navigation flow of this mockup? | Yes |
| Are there any features you expected but didn't find? | Yes |
| Based on your experience, did you encounter any technical issues? | Yes |

CONCLUSION

In this research, we apply an integrated system development approach for ship ticket sales management and travel scheduling at XYZ shipping agency. This research begins with a preliminary study that provides insight into existing operational processes and challenges faced by shipping agents. Based on the needs analysis, we designed an integrated system concept that aims to increase efficiency, reduce potential errors, and improve the quality of service to customers.

The results of the simulation evaluation show that the integrated system model has the potential to provide operational efficiency, reduce process errors, and increase the level of service to customers. However, we recognize that actual implementation in an operational environment requires further consideration regarding technological infrastructure, human resources, and other factors that may affect the success of implementation.

SUGGESTION

Some research suggestions that can be considered:

1. Conduct a more in-depth analysis of the operational efficiency of shipping agents with a focus on the ship ticket sales process and travel scheduling. This can involve a detailed evaluation of workflow, response times, and level of accuracy within each stage of the process.
2. Conducting empirical research on the effect of integrated system implementation in shipping agents. This will involve collecting data before and after implementation, as well as analyzing the resulting positive impact on operational efficiency and customer experience.
3. Make comparisons between various integration models in the management of ship ticket sales and travel scheduling. This will allow evaluation of the strengths and weaknesses of each approach and provide insight into the most effective implementation.
4. If possible, develop real applications based on integrated systems for shipping agents. This research will cover the steps for designing, developing, and testing applications in a real operational environment.

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