# Business Analysis and Design of Open Trip Planner for Online Marketplace

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In the travel industry, the existence of the open trip planner (OTP) is rapidly increasing. The amateur open trip planner needs a platform that is able to increase its sales and manage its participants. This thesis research objective is to develop a business analysis and design for an open trip planner online marketplace startup company. An in-depth interview was conducted with several business actors who are active in the travel industry to gain insights into the open trip planner industry to obtain business analysis and design. Based on the result of discussions, the smart business map that was already made earlier before the in-depth interview can be verified and revised, thus the business model canvas was also able to be concluded. Afterward, the development of a mock-up and prototype is needed to do an in-depth interview to gauge the usability of the prototype. Available features in this platform will include search, comparison, payment options for full payment and down payment, trip creation, and participant management. The result concludes that there are mixed responses regarding the needs of the marketplace for OTP. For more professional OTPs, a marketplace is only a 'nice' feature to have for their administrative works, while for amateur OTP a travel marketplace is needed to boost their sales, open new markets, and create a more natural way for them to manage the participants of their trips.

**Key words:** *Open Trip Planner, Open Trip Planner Marketplace, Platform, Tourism*

## Introduction

The Youth travel industry in Asia is growing rapidly (Khoo-Lattimore, Ling, & Mura, 2018; Moisă, 2010). Millennials nowadays tend to shift their purchasing power from buying expensive goods to the buying experience, in this case, travelling (Biro Pusat Statistik, 2018). However, some travellers prefer to go to remote areas in Indonesia and cannot find any big tour agencies that offer trips to the remote area, since normally tour agencies supply trips to major cities with mainstream activities. Based on a survey that has been done by Agoda.com, 77% of

millennials love to have challenges while they are having a holiday, such as getting lost in unknown places and discovering new places that are still unknown to their peers (TJP, 2017). For this reason, trips that are offered by open trip planners are more suitable for them as open trip planners offer adventurous and flexible trips (Hyde & Lawson, 2003; Tsaur, Yen, & Chen, 2010).

Unfortunately, it is still hard to find a trusted open trip planner since they usually only reach their customer through their social media accounts (Hays, Page, & Buhalis, 2013; Parra-López, 2011). The idea of an open trip planner online marketplace startup company needs a business analysis and design to create a sustainable business model and provide a reliable platform for open trip planners and travellers. The online marketplace is a virtual marketplace in the form of a platform to accommodate sellers and buyers to arrange information about the product or service that will be transacted (Grover & Teng, 2001; Syuhada & Gambetta, 2013). There are several sale mechanisms such as fixed price where the sales are already set at the price of the product or service. At auction, the potential buyer bids for the product, reverse bidding where the buyer bids the product or service, and the seller chooses which buyer is able to buy their product or service and requests a quotation where the buyer needs to submit a proposal to buy a specific product or service. The open trip planner is a kind of travel agency for travellers to remote locations and they have limited quota for their participants. They offer flexibility and freedom of deciding destinations to travellers as they usually also provide private tours, office outings, and gathering events. The choices of their travellers have affiliations with socio-demographic, travel characteristics, the origin of the travellers, and their travel destinations. Thus, the objective of the research is to conduct business analysis and design for an open trip travel marketplace startup company so that a reliable platform can be provided for open trip planners and travellers.

Nowadays, online social media that are normally used as two–way communication tools, have expanded as advertising, sales promotion, and public relations tools (Papasolomou & Melanthiou, 2012). Hong et al. (2014) concluded that tourists prefer to plan their trips based on online social media, and tourists show positive attitudes towards online social networks. Thus, online social media should have been used by authorities in the travel and tourism industry to communicate with tourists and update them on activities, events, and advertisements. It clearly shows that people nowadays have tendencies to prefer social media as the basis of their travel plans rather than randomly visiting a travel agent to get more information about the current promotion in that particular travel agent. The objective of this research is to study the effect of online social media on travel planning and tourist attitudes towards online social media. It can contribute to this research topic as the basis of a decision of the application development and the structure of the application itself, considering social media and marketplace are different types of media in this new era of technology.

According to Corrot & Nussenbaum (2014), Electronic Marketplace is a virtual platform to accommodate sellers and buyers to arrange information about the product or service that will be transacted. The transactions are managed by an operator that will provide transparency and a safe environment for both parties to conduct any transaction and to achieve an open flow of trade between them. There are several main sale mechanisms in the marketplace, such as fixed price where the sellers already set the price, auction where the potential buyer is able to bid, reverse auction where the buyer set the price and the sellers have to choose which buyer can buy, and request quotation where the buyer has to send a proposal to buy a specific product. In addition to those, customer trust in specific e-Marketplace platforms is an asset for this research (Hadi et al., 2014; Harsandi et al., 2013).

Research by Dickinson et al. (2014) shows that smartphones and applications in the smartphone are also included in the revolution in process of tourist negotiation of the travel domain. Technology that applied in this field is rapidly evolving, and developers and users already recognise the opportunities to mediate travel experiences. Technology innovators have acknowledged the potential of technology, especially smartphones in the travel and tourism field. This paper gives a deeper understanding of how evolving mobile technology mediates travel decisions in the tourism domain. The paper's intention is primarily to draw attention to a current issue of significance to research and industry.

Smartphone advancement technology has influenced people not only to use their smartphone to contact their relatives, but also to use e-commerce applications in their smartphones and especially mobile payments (Koenig-Lewis et al., 2015; Oliveira et al., 2016). Travellers nowadays have a tendency not to bring money when they are travelling. Especially Chinese travellers tend to be dependent on their bank cards or mobile payments. Law et al. (2018), stated that the findings of this paper indicate that if travellers face a mobile payment breakdown, they do not know how to deal with this issue. Thus, tourism operators can communicate with different parties, such as mobile payment companies, for travellers to be informed of the platform that can solve their problems in case of mobile payment breakdown. As the travel and tourism platform is an innovation in travel and tourism, crowdsourcing is an essential part of the development. The objective of research by Kohler & Rutzler (2018) is to encourage the reader to learn how to create, grow, and sustain a crowdsourcing platform in the travel context, which will be used in the research.

According to Ryu, Choi, and Cho (2018), there are six factors of traveller behaviour that hold primary importance, ie. explore, buy, meet, long, rest, and deal. The writers conduct a cluster analysis and turn up that there are six types of traveller characteristics such as shopaholic, budget explorer, long-term traveller, trendsetter, resort addict, and social tripper. This paper contributes to the segmentation of those travellers through the exploration of different usage of online platform travel services. This paper can elaborate on the market segmentation of travellers re their behaviour inside peer-to-peer online travel marketplaces. Platform operators

should chase not only travellers but also choose the products most suitable to their characteristics (Ryu, Choi, & Cho, 2018; Razli, Jamal, & Zahari, 2016). Therefore, this paper is eligible to contribute to this research to give another perspective on developing a travel platform.

**Methods**

The steps that will be done in this research are shown in figure 1.

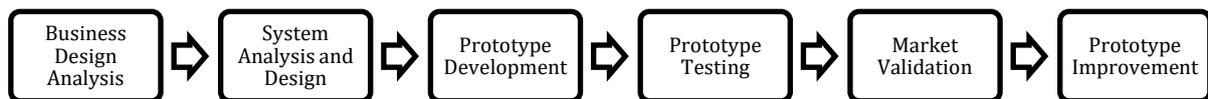| Business Design Analysis | ⇒ | System Analysis and Design | ⇒ | Prototype Development | ⇒ | Prototype Testing | ⇒ | Market Validation | ⇒ | Prototype Improvement |

**Figure 1. Research Overview Map**

Firstly, business design analysis is needed to be done to determine the requirements of the specification and to identify customers' needs. It will be the guideline for the final result of the prototype. The author uses Smart Business Map as a guideline to explore the basic business design that will be implemented to the platform (Pau, 2006). At the same time, authors also researched the needs and requirements of travellers and open trip planners by gathering data through in-depth discussions with travellers and open trip planners. After data from the travellers and open trips planners has been collected, the author needs to conclude the results of the whole discussion with features that are developed for the first phase of the prototype.

The next step that has been done is system analysis and design. It needs to choose the programming language, technologies that are used, and also the design of the database, including the entity relationships that are implemented in the development of the system. In this phase, the analysis and design are based on the software development life cycle or SDLC by developing a prototype as also done by Galinium et al. (2019). The next step is the development of the prototype and implementation of the features that have been gathered before, through in-depth discussions and competitor analysis. Finally, the prototype is tested by selected future travellers and open trip planners to test whether it is easy to use and based on their needs and requirements. The result of the user acceptance test with the prototype is used as a guideline to implement new features and improve the existing features. With this, prototype improvement can be implemented based on feedback from future users.

In the business analysis and design, the steps are as follows:

**Customer Needs Gathering:** By using the same method as Galinium & Shahbaz (2012)**,** it is done by doing an in-depth interview of open trip planners, travellers, freelance open trip planners, and travel content creators to enrich insights of the open trip planner industry and the rapid changes that are happening in the travel and tourism industry.

**Direct Competitor Analysis:** It is conducted to discover the features comparison of competitors and to add some uniqueness to the platform as added value. The analysis is able to discover two types of websites that are offering open trip planning services, one with the marketplace system and the other one as a website that provides a particular open trip planner's services. The comparison will be conducted for websites with a marketplace system such as traval.co, triptrus.com, open-trip.id, and treya.io.

**Smart Business Map:** It is an essential part of business analysis and design since it is the guideline to discovering the user requirements that will be implemented in the system analysis and design. The target market segment is defined in the smart business map, compiled through the discussions with open trip planners and active business actors such as travel content creators.

**User Requirements:** User requirements are user needs that are needed to be known to solve the problem that currently exists. It is required as a guideline for the platform's development to improve the flow of business activity by developing features for the platform.

**Business Model Canvas:** The result of the smart business map that has been able to be elaborated will be converted to a business model canvas to show the values that have been delivered and created by the platform. Nine elements will be made from the smart business map, such as key resources, key activities, key system analysis, and design will be able to be drawn based on user requirements that have already been defined before. There will be several active actors such as travellers, open trip planners, this platform, and payment gateway.

As also done by Sulaeman et al. (2016), system analysis and design steps are as follow:

**Use Case:** It is drawn based on an overview system using the flow of the overview system. Exceptions will be listed in use cases as it will cause the case not to work.

**Database Design:** It is done based on the features and user requirements that were already mentioned earlier in this section. It is also done to create an easier way to access the data from the backend.

**System Architecture Design:** Lastly, system architecture designs able to be drawn based on the technologies that will be used in the prototype development. Afterward, it will be the guideline to develop the prototype.

**Results and Discussion**

*Business Analysis*

1.  Customer Needs Gathering

The result of the first in-depth discussions to gather the needs of the user described in table 1.

**Table 1. Discussion Summary**

| No | Statement | Respondents |
|----|-----------|-------------|
| 1. | OTP marketplace is not needed | |
| 2. | OTP needs a management system | 1 |
| 3. | Tax report for OTP to encourage OTP to pay taxes | 1 |
| 4. | Add on for a request trip is needed for a traveller | 2 |
| 5. | Reviews and suggestions from travellers are needed to improve the quality of OTP | 3 |
| 6. | Reviews from OTP to travellers | 2 |
| 7. | Payment Options are needed for non-credit cardholder traveller | 3 |
| 8. | Payment gateway is needed for travellers in Indonesia | 1 |
| 9. | Verification before the payment for travellers | 1 |
| 10. | Curated media platform | 2 |
| 11. | Montage or Vlog as part of trip description | 1 |
| 12. | Trip comparison | 2 |

The most requested features by the respondents are reviews and suggestions for OTP and payment options. Reviews and suggestions for OTP can increase their service quality, can easily point out flaws for them to improve for their future trips, and improve the trust of tourists. By having various payment options, the platform is able to attract tourists, especially those that have the hardship of making full payment for a trip. With that, the development of the first phase of the platform, reviews, and suggestions will be included.

**2. Business Model Canvas**

Based on the result of the smart business map that has been already conducted to become a business model canvas, nine elements need to be focussed on such as key partners, key activities, value proposition, key resources, customer relationship, channel, customer segments, cost structure, and revenue streams. Values that the platform is able to create and deliver are defined as follows:

a.  Key Partners: There are three types of partners that the platform is able to approach: senior open trip planners that can be recruited as mentors to standardise the services of each open trip planner; freelance open trip planners as the main actors who offer the services that they are already familiar with and finally; supplier of server infrastructures to maintain the scalability and reliability of the platform.

b.  Key Activities: The key activities of the platform are initial development, phase-based development, trip participants management, connection of freelance open trip planners and tourists, and comparisons of trip packages. Therefore, the platform is able to be developed and evolved based on the needs of the users.

c.  Key Resources: Resources of this platform are website developers, this platform, and the infrastructure that will be maintaining this platform.

d.  Value Proposition: There is some value proposition that this platform wishes to fulfil, such as: payment options, trips comparison, the creation of the trips by freelance open trip planners, viewing the schedule of the trips, viewing the profile of the open trip planners, lastly rating and reviews of the trips from the former travellers who have joined the trip.

e.  Customer Relationship: The customer relationship that is able to be built in the various payment options for the available tourists. They can make full or instalment payments, thus it acts similarly to saving in a bank. Furthermore, unique and personal itineraries are ready to be created by freelance open trip planners. Those itineraries can catch the attention of tourists who want to have a unique experience of the trip.

f.  Channels: The channel of this platform is this platform website, Internet, travel blogs, and social networks.

g.  Customer Segments: This platform's customer segments are freelance open trip planners, tourists, students, and employees interested in travelling and tourism.

h.  Cost Structure: Cost structure of this platform is employees' salaries, server infrastructure, website hosting, consumables, system maintenance and marketing based on online social media.

i.  Revenue Streams: There are several possibilities of the commission that able to be taken from the platform, such as the commission of partnership with official open trip planners and participant payment administration fee. Subscription-based and general commission-based are also proposed in this platform.

***System Analysis and Design***

1.  User Requirements

Based on the recap of the discussion that was already listed in Table 1, the features that will be developed are divided into 3 development phases. The first phase of development will include a search feature, booking feature, reviews and ratings, trips comparisons, and trip management. For the second development phase, the platform will offer add-ons for each trip offered by the freelance open trip planners, chat feature, notifications of payments, and flexible trip creation

feature. The third development phase will be the payment gateway. Furthermore, a data mining approach can be used for user profiling through advertisement serving (Dennis, Erwin, & Galinium, 2016).

2. Features Comparison

Several websites are included in direct feature comparison, such as traval.co, open-trip.id, triptrus.com, and treya.io. In traval.co, every feature must be viewed when the user is already logged in. The author has tried to sign up and log in to the website, but unfortunately, due to an inaccessible activation link, the features of traval.co cannot be compared. In open-trip.id, the trip management system is available, but the new trip cannot post through the trip management system. For triptrus.com, travellers are also able to create a trip; to do this, they need to submit a bank account. Treya.io is also unknown due to a lack of information about being an open trip planner on the platform. For search features, all of them are based on destinations and dates, but open-trip.id and treya.io are based on price. Payment options for all of the platforms except traval.co are full payment and installment. However, treya.io offers Kredivo instalment for travellers who are non-credit cardholders. For comparison features, there is no platform other than this proposed platform that has the feature.

3. Mock Up Development

The first important feature of the platform is the search feature, as shown in Figure 2.
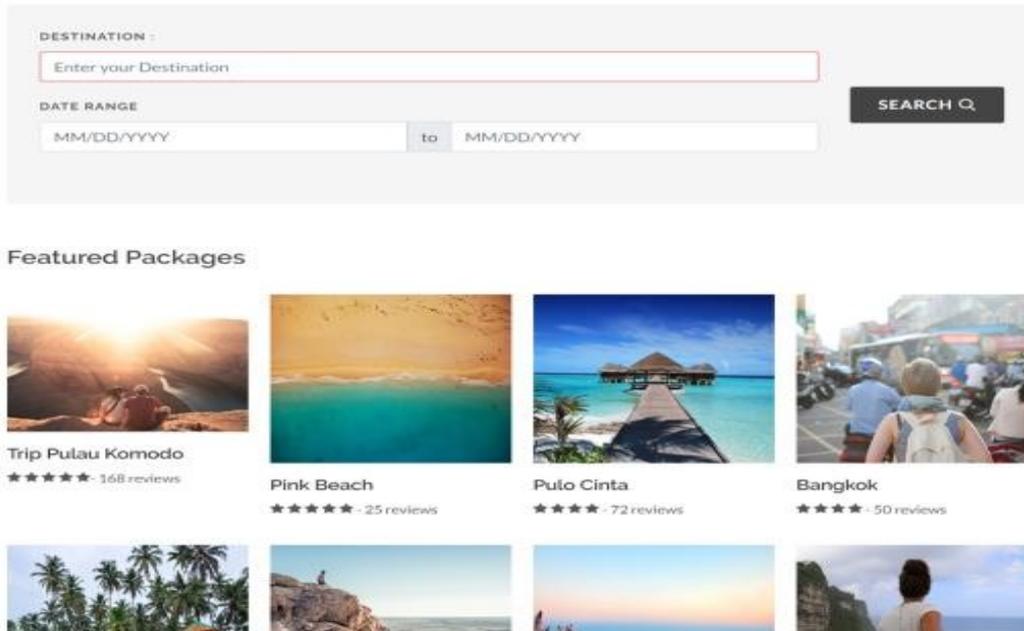
**Figure 2. Home Page of Platform**

The home page also shows the packages of trips that the tourists are able to join. Another essential feature for a freelance open trip planner is participant management, as shown in Figure 3.



**Figure 3. Participants Management for OTP**

Here the open trip planner is able to see which participants have made full payment or instalments.

4.  Usability Testing

Respondents of this platform were 13 individuals who have enthusiasm for travel and tourism, including freelance open trip planners, tourists, and travel enthusiasts. This usability testing was done to see the easiness of the platform to be used. The numbers in Table 2 represent several individuals who are divided by the score that they have given to each available feature.

**Table 2. Usability Testing of Features for Travellers**

| No | Feature | Poor | Fair | Good | Very good | Excellent | Score |
|----|---------|------|------|------|-----------|-----------|-------|
| 1 | Search trip | | | | 4 | 9 | 69% |
| 2 | Ordering a trip with the trial of full payment and down payment | | | | 4 | 9 | 69% |
| 3 | Confirming end trip clear | | | | 1 | 12 | 92.30% |
| 4 | Reviews for the trip and OTP | | | | 1 | 12 | 92.30% |
| 5 | Comparison | | | | | 13 | 100% |

The easiness of using features for freelance open trip planners is described in Table 3.

**Table 3. Usability Testing of Open Trip Planner Feature**

| No. | Feature | Poor | Fair | Good | Very good | Excellent | Score |
|-----|---------|------|------|------|-----------|-----------|-------|
| 1 | Create a trip | | | | 4 | 9 | 69% |
| 2 | Participant management | | | 1 | 3 | 9 | 69% |

The feature mostly commented about was the interface, and many respondents suggested to create more innovative interfaces. Therefore UI/UX is essential for the user based on the user click behaviour in the platform, as mentioned by Desyaputri et al. (2013). This UI/UX will be assessed using the User Experience Questionnaire (UEQ) framework (Lukita, Galinium, & Purnama, 2018) in further research. In addition to UI/UX, website quality assessment is also required to be done using gap analysis (Galinium, Herwanto, & Purnama, 2016) in further research.

**Conclusion**

There are mixed responses regarding the needs of the marketplace for OTP. For more

professional OTP, a marketplace is only a nice feature to have for their administrative works, while for amateur OTP a travel marketplace is needed to boost their sales, open new markets and create an easier way for them to manage the participants of their trips. On the other hand, the traveller needs a marketplace to facilitate their search for a suitable OTP. Features that are required for the travellers are review and suggestions because they can see other participants' thoughts of OTP and their trips. For amateur OTP, participant management is essential to manage the participants to see who joins the trips and to see which payments are still due. There are several ways to obtain revenue channels, including subscription and commission. Both ways are acceptable to freelance open trip planners, but mostly freelance open trip planners prefer a percentage of about 2.5% per trip. Although individuals and solo travellers will disrupt it, the sustainability of the OTP industry lies in the fact that it currently remains popular, especially for amateur OTP.

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