CHAPTER II LITERATURE REVIEW

2.1 Introduction

The industrial journey has undergone a significant transformation along with advances in information technology. Ordering transportation tickets online is one of the most impactful aspects. With the increasing mobility of society, online booking systems have become an essential tool to meet travel needs.

Technological innovations such as artificial intelligence, big data analysis and integration with digital payment systems are the latest trends in train booking application development. Related studies show that the application of these technologies can improve user experience, speed up transaction processes, and provide more personalized services.

Train booking applications have become the focus of attention in efforts to increase the comfort and efficiency of train travel. Previous studies of similar applications have shown that the use of mobile technology in ordering train tickets can provide significant benefits, ranging from increasing accessibility to reducing queues at stations.

Despite positive developments, there are still challenges in implementing train booking applications, including data security issues, regulations, and the need for cross-platform integration. Understanding these challenges is key to creating solutions that are sustainable and acceptable to users.

Therefore, through observing this literature, further research is directed at exploring the potential and challenges in developing effective and innovative train booking applications. By integrating findings from previous research, it is hoped that this research can provide an in-depth picture of optimizing the train booking system using the latest information technology approaches.

2.2. Explanation of key terms and terminology

2.2.1 Development

Development is a development process that must be carried out when creating an application, etc. In making application development, the function is to make it easier for users to use the application, increase efficiency, and optimize the application so thatit can compete with other applications.

2.2.2 Data

Data is the initial element that forms the basis for consideration of policy decisions.In simple terms, data is a collection of facts that can provide a broad picture of a situation.

Data is collected through certain methods and then processed to produce informationthat is clear and easy to understand.

Data is needed in various fields, starting from warehousing, population, sales, research and so on. The more complex the data, the more complicated its managementis.

2.2.3 visualization

Visualization in the context of applications refers to the graphical representation ofdata or information. It involves the use of visual elements such as charts, diagrams, maps, and other graphic elements to present information in a way that is easy for usersto understand.

2.3 Reviewing of Relevant Literature and Technology

Online travel booking is a direct result of developments in information and communications technology. In the beginning, the travel booking process was more complicated and took longer. However, with the advent of the internet and sophisticated information systems, this process has become more efficient and accessible.

The history of online travel booking dates back to the 1990s when several travel agents started offering online services. However, significant developments occurred when airline ticket and hotel booking websites such as Expedia, Orbitz, and Booking.com emerged. These sites allow customers to search, compare, and book airline tickets, hotels, and even vacation packages quickly and easily. Based on the explanation above, it can be concluded that ordering online tickets can make transactions easier via websites or applications.

1   traveloka

Figure 1 Traveloka

Traveloka is a company that provides online airline ticket and hotel booking services with a focus on domestic travel in Indonesia. Founded in 2012 by Ferry Unardi, Derianto Kusuma, and Albert Zhang. Traveloka, which is a startupcompany with unicorn status from Indonesia, is developing its services in orderingtrain tickets, buses, car rentals, and tourist activities
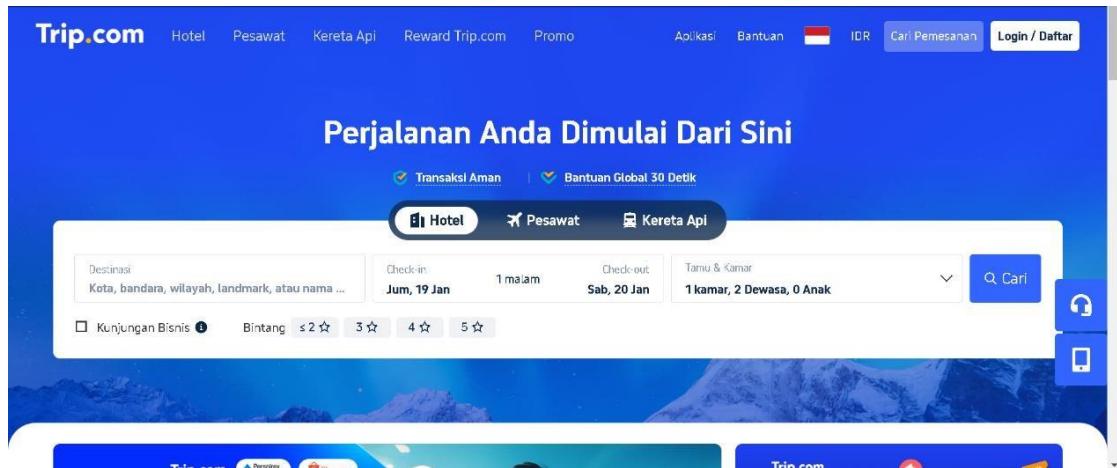
2   Trip.com

Figure 2 Trip.com

Trip.com is an online travel agency that was first launched in late 2017. The Trip.com brand is owned by Ctrip, the second largest online travel agency in the world, which is also the parent company of Skyscanner. The domain name Trip.com was acquired by Ctrip in 2017, and used to launch their first website aimed at an international audience. The brand also has popular mobile apps on Android and iOS.
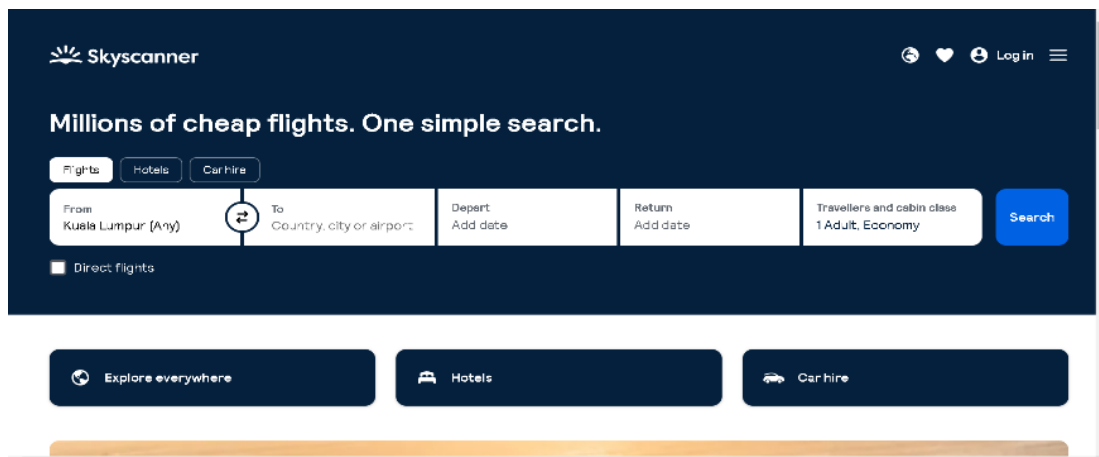
3. Skyscanner

Figure 3 Skyscanner

Skyscanner is the leading global travel search site, and is a place where peoplecan be inspired to plan and book directly from millions of travel options at the bestprices available. Skyscanner itself claims that they are impartial and free, and claims that 80 million people use Skyscanner services every month to choose flights, hotels and car rentals. Skyscanner itself has more than 1,200 partners. TheSkyscanner app has been downloaded more than 70 million times and Skyscanneris available in more than 30 languages and 70 currencies. Since its founding in 2003, Skyscanner has employed more than 1000 employees, with offices in Barcelona, Beijing, Budapest, Edinburgh, Glasgow, London, Miami, Palo Alto, Shenzhen, Singapore and Sofia. And since November 2016 Skyscanner wasacquired by Ctrip, which is the largest travel company in China.

2.4 Critical review of similar products or systems.

A critical review of a ticket booking application can cover various aspects, including user interface, security, feature availability, and overall user experience.Here are some points that can be raised in a critical review of ticket booking apps:

1. User Interface (UI/UX):

Positive: Intuitive and easy-to-use interface design can improve user experience.

Negative: If the user interface is complex or not user-friendly, this may hinderthe user's ease in booking tickets.

2. Availability and Completeness of Information:

Positive: Apps that provide clear information, including travel schedules, seatavailability, and ticket prices, can increase user confidence.

Negative: If information is inaccurate or incomplete, this can cause userconfusion and dissatisfaction.

3. Data and Transaction Security:

Positive: Apps that provide strong layers of security, including data encryption andsecure payments, give users a sense of security.

Negative: Weak security can compromise users' personal and financial information.

4. Customer Service Availability:

Positive: Responsive and friendly customer service can help users resolve issuesor get help when needed.

Negative: Lack of customer support or slow responses can lead to user frustrationand dissatisfaction.

5. Platform Availability:

Positive: Apps available on multiple platforms (web, mobile, etc.) provideflexibility to users.

Negative: If an app is only available on certain platforms, users using otherplatforms may feel limited.

6. Overall User Experience:

Positive: If users have a smooth experience from start to finish of the ordering process, this can increase their satisfaction.

Negative: Technical errors, delays, or other issues that harm the user experience may cause dissatisfaction.

7. User Reviews and Feedback:

Positive: Checking user reviews and feedback can provide insight into other people's experiences with the app.

Negative: If there are a lot of negative reviews or similar complaints, it could be asign of a problem that needs to be fixed.

A critical review like this can help users and application developers understand thestrengths and weaknesses of a ticket booking platform, as well as provide a basis for further improvement and development.

Table 1 ***Comparison of Existing Film Streaming Application***

Features	Traveloka	Trip.com	Skyscanner	Android train ticketing system
Log in/sign up	✓	✓	✓	✓
Trip Recommendation	✗	✗	✗	✓
Send Notify	✓	✓	✓	✓
Train information	✓	✓	✓	✓
Changes and Cancellations Trip	✓	✓	✓	✓

2.4.1 Comparison Between Similar Systems And Proposed Systems

The system used in train ticket booking applications can vary depending on theservice provider or application company. However, in general, train ticket bookingapplications usually involve several components starting from UI UX, schedule search system, payment management etc. The application system will be explainedbelow:

1. User Interface (UI/UX):

    •Provides an easy-to-use interface for users to search, select and book train tickets conveniently.

    •Displays route information, schedules, prices and seat availability.

2. Search and Scheduling System:

    •This module allows users to search for train schedules based on origin station, destination, date and departure time.

•Provide search results that match user criteria.

The explanation above is an important thing in ordering train tickets. Therefore, applications need to be developed to make it easier for users to carry out train tickettransactions.

2.5 Chapter Summary

The train ticket booking application is an application to make it easier for customers to order train tickets. In this case, development is needed so that the application can be used optimally. Application development can include features, visualization, security, etc. therefore development requires a lot of research and analysis to work on the application.