



Information Technology Disruption of Travel Patterns in Indonesia: A Philosophical Approach

Arief F. Rachman^{1*}, Rianto¹, Devita Gantina¹, Amirul Mukminin²

¹Trisakti Institute of Tourism, Jakarta, Indonesia

²Universitas Jambi, Jambi, Indonesia

arief@iptrisakti.ac.id

rianto@iptrisakti.ac.id

devita@iptrisakti.ac.id

amirul.mukminin@unja.ac.id

*Corresponding author: arief@iptrisakti.ac.id

Abstract: Information technology in presenting travel information is developing rapidly in the millennial era. Disruption of information technology in travel patterns reduces direct interaction between tourists and tour operators (face-to-face interaction). This study explores the implications of technological disruption on the travel patterns of tourists and business travelers. Qualitative methods were used for collecting data; it was analyzed using Interpretative Phenomenology Analysis (IPA) when the travel industry was impacted by information technology. //Participants were selected based on their experiences as a tourist, tour operator, and IT programmer. The findings of this study indicate that the ontology has implications for tour business and provides information on the initial departure, during the trip, and the return of tourists. The epistemology focuses on the behavior of tourists and tour operators interacting in cyberspace through face-to-screen. The axiology allows tour operators to introduce their products to tourists more efficiently, and tourists can choose the consequences.

Keyword: Philosophy, Technological Disruption, Travel Patterns, Transformation.

1. Introduction

The travel and tourism industry in Indonesia followed the development of information and communication technology (ICT), which began with the Global Distribution System (GDS), a computing system for airlines and computing systems in the hospitality industry, such as Maxial and Fidelio. The Global Distribution System as a means of information technology in tourism is still dominated by the tourism industry, such as airlines, tour operators and hotels (Kunzmann, 2020).

This information system has not yet provided opportunities for potential tourists to have direct access to the tourism industry. However, in the 21st century, the development of information technology is very fast and easily adopted by various groups, both the tourism industry and direct potential tourists (Lam et al., 2020). Implementation of the growing use of technology in the tourism industry requires managers of tourist destinations, tourism businesses, and potential tourists to experience changes in patterns of understanding and extracting information from start-up companies (Stylos, 2020), and is known as technological disruption in tourism (Buhalis et al., 2019).

This paper aims to explore the implications of technological disruption to travel patterns in Indonesia with a rationalist philosophy approach that includes ontology, epistemology, and axiology.

2. Methodology

This study uses a qualitative approach based on the constructivism paradigm (Creswell, 2014), using double hermeneutics (phenomenology, hermeneutic, and idiographic), known as Interpretative Phenomenological Analysis (Alase, 2017). The researchers had observed and interviewed participants as subjects of research (Smith, 2017). All participants are Jakarta residents that have different variety of age, gender, occupation, and living arrangements. A variety of participants range in age from 30-52. A total two men and one woman were selected as their role in tour operator using information technology in tour reservation (P1), taking a part in tour & travel by using application online travel agency (P2), and the last, the one who create online travel and tourism digital information (P3). Biographical profile can be seen in Table 1.

Table 1. Profile of the interviewees

No.	Respondents (Pseudonym in name)	Occupation
P1	Ryan/52-year-old/Male	Tour Operator
P2	Hanny/36-year-old/Female	Tourist
P3	Ary/46-year-old/Male	IT Programmer

This study is constructed based on constructivism paradigm by using qualitative approach (Sekaran & Bougie, 2016). A contemporary method of Interpretative Phenomenological Analysis (IPA) is applied to understand the experiences of the social actors. IPA is characterized by double hermeneutics: phenomenology, hermeneutic, and idiographic (Alase, 2017; Hutagalung et al., 2022; Smith, 2011, 2017).

Purposive and snowball samplings are employed to select the participants as the participants are in a social context (Beard et al., 2016). Data are collected through in-depth interview, and observation, supported with the field notes, audio visual, photos, and secondary information. Interview and observation deemed valuable for this type of study that is built upon constructivism paradigm (Creswell, 2014). IPA underpins data analysis to philosophical process information technology disruption in tourism industry. Trustworthiness in this study considers credibility, dependability, transferability, and confirmability (Elo et al., 2014).

3. Results and Discussion

The ontology of information technology disruption in tourism travel patterns has implications for travel business actors providing information, creating demands between potential tourist, and technological information for tourism. The epistemology include transformation in ways to promote tour product, tour information availability for tourist, and digital tourism design by programmer. The axiology of the paper that it provides digital promotional material, and online financial, tourists more easily for 24-hours accessed, and interrelation between ICT, tourism, and financial sectors (See Figure 1).



Fig 1. Philosophical Approach of Technology Disruption of Travel Patterns in Indonesia

Ontology of Technology Disruption in Travel Pattern

The essence of tourism travel using the ontology approach of rationalism in the field of tourism is the thought of getting an atmosphere of body and soul that is different from the daily activities carried out by tourists. The minds and souls of tourists are able to move their bodies from where they live to a destination that has been recorded in the minds and souls of tourists through a process of communication by promotional and marketing actions from tour service providers (Pritchard et al., 2011). Participant 1 expressed a tour operator business utilized ICT:

“ICT became the center of sources tour product information for tour operator, transforming from paper-based to virtual communication (P1).”

The ontological rationalism is the essence of the desire to travel after potential tourists receive information from the five senses, which are then sent to the brain (cognitive) and ultimately create motor and affective thoughts about a tourist trip to a destination (Lanska, 2014). Participant 2 responded to the availability of tourism information technology:

“ICT-based tour resources are more variety in short of travel pattern, from departure, transit point, en-route to the destination, and drive back to origin of tourist (P2).”

The spatial model for travel patterns in Indonesia consists of three spatial elements in the Push & Pull Factor model (Rachman, 2014). This model provides an illustration that travel patterns will involve elements of the profile and character of tourists, the area of residence of tourists (tourist origin), the destination location of people who travel (destination area), and the routes of people who travel between tourist origins and destinations (travel patterns). In the end, it requires a principle of communication between tourism products that already exist in Indonesian destinations and potential tourists. The form of communication in this picture is referred to as marketing. Marketing is believed to be able to introduce tourist destinations (Cheer et al., 2020). Marketing strategies with various media can be used to achieve effective and efficient communication so that it is achieved at the stages of travel sales transactions using information technology (Xiang, 2018).

Development of information technology that supports tourism so that it forms the essence of the era of tourism disruption that also occurs in Indonesia. The nature of tourism as a service product needs to be followed up by building communication with potential tourists through modern channels, which will further strengthen the relationship between service product providers at the small and large business level (Buhalis et al., 2019), and shaped a co-creation between physical and virtual environment (Johnson & Buhalis, 2023). Participant 3's opinion on tourism industry that utilized information and communication technology:

"ICT created a technology disruption phenomenon in tour and travel business, then it raised start-up business of Online Travel Agent (OTA). On the other side, tourists have variety of choices on tour operator platform on the internet (P3)."

Epistemology of Technology Disruption in Travel Pattern

Before entering the era of disruption, there was a development of ICT technology along with the development of the times in a gradual and long process. The development of information and communication technology (ICT) in Indonesia dominates the service sector, including the tourism industry, resulting in changes in the business processes of the travel industry in which there are ordering activities from conventional ones which then transform customers into self-service in the process (Tribe & Liburd, 2016). At the level of epistemology of rationalism Rene Descartes, a British mathematician, Alan Turing in 1950 has made an epistemological study (written in a report entitled Computing Machinery and Intelligence) and experiments on knowledge and computer intelligence (known as The Turing Test) which became debate whether computers have minds too (Abramson, 2011).

The results of this experiment were also reviewed in a journal written by (Abramson, 2011), which stated that computers and humans both have bodies but both have different minds. If humans have reason, taste, and soul because of gifts from birth, but computers have reason because of the language function in the computer system. In its development, computerization which started in 1950 was supported by internet networks in the 1960s so it quickly formed a network of business, personal, government, and even military relations. At the tourism travel business level, the stage of development of the role of technology in e-ticketing, according to (Fritsimons & Fritsimons, 2006), which starts from the face-to-face contact mode (relations of prospective tourists who communicate face-to-face with staff tour operators), to face to screen (prospective tourists communicate with the information system technology owned by the tour operator) (Salinas Fernández et al., 2020). Participant 1 responded how to provide online tour resources:

"The use of internet could maximize delivering tour products, from reservation, payment, D-day tour, and returning home, in a form of e-ticket, or e-voucher, e-banking transaction, and review (P1)."

Technological developments that have penetrated the tourism service sector have resulted in patterns and service management changes. The study conducted by (Buhalis et al., 2019) shows that the development of ICT in the service sector (service product) makes consumers more independent and have many choices to buy the desired product, and ways to review the product (Islam et al., 2023). By using gadget technology and a variety of applications, consumers are directed and shaped by their behavior before purchasing tourism products. Information about tourism products is easily obtained, without asking tour operator staff, airlines, or hotel reservation departments. Prospective tourists will easily get information about the availability of hotel rooms or airplane seats, including the prices offered. The information technology offered consists of a variety of options, which can be done through applications, websites, Virtual Reality, Augmented Reality, Location Based Services, or the like (Cuesta-Valiño et al., 2020). Participant 2 expressed the direct access to tour operator on face to screen mode:

"Tourists used their own gadgets, and social media gathered the ticket price, accommodation, meals, entrance ticket, and other additional tourism information before departure, just clicking the website or the tour operator apps, we were communicating to screen, not to face to face (P2)."

In Indonesia, rationalism is accompanied by the development of tourism businesses and the like by using social media facilities using capital that are not too expensive. The emergence of start-up theory (technology-based tourism business) in the tourism sector is an epistemology in this phenomenon (Jørgensen, 2017). Participant 3 an IT programmer, agreed that the rise of features of ICT in tourism industry:

“ICT delivered a variety of choices on the display of menu that contain pictures, movie, and text. The features of the website or apps drive the tourist to free to pick tour package or non-package product; then the final process is e-banking payment (P3)”.

Axiology of Technology Disruption in Travel Pattern

The phenomenon of Indonesian tourism travel in the era of disruption begins with the development of information technology that facilitates communication between providers of tourism service products to potential tourists. This convenience is then used by the millennial generation, who are interested in small-scale tourism service businesses (startups) to compete in the provision of tourism services. Internet-based, start-ups in the tourism services sector utilize social media with only a small capital in selling their products (Vargas-Sánchez, 2018).

Start-ups in the tourism sector are the initiators of the emergence of an era of disruption in Indonesia with the support of the Indonesian government in the form of developing business incubators. The application used by the start-up is based on websites, social media, and applications by selling open trip tour packages (Shim & Shin, 2016). Especially for start-ups in the field of tourism in Indonesia, the Ministry of Tourism of the Republic of Indonesia has facilitated by holding the Start Up Wonderful Indonesia Academy program. This program will ultimately award three tourism start-up winners by providing a number of supporting funds (Ghazinoory & Hajjishirzi, 2012). Participant 1 confirmed the benefit of ICT in tour and travel business:

“Technological disruption in the tourism business benefits the tour operator business because it can minimize the staff operation fix cost, it is easier to introduce their own product, and the nature of ICT in product review, F&Q, and e-transactions (P1)”.

This ease of ICT ultimately affects the existence of tour operators or tourism service providers who are conventional and do not want to follow ICT changes. Social and technical factors that have just emerged and are used in this era of information technology disruption, such as the role of ICT experts dominate, understanding of reservation systems, ICT systems, use of pulses and Wi-fi, and others related to the era of disruption in tourism services. The rationalism of social actors and the translation of technical actors continue to strengthen along with the development of the needs of the tourism industry to pamper potential tourists with the convenience of information services. Social actors with a ratio will prefer easy and reliable information facilities through social media and internet channels, as well as technological facilities such as mobile phones with Android or iOS facilities (Chi & Qu, 2008).

Meanwhile, with the power of Rene Descartes' rationalism, technical actors during the era of disruption in the form of information technology continued to develop internet-based in the form of VR (Virtual Reality), AR (Augmented Reality), and Location Based Services (Buhalis et al., 2019), and RFID (Fennell, 2021). The philosophy of rationalism put forward by Rene Descartes is known by the slogan *Cogito Ergo Sum*, which means "I think, therefore I exist". This philosophy strengthens the function of the human mind and mind (as living beings that are given the power of thought) compared to other living things. The philosophy of rationality bridges between the translation of mystical traces and the concept of thinking while still paying attention to the nature of things that are supernatural and divine (Machamer & McGuire, 2006).

There is a very significant change in the behavior of the tourism industry and potential tourists in their understanding of a tourism product. There has been transformation from face-to-face communication (personal communication of tourism service providers with potential tourists) to face-to-screen communication (communication of potential tourists with tourism industry information systems). P2 confirmed the benefit of ICT in tour and travel business:

“Tour resources are now directly easy accessed by tourist, using gadget, PC, or laptop (P2).”

This can be illustrated that in the past (early 20th century) when prospective tourists made reservations for airplane tickets and hotels, they had to go through tour operator intermediaries, and tickets and hotel vouchers would be delivered by someone who served as a courier (messenger) to the home address or office of the prospective tourist (Fadilurrahman et al., 2021). However, in the current era, prospective tourists do not have to meet physically and face to face with ticketing and hotel staff. Prospective tourists can immediately order, confirmation, and make payments using the tour operator or airline system using an ATM or credit card. Communication between prospective tourists and service providers is only done by using an information system. Thus, this phenomenon is referred to as the era of disruption. P3 expressed the benefit of ICT in tour and travel industry:

“The programmer are more creative in the display of website content, then also to connect between suppliers in tour industry, such reserved transportation (air, land, and water), accommodation, meals services, tourist attraction, itineraries and souvenir shops.”

There are social actor and technical actor that have just emerged and been used in this era of information technology disruption, such as the role of ICT experts who dominate, understanding reservation systems, ICT, and Wi-fi, and reduced (lost/lost their role) (Yuliar, 2009), such as ticket couriers, and even travel agency business institutions that only sell tickets.

4. Conclusion

The ontology of technology disruption has developed rapidly along with the nature of information technology-based tourism. Computing data on prospective tourists (demand), travel patterns, and tourist destinations becomes the essence or ontology of this phenomenon. The epistemology of tourism information technology knowledge begins with various studies of the development of information technology in the management of tourism services. There is a change in knowledge about service, from face to face to face to screen, as an epistemology in the era of disruption, presenting various software and hardware used.

The axiology of Indonesia's tourism disruption era can be used to form a social construction that involves both social and technical actors in running start-up businesses Online Travel Agents (OTA, such as Traveloka), accommodation service providers (example: Rajakamar.com and others), and delivery providers. food (such as Go-food). Future research on the impact of digital tourism legitimacy co-creation in tourism industry should be held as a development of disruption technology in tourism research. Nevertheless, personal services are still needed in some areas of tourism sectors, and it needs legitimacy of business operational.

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