Abstract—It is known that the internet altered the business model of the travel industry. Due to the exponential growth of its users, several companies established online booking services. For instance, Traveloka.com and Tiket.com in airline ticket booking and the Rajakamar.com in hotel reservation. Online Travel Agencies (OTA) have been gaining important attention in recent years. Yet, limited literature focuses on discussing the development of such services in Indonesia. The research’s purpose was to analyze the development of OTAs in Indonesia, particularly in its services, employment, and users. The study involves 52 Indonesian OTAs. A structured interview and website-based observation had been done. The results show that only a few OTAs offer direct payment system, while most agencies located in the capital city, Jakarta. Moreover, most of OTAs is on the Business-to-Consumer state. Meanwhile, most of the founders were an entrepreneur with information and technology background. Furthermore, the most popular service offered was the tour and travel ticket sale. There are several suggestions outlined for future research and practical implications for OTAs.

Keywords—intermediaries; online travel agencies; tourism industry

I. INTRODUCTION

Indonesian E-Commerce's long history began in 1999 [3]. Five years after the first Internet Provider established, two start-ups found, i.e. Bhinneka.com and Kaskus. The next few years, Tokobagus.com and Kopitime.com also founded, and continued to 2011, other start-ups like GoJek emerged. Ones assumed that 2011 was the beginning of the E-Commerce development for Indonesia.

Some scholars argued that internet and E-Commerce change the business model of tourism industries [4]–[7]. One obvious example of this experience-based business is Online Travel Agency (OTA). In this era, the internet change and cut intermediary services carried out by traditional travel agents. Everyone can be travel agent without having to invest more in old technology, such as Computer Reservation System (CRS) or Global Distribution System (GDS). OTA not only ease the booking process, but also offers various kinds of services, such as tour packages, car rental, and travel guides [2].

Through OTAs, the services offered are more personalized and independent. Somehow, it makes the users feel more convenient about the travel experience offered. For instance, users can search destination info through TripAdvisor. They also can arrange transportation through Tiket.com or EasyBook. Meanwhile, they can reserve a hotel or accommodations through RajaKamar. They also can select their travel partner as tour guides through TriPal. While for other users who prefer a tour package, they can simply order that offered on TripTrus. Some others simply may use Traveloka to do all things above, because of it’s all-in-one traveling solution. This illustrates how everything becomes easy for someone to travel based on their demand and budget nowadays.

Previous studies by Indonesian scholars have successfully discussed electronic-based tourism in Indonesia. Wellem suggested that semantic web would be a solution to the problem of e-tourism in Indonesia [8]. On the other hand, Murtadho & Shihab concluded that the tourism sites distribution in Indonesia concentrated in Java and Bali [9]. Moreover, they found a correlation between some sites with tourist visits. The research took 159 tourism websites including government website and private business website.

In 2016, the Indonesian E-Commerce Association (IdEA) and Market Research Indonesia (MARS) conducted a study of...
E-Commerce in Indonesia [10]. The study discussed the existence of E-Commerce in Indonesia comprehensively. However, the study has not succeeded in discussing OTAs' labor and services in Indonesia yet. Two years later DailySocial collaborated with JakPat conducted OTAs Survey [11]. This study intensively reviewed OTAs in Indonesia. This study founded that 71.4% of Indonesians use OTAs in planning travel trips. Nonetheless, there is no study of Indonesian OTA yet that focus on its services, employment, and users. This research initiated to fill the gap in profiling it. The main purpose of the study was to analyze the development of Indonesian OTAs' services, employment, and users.

II. LITERATURE REVIEW

A. ICT on Tourism Industry

Information and Communication Technology (ICT) has benefited the tourism industry since the 1970s. During that era, the tourism industry was facilitated by the Computer Reservation System (CRS). In the 1980s, due to the increasing demand for airplane tickets, CRS became used more to book many tickets from various airlines. Thus, a technology called Global Distribution System (GDS) emerged. Yet, both CRS and GDS considered as complicated and not-profitable for Tour Operators and Travel Agencies [12].

Since its emergence in the 1990s, the internet has played a vital role in the exchange of information. The internet simplifies people to stay connected, and collaborate without administrative restrictions [13]. Because of its reliability in conveying information, most people in the world can't live without the internet. The internet become more than a lifestyle, it is a primary need for modern society.

B. Tourism E-Commerce

Generally, E-commerce is a business transaction through the internet and mobile application [14]. The business transaction is then better known with the term online shopping. According to [15], commodities (goods or services) offered through e-commerce can be physical goods (books, devices, furniture, household furniture etc.), digital goods (e-books, software, music, pictures, videos, etc.), and services (tickets, insurance, "like" services etc.).

Unlike E-Business that involves technology in whole processes, E-Commerce focuses more on activities involving cross-company boundaries [14]. Besides, at least there are five activities carried out through E-Commerce. First, Presence and Discovery, the activities in searching, benchmarking and analyzing information. Second, the activities of communication, collaboration, and learn, either among users or service providers with users. Third, E-Commerce provides entertainment. Fourth, it provides a platform to improve service performance. And the last, it is capable to offer more activities such as recruitment and customer service. Meanwhile, ones argued that E-Commerce activities could be in other forms. For instance, electronic payments, online auctions, internet banking, and online ticketing [15], [16].

Technology advance allows E-Commerce transaction among all stakeholders. For instance, transaction between a seller (business) and a buyer (customer) (B2C), between sellers (B2B), Business to Government (B2G), between Government (G2G), Government to Citizen (G2C), between buyers (C2C) or so-called Peer-to-Peer (P2P), and Business-to-Business-to-Consumer (B2B2C)[5], [15]–[17].

C. Online Travel Agency (OTA)

E-Commerce in tourism provides various key features that make a diverse business model. For instance, there is a feature to provide information and reviews on global, national, and local site, such as on Travel Review. There also features to reserve accommodation, tour package, travel documents, and vehicle rentals [18], [19]. Moreover, E-Commerce even offers a price comparison between various airline and accommodation, such as Online Aggregator.

To establish an OTA, it is not necessary to have many labor and large funds. Instead of "brick and mortar" company, OTA considered as "brick and click" company, where it only equipped with computer and internet. Due to its benefits, traditional offline travel agents strived to build websites to expand their network and market share [20], [21]. They compete to deliver an appealing platform for customers through digital media, websites, and mobile apps.

The concept of OTA applies to a wide range of company, ranging from micro to large-scale companies. According to Payne, small-scale companies could enjoy the existence of the internet because they should not think of complicated bureaucratic structures and levels [19]. Yet, small-scale internet-based companies also experience obstacles in running E-commerce. Five obstacles are identified, for example, the limited infrastructure, the weak distribution and payment systems; the regulation, trust, and security; the socio-cultural factors; and the lack of knowledge and skills of the workforce.

![Fig. 1. Theoretical Framework](image)

III. METHODOLOGY

This study focused on employment, services, and users of Indonesian OTAs. A website-based observation was employed to collect data of OTA's services and users. A structured interview with five OTAs has been conducted to enrich information and get valuable data to this study. A structured interview was conducted to obtain the OTA's employment. The collected data then analyzed using descriptive statistics and presented by diagrams and maps.

For sampling technique, we employed a purposive sampling method based on Google search engine results. We
identified 65 online travel service providers. However, only 52 Indonesian OTAs were selected. Several OTA such as valadoo.com, tripvisto.com, and trafyt.com were not included in the sample because they were no longer active. Entire Indonesian OTA samples in this study are frequently updated their services.

IV. RESULTS AND DISCUSSION

Up until 2018, numerous tourism E-Commerce has established in Indonesia. Even though, many of them initiated by foreign companies, locals also started the business with their innovations. Many took the role as aggregator site, e.g uticket.com, but OTA has a bigger number compared to the aggregator. As mentioned before, the emergence of Traveloka and Tiket.com ignites the development of OTAs in Indonesia. The other names were eztravel, Nusatrip.com, and arenatiket.com, which were launched between 2010 and 2012. Other examples are vokamo.com, which is based in Bali, and ever growing site visitor such as Misteraladin.com. More example, triponyou.com, which achieved recognition from UNWTO, and jadipergi.com, which offered cheap excursion program. Despite the fact that various site operated in Indonesia, Traveloka, and Tiket.com were the most popular among consumer than the other OTAs [11]. Moreover, Traveloka became one of Unicorn Enterprises in Indonesia valued more than USD 1 Billion.

Despite the growing trend, some OTAs could not keep their pace. For instance, Valadoo.com, tripvisto.com, and trafyt.com had to shut their service. The reason varies, but the main cause was the financial problem. According to Tripvisto.com CEO, they had to stop the service because of the imbalance of financial statement [22]. While Valadoo.com suffered from a high number of operational cost [23]. On the other hand, in spite of on 26 January 2018 pergi.com announced to discontinue, in the mid-2018 pergi.com was back into business after merged with Grup Antavaya and TransCorp. The main difference was it has narrowed its business line to strictly selling airplane tickets.

A. Profiles

1) The Birth of OTA and it’s location

As much as 24 out of 52 OTA taken as samples in this research, located in Jakarta. Only 14 out of 24 belong to pure E-Commerce, which means they never met their client directly. Most of Jakarta-based OTAs verified several supporting factors on OTA’s operation. First, the availability of infrastructure and technology. Internet infrastructure becomes an e-commerce precursor, and Jakarta able to provide adequate resources. The high quality of internet connection made locals easily adapted to the latest technology and online apps. Second, the human resources factor. As the capital city, Jakarta becomes the center of economy and attracts millions of labors, including IT specialist. Last, Jakarta has already become a potential technology-aware market.

Besides Jakarta, other cities such as Bandung, Surabaya and, Jogjakarta, possesses potential as growing bases of OTAs. Those cities supported by plenty of creative human resources, especially for creating innovation in a tour. One of OTAs was Yellowdoor, a startup focused on creating a personalized experience by arranging and selling tour program. Moreover, OTAs in those cities only accept online payment.

| No | Location (Province)          | Number of OTA |
|----|------------------------------|---------------|
| 1  | Bali                         | 2             |
| 2  | Banten                       | 3             |
| 3  | Special Province of Jakarta  | 24            |
| 4  | West Java                    | 6             |
| 5  | Central Java                 | 1             |
| 6  | East Java                    | 5             |
| 7  | East Kalimantan              | 1             |
| 8  | West Nusa Tenggara          | 1             |
| 9  | North Sumatera               | 1             |
| 10 | Central Kalimantan           | 1             |
| 11 | Special Region of Yogyakarta | 7             |

Meanwhile, the number of OTA in Indonesia increase gradually from 2010 to 2018. Since 2010, new booking service agency emanated almost every year. In 2010, traditional travel agencies that adopted online booking services, dominated in Indonesia. Only two OTAs offered their product fully online, i.e. 1001malam.com and klikhotel.com. Both of them used websites to offer their service in hotel room reservations. Later, in 2011, 6 website-based OTAs and two online airplane booking OTA, tket.com and nusatrip.com emerged. Still, in the same year, many other OTAs rose such as airpaz.com, triptrus.com, padiciti.com, and yuktravel.com. All of the mentioned OTAs are based in Jakarta.

Fig. 2. Indonesian OTA Growth

The year of 2012 and 2013 became a milestone for pure-OTAs establishment in Indonesia. On that years, seven pure-OTAs established and most of them are located in Jakarta. Among the seven pure-OTAs, pegipegi.com and Traveloka became the most well-known and most used by Indonesian. They had a different background. Pegipegi.com supported by PT. AMG, Recruit Holdings, and Altavindo. While, Traveloka found by technology expert e.i Ferry Unardi, Derianto Kusuma, and Alert Zhang. They experienced the difficulty in airplane ticket reservation before launched their own OTAs.

2) OTA Category

OTAs in Indonesia have two forms, the pure-OTA and partial one. Until 2018, pure-OTA is less in number compared to partial-OTA. Only 23 out of 52 OTAs arranged the indirect business transaction with customers. The partial OTAs
established travel agency that uses the internet as their business model. The 29 majorities of OTAs adopted e-commerce as their business model and located outside Jakarta. Meanwhile, the majority of pure-OTAs located in Jakarta.

Almost each OTA practices Business-to-Customer (B2C) model. The rest use either Business-to-Business (B2B) model or the combination of both models. Several OTAs that already used B2B system were airiroom.com, traveloby.com, triptrus.com, and antauatama.com. Meanwhile, Airyroom.com provides accommodation reservation by offering room owner or lodging to join as a partner. On the other hand, traveloby.com (Indonesian Travel Marketplace) uses their website to attract travel agents to be their partner. Those travel agents could interact with the customer through the platform. Meanwhile, Triptrus.com also harnessed their website to recruit tour operator. Tour operator can join them and propose their service to the user, notably tour program. Up until October 2018, there are approximately 900 providers affiliated with triptrus.com.

3) Business Scale

Agencies need at least website and server to begin or start OTA business. The website is used as marketing and transaction media, while the server is used to store consumer data. Implying OTA startup did not need to construct mega office. In other words, OTA Business do not need high capital cost.

Traveloka, for example, built in 2012 under Ferry Unardi and partners’ capability to run the business without any investor. The absence of investor resulted in small capital. Nevertheless, with the significant increase in ticket sales, Traveloka becomes the biggest travel company in Indonesia. They were granted the title “Unicorn”, means a company with value more than USD 1 Billion. So far, Traveloka was the only Unicorn OTA in Indonesia.

Majority of OTAs in Indonesia is Incorporated Companies. They are legal forced companies with an initial capital of 50 Million Rupiah. Nevertheless, the OTAs in the form of a partnership company or CV (Commanditaire Vennootschap) only have small capital. For example, mypermatawisata.com that focuses on selling tour program and klikhotel.com that focuses on room reservation were developed and managed by CV.

B. Employment

1) Founder Background

According to Sujata, the CEO of Vokamo.com, most travel agencies in Bali found by the one who specialized in tourism hospitality. They graduated from institution majored in tourism and had a minor understanding of technology. On the contrary, most of OTA in Indonesia established by a technology expert with a minimum understanding of tourism. For example, Wenas Agusettiawan, Ferry Unardi, Melleyana Tjoe, dan Minghadi Suryajaya. They graduated from foreign universities and has an IT background. The owners of traditional travel agency intend to improve their scope by digitizing the service. Thus, they need to hire IT staff.

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Fig. 3. Indonesian OTA Founder’s Background

2) Total Labour

Initially, 83% of traditional travel agencies in Bandung have 10-20 staffs according [24]. It assumed that total labor of traditional travel agencies relatively small. On the other side, OTAs have a diverse total workforce. Although some of them had a similarly small number of employees, most have hundreds. Traveloka managed 400 employees in 2015 and tiket.com hired 250 staffs in 2016.

The trend shows that higher amount of worker is related to higher valuation of OTA, for example, big companies such as Traveloka and tiket.com. On the other hand, lower and middle-level OTAs only have a small number of staffs. Rajakamar.com and ivacanza.co consecutively only had 8 and 3 labors. The differences occurred because of two factors, the company valuation and the complexity of service. The complexity of the service linearly affects the number of labor needed to sustain the quality delivered.

3) Labour Skill

The use of the internet as business transaction media leads transformation on labor skill. According to [25] a traditional agency needs staff to issue tickets, to operate computers, to manage time, and to deal with clients. Since the invention of the internet, all these are replaced by technology. Issuing ticket could be done by the clients themselves via the internet by visualization image, video, and audio.

Agencies, notably pure-OTAs, need specific skills on the field of information and technology. Besides, small pre-requisite education level at tour and travel business became higher than ever before. For instance, employees of Traveloka and ticket.com mainly had a bachelor degree. The standard of basic skills is getting higher. For example, understand the programming language, copy-writing, data analysis, and security analysis. However, partial-OTAs are still needed communication skills to convince the clients.

C. OTA’s Service

1) Service Media

The increase of operating system smartphone-based urged OTAs to develop application-based service. The drawback was the high cost in developing and managing the application. The latest data depicted only 25 OTAs had application-based service on Android or iOS, which is 14 pure-OTAs and 16 were based in Jakarta.
2) **Type of Services**

As mentioned before, OTA services are not limited to room and ticket reservation. Like the traditional travel agency, OTA is also able to managed tour document. However, there were only a few numbers of OTA for the particular service. Most services offered by 52 OTAs were tours and selling airplane ticket.

One of many benefits of e-commerce is quicker transaction process. Cashless transaction offered by financial technology (fintech) company made the online transaction possible. Few of the most notable names are OVO, Doku, PayPro, Wazymoney, and Paytren. Moreover, various banks provide credit and debit card to support the online transaction with their own system. 29 OTAs also apply and offer direct payment via their website or application. Most of pure-OTAs supports online payment service, while partial-OTAs only adopt the technology.

![Fig. 4. Type of Service Provided by Indonesian OTA](image)

**TABLE II. PAYMENT SYSTEM OF INDONESIAN OTA**

| No | Types of OTA | Booking only | Online Payment |
|----|--------------|--------------|----------------|
| 1  | Pure-OTA     | 6            | 17             |
| 2  | Partial-OTA  | 17           | 12             |

*Source: Researcher, 2018*

**D. OTA User**

Currently, the exact numbers of OTAs users in Indonesia are still unknown. [11] claimed 71.44% of 2013 users used OTAs whenever they are going to have a tour. About 76.22% respondent used Traveloka and 51.11% used Tiket.com to book airplane ticket. The number indicated the most of OTA user are more likely to choose feature provided by both companies. They tend to access OTAs service through their mobile phone and their computer.

It proves the difficulty of measure the precise number of each OTAs user. Many even declined to mention the number. In this research, the picture generated only from Rajakamar.com, Travcello.com, and Ivacanza.co, with consecutively around 500 thousand data.

Based on the interview with several OTA, a bigger part of the user is from big cities such as Jakarta, Bandung, and Surabaya. Many also shared the same experience, where cities around Jakarta contributed to their user amount.

![Image](image)

**V. CONCLUSION**

This research managed to identify OTA development until 2018. Generally, Indonesian OTAs development was positive. It is shown by the increasing number of OTAs Company perspective. The development tends to happen in Indonesia’s major city, especially DKI Jakarta. Large parts of OTA in Indonesia currently under Business-to-Consumer state with various scales.

The number of OTA’s labour depends on the complexity of the service and company intensity. Only small portion of staffs with expertise in information and technology area needed by the small agencies. In addition, most OTAs were founded by entrepreneur with degree in information and technology sector. Only small part of OTA succeeded to provide mobile phone application-based service, while others still rely on website. The most popular service was tour and travel ticket sale. As many as 29 OTA made direct payment service possible. On the contrary, 23 OTAs only provided online booking.

This research was unable to quantify the number of OTA user in Indonesia. Nevertheless, it is known that OTA users are originated from Jakarta, Bandung, and Surabaya. Up until now, the internet user considered Traveloka and Tiket.com as their main choice.

Although this research managed to know OTA better, yet there are still many questions left unanswered. One of them is concerning the labor. Although the research succeed in identify total number of labor, the big picture of labor transformation is not depicted.

Further researches were possible to conduct on OTA development in Indonesia. For instance, the reasons of traditional travel agencies adopt technology and provide online service? Did they survive without online service? Second, the research on the capability of tourism school graduate. In which way tourism school graduate deal with online service. Did they survive without online service? The next step, government had to choose whether provide more protection for traditional agency to compete against OTA. Last, it is better for government to control OTA and keep on being responsive to develop OTA opportunities in Indonesia.

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