Development of Customer Development Stages in Tourism Directory Application Services Using Design Thinking

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ABSTRACT

Keywords: stages of customer development, tourist directory application services, design thinking.	The Development of Customer Development Stages in the Tourism Directory Application Service using Design Thinking is a development process based on the stages of a survey of user needs in defining problems and formulating solutions to these problems. This research aims to gain knowledge and insight related to user needs for a tourist directory application service, identify service features that are by the needs of tourist directory application service users, and obtain a Minimum Viable Product (MVP) on the tourist directory application service owned by the current author (https://gatewee.com). The research conducted is in the form of surveys and interviews with users through the stages of Customer Development and uses a user-based problem-solving approach through Design Thinking. Methods This research is qualitative and quantitative research that describes the user-based development strategy of the Tourism Directory Application Service. The results of the research are User Persona, identification of features, focus on feature development, prototypes, Usability Test results, MVP, targeting strategies & business models, and business development plans.

Introduction

The development of the business world is very dynamic and influenced by various factors, including technological developments and changes in people's lifestyles. (Budiman et al., 2024). A business approach that sees users/customers as the main target is needed, so that it can develop in competition, especially in businesses that utilize information technology to run their business, including tourist directory application services (Mellita & Elpanso, 2020). Based on the research of (Azizah & Muhfiatun, 2018), the main aspect that affects the sustainable performance of a business is knowledge and competence in involving users in the development of a product/service.

The success of digital literacy in the world of tourism is reflected in the increase in Indonesia's Travel & Tourism Development Index (TTDI) ranking from 44th in 2019 to 32nd in 2021 with an increase of 3.4% (Watini & MT, 2024). One of the aspects that is a

factor in the increase in TTDI Indonesia is the ICT Readiness Pillar from 70th in 2019 to 68th in 2021 with an increase of 3.7% (Maulana et al., 2022). Where the ICT Readiness Pillar measures the development of ICT (Information & Communication Technology) infrastructure as well as the use of digital services ranging from travel planning applications, and ticket booking applications to travel directory applications that are used as tourism promotion media to access new markets and increase efficiency and gain insight into consumer needs (Umar, 2023). This pillar component not only measures the existence of modern physical infrastructure (such as cellular and electricity network coverage) but also measures the extent to which digital platforms are used in the tourism and related services industry (World Economic Forum, 2022).

The concept of the stages of Customer Development, introduced by (Yudhanto, 2024), is very suitable to be used because it aims to help businesses understand and respond to the needs and desires of potential users, which consist of Customer Discovery, Customer Validation, Customer Creation, and Company Building (Rantung & ST, 2024). This approach recognizes that it is critical to engage with customers from the beginning to ensure that the product/service built can meet the needs of the market. The Customer Development stage can also help reduce the risk of failure and increase the chances of success in meeting user needs. (Budiman et al., 2024).

The concept of the Customer Development stage will be helped by the Design Thinking approach which focuses on a deep understanding of the user by combining aspects of creativity, user understanding, and problem-solving in a structural approach. (Alfajri, 2020). Based on Wolniak (2017), the Design Thinking approach consists of Empathise, Define, Ideate, Prototype, and Test. This method is very flexible to create relevant solutions that can be used in a variety of contexts, including product development, service design, user experience design, strategic innovation, work processes, and business model development. (Khaer & Nursyafitri, 2017).

This research aims to gain knowledge and insight related to user needs for a tourism directory application service in defining problems and formulating solutions, identifying service features that are by the needs of tourism directory application service users, and obtaining a Minimum Viable Product (MVP) on the tourism directory application service owned by the current author (https://gatewee.com). The research conducted is in the form of surveys and interviews with users through the stages of Customer Development and uses a user-based problem-solving approach through Design Thinking.

Method

The research method used in the preparation of this thesis is the Customer Development stage introduced by Steve Blank (Blank, 2020) with the preparation of each stage using the Design Thinking method, where the Design Thinking approach is located in Stage 1 (Empathise, Define & Ideate) and in Stage 2 (Prototype & Testing). The stages used by the author according to Figure 3.1 can be described and described as follows:
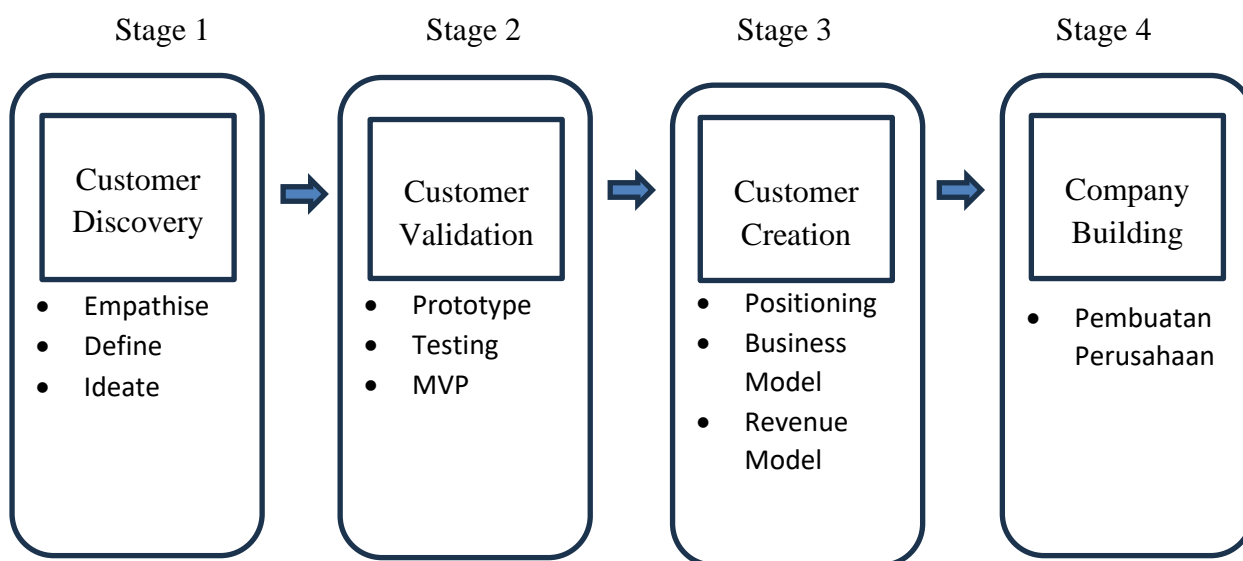
Stage 1	Stage 2	Stage 3	Stage 4
Customer Discovery • Empathise • Define • Ideate	**Customer Validation** • Prototype • Testing • MVP	**Customer Creation** • Positioning • Business Model • Revenue Model	**Company Building** • Pembuatan Perusahaan

Figure 1 Stages of Research Methods

Tahap Customer Discovery

The first stage begins with Customer Discovery, which is to find problems from users related to the search for tourist attractions through online media as well as solutions/needs that users expect through the approach.

Empathise Stage

The Empathise stage, which is to conduct research through a questionnaire to users as many as 50 respondents regarding the problems and needs expected in the Travel Directory Application Service, namely by using a Google Form that contains questions related to the problems faced by users. The expected result at the Empathise stage is to produce a User Persona which is a representation of the user-generated based on the results of the research consisting of user profiles, pain points or problems faced, as well as goals or expected solutions.

Define Stage

The Define stage is to formulate the expected user needs of the Tourism Directory Application Service based on data obtained from the User Persona at the Empathise stage. The expected result at the Define stage is the Identification of Features to be developed on the Tourist Directory Application Service.

Ideate Stage

The Ideate stage is by conducting presentations or interviews to users as many as 20 respondents related to the development of Tourism Directory Application Service Features as a solution to the problems faced by users in the previous stage. The expected result at the Ideate stage is a solution from the Tourism Directory Application Service which will be validated by the process of making a Prototype and Testing or testing.

Stage Customer Validation

The second stage is Customer Validation, which is to validate ideas or solutions developed from the Tourism Directory Application Service including its service features through the following approaches:

Prototype Stage

The Prototype stage, which is by creating a prototype of the Tourism Directory Application Service to visualize the service features developed, through a tourism directory application service website. The expected result at the Prototype stage is a website from the Tourism Directory Application Service that can be tested or tested.

Tahap Testing

The Testing stage is by testing the prototype of the Tourism Directory Application Service that has been generated for users using the Usability Test method, namely by using a Likert scale (1-5) to collect and quantitatively measure data to 20 respondents based on the scale & value of user satisfaction with the Tourism Directory Application service, namely very dissatisfied (value = 1), dissatisfied (value = 2), Quite satisfied (value = 3), satisfied (value = 4), and very satisfied (value = 5). Some of the criteria that will be tested include user-friendliness, user interface, and user experience. The expected result at the Testing stage is the result of the Usability Test test on the prototype of the Tourism Directory Application Service.

Tahap Minimum Viable Product (MVP)

The Minimum Viable Product (MVP) stage, is the initial development of the Tourism Directory Application that has gone through a prototype and testing process that is ready to be used by users. MVP is expected to be accepted by users so that it can increase the number of visits to the website and increase the business scalability of the service. This can be achieved if there is an adequate iteration in the previous stage based on input from users, including during the prototype and testing process. The expected result at this MVP stage is a website that has gone through a testing process and is ready to be launched to users.

Tahap Customer Creation

The third stage is Customer Creation, which is to create a business plan from the Tourism Directory Application Service which is developed to increase the scalability of users through the following approaches:

Positioning Strategy Stage

Positioning Strategy, which is a strategy in conducting brand awareness of products/services so that they are different from other products/services based on user perception. This will provide a difference from similar applications so that they can be developed and accepted by the community. The expected result at the Positioning Strategy stage is a strategy to provide users with a perception of the Tourism Directory Application Service that has been developed.

Business Model Strategy Stage

Business Model Strategy, which is a strategy for creating value for users of the Tourism Directory Application Service. The implementation of design thinking itself will affect the company's business model and how it works (Spychalska-Wojtkiewicz et al., 2019). The expected result at the Business Model Strategy stage is the BMC (Business Model Canvas) of the Tourism Directory Application Service that has been developed.

Revenue Model Strategy Stages

Revenue Model Strategy, which is a strategy for creating revenue from the Tourism Directory Application. The revenue generated is a continuous effort to identify unique

business models that can be further developed by the company (Ravichandran and Ramanujam, 2020). The expected result at the Revenue Model Strategy stage is a strategy to obtain revenue from the Tourism Directory Application Service that has been developed.

Tahap Company Building

The fourth or last stage is Company Building, which is creating and developing a company from the Tourism Directory Application Service. The expected result at the Company Building stage is the company's development plan so that the sustainability of the Tourism Directory Application Service can be achieved which can be beneficial for users (tourists) in the tourism ecosystem in Indonesia.

Results and Discussion

Customer Discovery Stage Results

At the Customer Discovery stage, it is by finding problems and solutions expected from users related to the search for tourist attractions through online media through an empathize, define, and ideate approach.

Empathise Stage Results

At the Empathise stage from the results of the questionnaire above, a User Persona can be generated for the needs of the Tourism Directory Application Service as follows:

1. User Profile
   a. Have a passion for traveling 1 to 2 times a year.
   b. Tourist attractions that are often visited are natural tourism, such as mountains, beaches, lakes, the sea, and so on.
2. Pain Point
   a. Difficulties in obtaining information related to tourist access that they want to visit, such as location, distance, transportation access, and so on.
   b. Difficulties in obtaining information related to the details of tourist attractions that you want to visit, such as the surrounding culture, history or origin, current conditions, where to buy tickets, and so on.
   c. Difficulties in obtaining information related to facilities around tourist attractions, such as lodging or hotels, restaurants or culinary places, and so on
   d. Difficulties in obtaining information related to the category or tour package, such as promotions from tour service providers, tour package options, and so on
3. Goal
   a. Can use services related to information on tourist access to be visited, such as location & distance, transportation access, and so on.
   b. You can use services related to information about the details of the tour to be visited, such as information related to the culture of the surrounding community, the history or origin of tourist attractions, current conditions, and places to buy tickets.
   c. You can use services related to information about the facilities at the tourist attractions to be visited, such as lodging or hotels nearby, restaurants or culinary places around tourist attractions, and so on

    d. Can use services related to information on tour categories or packages offered by tour service providers, such as tour package promotions, tour package choices/categories, and so on.

Define Stage Results

Based on the problems and needs of users formulated in the previous stage, several features can be developed in the Tourism Directory Application by the User Persona developed, namely:

1. The Tourist Access Information feature, which is a feature to make it easier for users to get information related to access from the tourist attractions to be visited, such as information on the location of tourist attractions, access to tourist attractions, available transportation or trips, distance traveled to tourist sites, maps of tourist attractions, and so on.

2. Tourist Attraction Detailed Information Feature, which is a feature to make it easier for users to get detailed information from the tourist attractions to be visited, such as information related to history and culture, the current condition of tourist attractions, ticket price information, and so on.

3. The Tourist Facility Information Feature, which is a feature to make it easier for users to get information related to Facilities from the Tourist Attractions to be visited, such as information related to accommodation or lodging, restaurants or culinary places, souvenir or souvenir shopping centers, and so on.

4. Category or Tour Package Information feature, which is a feature to make it easier for users to get information related to Categories or Packages from the Tourist Attractions to be visited, such as information on the choice of type or tour package, information related to the promotion of tour packages, and so on.

Results of the Ideate Stage

Based on the development of Features on the Tourism Directory Application Service in the previous stage and then presentations and interviews with 20 respondents, a Web service or Application was developed that displays reviews or reviews of tourist attractions with various features so that it makes it easier for tourists to obtain specific tourist information on one platform, including features to upload photos of tourist attractions; provide captions on photos; provide a detailed explanation of the photo (including location, history, culture, or facilities around the tourist attraction); provide hashtags as captions for tourism categories; Including providing a display for tour service providers as a promotional medium to offer packages or a choice of tour types.

Customer Validation Results

At the Customer Validation stage, namely by validating the Tourism Directory Application Service developed on a Web service or Application from the previous stage through the Prototype, Testing, and MVP (Minimum Viable Product) approaches.

Prototype Stage Results

At the Prototype stage, namely by creating a prototype of the Tourism Directory Application through a Tourism Directory Web/Application service, which consists of a Landing Page, Register Form, Sign Form, Add Post Form, and Homepage.

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Results of the Testing Stage

In the Testing stage, namely by testing the prototype of the Tourism Directory Application developed in the previous stage to users using the Usability Test method using a Likert scale (1-5) based on the scale & value of user satisfaction, namely very dissatisfied (value = 1), dissatisfied (value = 2), moderately satisfied (value = 3), satisfied (value = 4), and very satisfied (value = 5). The criteria used in the test are User Friendly, User Interface, and User Experience. Based on the results of the Usability Test by conducting presentations and interviews with 20 respondents or users, the criteria for User Friendly with a success score of 88%, the criteria for User Interface with a success score of 80%, and the criteria for User Experience with a success score of 76% were obtained. Some suggestions from users at the Testing stage are improvements to email verification, a neater and more organized interface, additional dislike features, additional like and reply features to comments, additional user verified features, improvements to the follow and unfollow process, improvements to the upload process, improvements to the comment interface, improvements to the home interface, and additions to other features.

Minimum Viable Product (MVP) Stage Results

The Minimum Viable Product (MVP) stage, is the initial development of the Tourism Directory Application after going through a prototype iteration process and testing that is ready to be used by users for scalability in the next process. The MVP of the Tourism Directory Application developed can be seen on the Website (https://gatewee.com).

Results of the Customer Creation Stage

The Customer Creation stage is by creating a business plan from the Tourism Directory Application service that has been developed in the previous stage to increase the scalability of users through the Positioning Strategy, Business Model, and Revenue Model approach.

Results of the Positioning Strategy Stage

The Positioning strategy developed is to provide specific tourist information services for tourists, especially interesting tourist attractions such as exotic natural landscapes, and cultural tourism, including promotional offers or attractive tour packages. This strategy was developed as an effort to brand awareness of the Tourism Directory Application Service to users so that it can be accepted by the public.

Results of the Business Model Strategy Stage

A Business Model strategy is developed by creating value for users through a model using the Business Model Canvas or BMC (Osterwalder and Pigneur, 2010).

Results of the Revenue Model Strategy Stage

The Revenue Model Strategy was developed to create revenue from the Tourism Directory Application Service, which is by the BMC Strategy, namely through advertising costs paid by travel service provider companies, such as Travel Agents, Hospitality Networks, Transportation Ticket Services, Tour Ticket Services, and so on.

Results of the Company Building Stage

The last stage is Company Building by creating and developing a company from the Tourism Directory Application Service, including licensing so that the Tourism Directory Application Service can be used and utilized by the community.

Conclusion

The stages of Customer Development in the Tourism Directory Application Service can be developed using a Design Thinking approach, ranging from Customer Discovery, Customer Validation, and Customer Creation to Company Building. Some of the results obtained at the Customer Development stage are:

1. Customer Discovery

At this stage, the Design Thinking approach used is to Empathise, define, and ideate. The results obtained at this stage are User Persona, Feature Identification, and Development Solutions.

2. Customer Validation

At this stage, the Design Thinking approach used is Prototype, Testing, and Minimum Viable Product (MVP). The results obtained at this stage are websites that have been tested for usability tests and can be used by users.

3. Customer Creation

At this stage, the strategies used are Positioning, Business Model, and Revenue Model. The results obtained at this stage are the development strategy of the Tourism Directory Application Service using the Positioning Strategy using Brand Awareness, the Business Model Canvas (BMC) Strategy, and the Revenue Model Strategy to obtain revenue from the Tourism Directory Application Service.

4. Company Building

In this last stage, the activities carried out are the creation and development of the company. The result obtained at this stage is the company's business development plan so that the Tourism Directory Application Service can be sustainable and useful for the community.

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