

Chapter 5

Exploring Digitalization-Driven in Innovative Eco-Tourism Sector



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Abstract Digitalization in community capacity-building programs is part of sustainable tourism development. The eco-tourism village must define its concept and potential to be developed, as well as facilitates a conducive environment for growth planning. The advent of information and communication technologies has led to the digital economy that required a major transformation of eco-tourism sectors by redesigning all processes innovatively. Information technology is a combination of technology, infrastructure, computer, and electronic systems used to input, store, process, reproduce, and transmit data between two points, namely the data source and the data target. In other words, it is a system of digital data flow from sender to receiver. From here, it can be understood that information technology help to create a digital communication system between two or more parties that can be applied in eco-tourism sectors. This chapter aims to reveal the role of digital in eco-tourism sectors such as offering products and services. Through digitalization, the user (tourist) will experience their personalized world when the devices are interconnected with all different eco-tourism providers.

5.1 Processes of Social Innovation in Eco-Tourism

Innovations aim to protect the existing competitive advantage to increase efficiency and effectiveness, and sustain it, within the organization towards the environment, society, and personnel. Innovation in this context offers a solution to the problems of jobless, environmental pollution, and poverty in the local community and causes local development and consequently social change called social innovation (Živojinović et al. 2019). Social innovation raises the standards of living sustainably among the local community, increases individuals and groups' abilities, and increases the production capacity of organizations. Moreover, social innovation plays an important role in eliminating inequalities, causing social change, and providing sustainable development (Diepenmaat et al. 2020). Usually, for-profit organizations or non-profit organizations trigger social changes with their personnel, community, and environmental innovations. Social innovations cause social change as they change the socio-economy of the local community (Rao-Nicholson et al. 2017). Through the process

of social innovation, the local communities are transformed into social entrepreneurs in their environment, thereby ensuring rural and regional development.

Organizing environmental, community, and personnel innovations in the places where organizations operate, and engaging in social innovation activities are important for organizations' transformation, local community benefit, and social development (Wittmayer et al. 2019; Tracey and Stott 2017). Phills et al. (2008) agree that social innovation is a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals. Meanwhile, Ashoka (2018) believes the methodology of social and economic value creation is at a system level of change that addresses the root of the social problems. This process of social innovation is associated with the application of innovative, practical, sustainable, market-based approaches to benefit society in general and low-income or underserved populations in particular. Eco-tourism not only builds social entrepreneurial skills at a local level but also links community members to the larger world in ways that create knowledge, understanding, and appreciation of other people (Aksoy et al. 2019). Social innovation is not limited to the realm of social entrepreneurship but stretches to encompass a wide range of social fields that may have little to do with entrepreneurship in a conventional business context that can reach beyond the boundaries of the public, private, and civil sectors. Thus, eco-tourism is recognized as a promising field for social entrepreneurship and social innovation due to its potential for stimulating both social and financial added value towards transformation or solution to social problems (Oeij et al. 2019; Aksoy et al. 2019). Social innovation is effective to improve the performance of industries like eco-tourism, which is characterized by low pay, hard working conditions, and high labor turnover (Gallouj et al. 2018).

Many of the current social innovations in tourism are combined with web-based technologies such as social platforms, which offer opportunities for individual exchanges as in the sharing economy. These technical developments have resulted in new social practices as online social networks are transformed into corporeal social networks as the hospitality/tourism exchange takes place (Alcaide Lozano et al. 2019). Innovative use of technology may also lead to new concepts of travel collaboration. One example is the possibility of using mobile apps to create temporary, place-based social networks of previously unconnected people. As part of a wider project on the digital economy, such a web-based mobile application was developed to facilitate the collaboration between tourists at a campsite (Mosedale and Voll 2017; Pronello and Camusso 2017). The collaboration included the sharing of information (which generated an initial sense of community amongst the network users) but also offers for help such as lifts or going shopping (Akdu 2020). Such collaborative initiatives facilitated by technology incorporate not only the consumption of tourism but also the exchange of people and cultures to strengthen communities as well as social/regional development.

5.2 Digitalization for the Eco-Tourism Development

Rural eco-tourism development is a part of the village development in terms of offering unique packages, traditional character, and function as a small-scale village that was originally controlled by the village community (Gong et al. 2020; Wei 2021). These eco-tourism activities not only contribute to the rapidness of business activities but also increase economic growth, increase social inclusion, and develop cultural and social activities that form the basis of regional development. The transformation of digital innovation has revolutionized eco-tourism business activities, products and experiences, business ecosystems, and tourist destinations. As a result, this transformation changes the roles, relationships, and competencies of producers and consumers. The digital platforms help to increase the variety and volume of products, services and eco-tourism experiences including transaction speed, market awareness and market feedback (Sarkar and George 2018; Bansal et al. 2019). In eco-tourism sectors, digitalization plays an important role to tourists, who rely on digital tools to search, order, and pay for the services such as lodging or supporting facilities within a social structure that incorporates procedures and traditions. The rural community has several responsibilities and functions that are seen as economic diversification, not only in agricultural production but also in the development of eco-tourism and entrepreneurship (Saseanu et al. 2020). Through this development, digital provides efficient tools for eco-tourism agents that enable customers to identify, personalize, and purchase products (Cave and Dredge 2020). In addition, digitalization changes the business model and leads rural communities to become digital businesses and workplaces, and transforms the process to create a digital environment.

Also, digital use supported infrastructure in formulating the strategy for sustainable eco-tourism development (De Lange and Dodds 2017). Eco-tourism act as an information-intensive sector, associated with extensive and dynamic information search, in order to make and compare choices. To ensure sustainable eco-tourism, it has become a necessity for promoting eco-tourism in the online environment effectively (Sarkar and George 2018). Thus, they required a number of activities, tourism portals, creation of presentations, optimization for search engines (SEO), campaigns of e-mails, and appearing on various social networks (Facebook, Twitter, Youtube, Instagram) (Arora et al. 2019; Gössling and Michael Hall 2019). The digital platform should provide a friendly interface and relevant content to visitors' needs, where to find information structured about a wide range of eco-travel services including (flight information, car rentals and hotels). This platform must be exciting and updated to attract the users (eco-tourist) to return again. Digital brochures can be made available in real-time to customers across the globe, with details information regarding the packages (Ponnappureddy et al. 2017; Benjamin et al. 2021).

5.3 Digital for Eco-Tourism Product Marketing

The use of digital is the core of the business. Eco-tourism marketing can facilitate and speed up the distribution of information and announcements to the public if it utilizes the use of digital. It will be an additional method to existing conventional business marketing methods (Vidickienė et al. 2021). Digital applications in business are among the catalysts to the success and effectiveness of business operations. Specifically, the use of digital is necessary to create a professional distribution of information; effective marketing; catalysts to business activity; a quick, easy and authentic way; and efficient and information-rich access (Tiago et al. 2021; Rahmadian et al. 2021). Digital or ICT is needed in making informed decisions related to the 5W-1H elements (what, where, who, which, when and how) of a business including conditions, regulations, and terms (Clarizia et al. 2019). In today's new economy, the knowledge-based economy, speed and time are important and a must. By using digital platforms such as websites, SMS and e-mail, those involved in business activities will not be left behind, both in terms of access to information and its benefits. It provides tools and applications for managing ecotourism destinations, thus, laying the foundation for creating specific policies towards the development of environmentally responsible ecotourism (Katsoni and Dologlou 2017; Almeida-Santana et al. 2020). Entrepreneurs need to understand and look ahead to the impact in decision-making. So, references and guidance are a must. The knowledge or knowledge possessed by an entrepreneur is fundamental, and how to acquire and acquire additional knowledge is through efficient and effective access to information. The information obtained by the customer or potential customer must be authentic and in line with current developments so that the customer is not confused (Ngoasong 2017). Therefore, entrepreneurs must understand digital or ICT. According to Jadhav and Mundhe (2011) information technology helps the tourism industry as follows:

1. *Marketing*: It has a strong impact on hospitality and tourism. A customer's first experience with a business begins with a visit to a company's website. It contains photos and reviews from past customers. Information technology is used for online advertising, editorials and newsletters, special websites to provide specific information, regions, search engine marketing, email promotions, word of mouth through social networks such as blogs with customer reviews, communities such as free Flickr, websites photo sharing (Tiago et al. 2021), YouTube video sharing site, discussion groups and Facebook. In particular, the use of advertising, social media, blogs, and online purchases can be done effectively to help customers make better decisions, especially when competitors do the same.
2. *Computer System*: It allows communication between organizational networks with various locations to be connected more easily. It also helps keep staff on the same site and makes it easier to access information, making the customer experience better. Inquiries from customers, update information, and bookings can be found in one system (Kazandzhieva and Santana 2019). The booking system, for example, can be done efficiently and quickly. Studies show that more

than half of those who travel make reservations online when they have a choice. So, the real time system used for sales and bookings is worth it.

3. *Mobile communication*: Tablets and mobile smartphones have replaced desktop computers, making them almost extinct (Wörndl and Herzog 2020). This is very helpful as many travelers carry some type of mobile device with them while traveling. This helps the hotel business ensure customers are kept informed of changes and delays in their bookings, submit offers, and upload ads using a global ranking system.
4. *Creating a customer experience*: Information technology provides an initial online experience. For example, web content based on pre-trip experiences broadcast audio or video clips online. Audio tours are delivered for use on a site via an MP3 player. It also allows interpretations to be made via a mobile phone or handheld device. Information technology also connects customers with experience in an area. So, we can recommend some of the visits or experiences or other things to be seen or felt on a website (Buhalis and Sinarta 2019). In this way, we can help customers understand how they can be a part of a larger visitor experience.

There is still a lack of research to determine the popularity and effectiveness of a marketing medium. Perhaps, the best option is by way of combining any type of application to suit a particular situation, as follows:

Website: The website uses a method of presenting information using online documentation in a way that can attract attention. Many travel companies use websites as a place to promote their business. An attractive and simple site will attract the attention of internet users (Mohseni et al. 2018). In the future, access to the internet will not be limited to computers only, but it can be used through other media such as television. To market ecotourism products, relevant websites can be built to show the credibility and authority of a product or place. Elements that need to be emphasized when building or maintaining a website are elements such the background of the place/product; related pictures; facilities around or places of interest around the destination; location map; and booking form (Grilli et al. 2021). The use of websites as a tool to promote ecotourism is very important. For example, its role in promoting homestay marketing is recognized by scholars (Zeng et al. 2020; Diwyarthi et al. 2020; Lakmali and Kajendra 2021). New media offer a cheaper way as a marketing vehicle as well as provide more opportunities for consumers or information seekers to interact. Today's marketing campaigns must incorporate social media as one of the vehicles in ecotourism marketing campaigns in all countries of the world. Information seekers who are also potential customers of ecotourism products need an information-seeking approach that is more personal, intelligent, creative, and interactive in communicating (Chatterjee and Dsilva 2021). Websites can help the marketing of ecotourism products to be more competitive if they can offer a display of interesting, creative content and encourage interactive communication. Important features need to be given serious attention when building and maintaining a website. In this context, an ecotourism product website needs to be dynamic in nature while maintaining its basic appeal (Tetiawat et al. 2018; Hoang et al. 2022). Examples of existing

websites can be studied carefully and elements that are considered interesting can be applied in the websites we build.

When the desire arises to go on vacation or travel, among the first things to do is to find information about the place to visit, accommodation, transportation tickets, currency exchange rates, and so on. Websites are an important source of information that customers want (Vinzenz et al. 2019). This also applies to those who want to find information related to ecotourism products, for example, the homestay website which is an important and influential source of information to promote and encourage tourism (Grilli et al. 2021). This leads to the concept of digitalization or e-tourism (e-tourism), which is the use of information and communication technology (ICT) by tourists and entrepreneurs to change the processes and value chain in the tourism industry (Chatterjee and Dsilva 2021). E-tourism consider as the pursuit of traditional tourism activities, through electronic methods, particularly the internet (Dolnicar 2020; Mohseni et al. 2018). The development of e-tourism is now changing the way advertising, marketing and resource management. Taking the example of home stay products as a leading ecotourism product, in a study conducted to identify the top 10 home stay websites listed through Google search engine, informed how the power of marketing using ICT can reach the end of the world with just one click. Among the “*inapdesa*” product websites that can be listed are as follows:

1. <https://www.homestay.com/malaysia>

This website is in the top position and the website was founded in 2013 by two veterans of the tourism industry, namely Tom Kennedy and Debbie Flynn to make homestays a popular choice of mainstream tourism accommodation. The website lists a total of 50,000 accommodations in over 160 countries around the world, with 202 accommodation options in Malaysia. Using the full English language, this website lists accommodation options like boarding houses, and not “*inap desa*” according to the concept of the Ministry of Tourism, Arts and Culture Malaysia (Fig. 5.1).

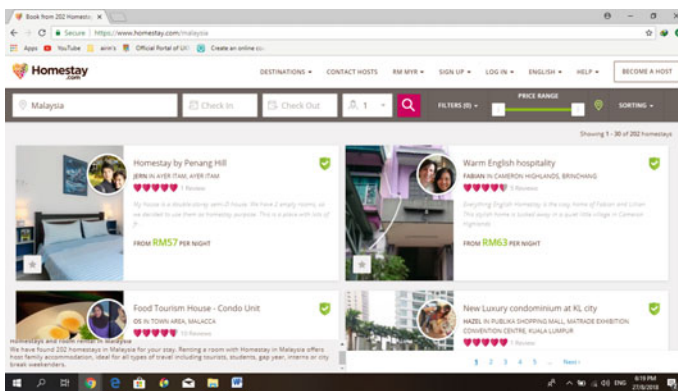


Fig. 5.1 Example of a commercial boarding house website in Malaysia

2. <https://www.booking.com/homestay/country/my.html>
This website is an international commercial site founded in 1996 in Amsterdam, The Netherlands. Booking.com now has more than 17,000 employees in 198 offices in 70 countries around the world, in 40 languages, and 231 destinations worldwide. On this website, there are 1,629 accommodations listed for Malaysia (Fig. 5.2).
3. <https://www.tourism.gov.my/niche/homestay>
It is the official website of the Ministry of Tourism, Arts and Culture, Malaysia, which lists homestays as one of the tourism products to be offered to 25.9 million tourists who came to Malaysia in 2017. All homestays placed under the Ministry’s umbrella are screened and selected to meet the criteria designated (Fig. 5.3).
4. <http://thesmartlocal.com/read/family-homestay-destinations>
The commercial website is based in Singapore and was founded by Bryan Choo, an entrepreneur with an interest in traveling, enjoying food, writing and producing films. He views websites like TripAdvisor as writing reviews of tourist spots based on the views of foreigners, and thus are unlikely to represent the real experiences of locals. This site is visited by most Singaporeans, who give their opinions on places, food, customs and interesting environments in Singapore and Malaysia (Fig. 5.4).
5. <http://www.malaysia.travel/en/us/experiences/a-bit-of-culture/homestay>
This website is part of the official website of the Ministry of Tourism, Arts and Culture which lists 35 homestays throughout Malaysia that are under the auspices and registered under the Ministry. Based on the home stay concept used by the Ministry, visitors will stay in a guest room in a village house together with the host. The village will be registered if there are at least 10 houses that open their doors to outside guests. The home stay management in the village must arrange programs and activities featuring local culture and arts to be felt

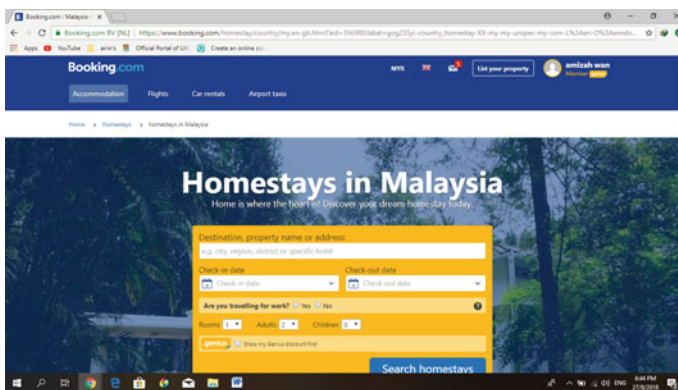


Fig. 5.2 Example of an international commercial boarding house website

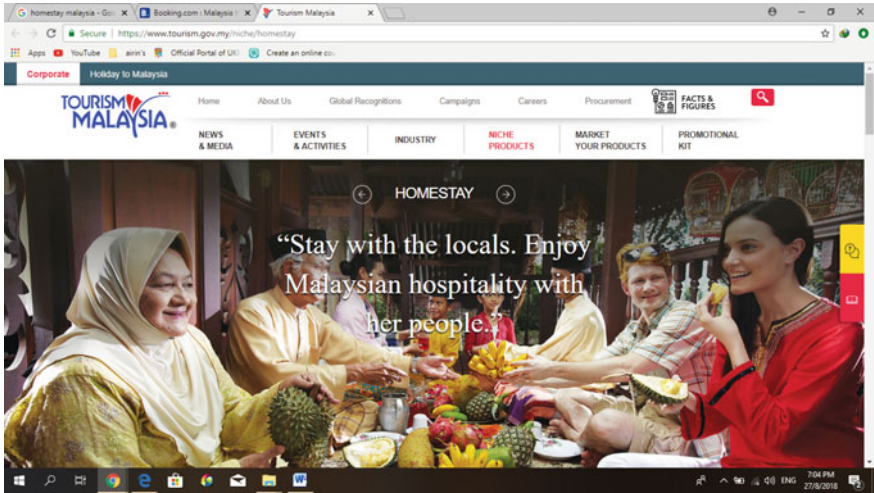


Fig. 5.3 “*inap desa*” website of the Ministry of Tourism, Arts and Culture Malaysia

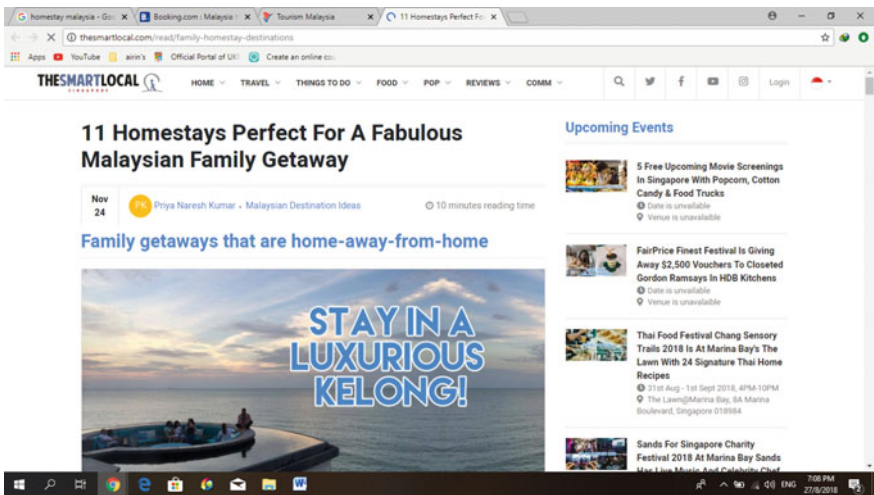


Fig. 5.4 Example of a commercial “*inap*” house website in Singapore

by outside guests. This concept does not mean any accommodation such as boarding houses and chalets (Fig. 5.5).

6. https://www.ibilik.my/short_term_rentals

This website considers as the largest website in terms of room rental/home stay/short term in Malaysia, with over 100,000 room listings posted online throughout Malaysia, including in Kuala Lumpur, Ampang, Bangsar, Cheras, Setapak, Damansara, Petaling Jaya, Subang Jaya and Penang. The link to this

URL lists various home stay options in Cameron Highlands, Penang, Kota Kinabalu and Melaka, accompanied by a photo display and yesterday’s rental price (Fig. 5.6).

7. <https://www.airbnb.com/s/Malaysia>

The Airbnb site is well known around the world and also lists options from Malaysia. The URL link takes the user directly to an interface display that asks for information on the date of the visit and the number of visitors who wish

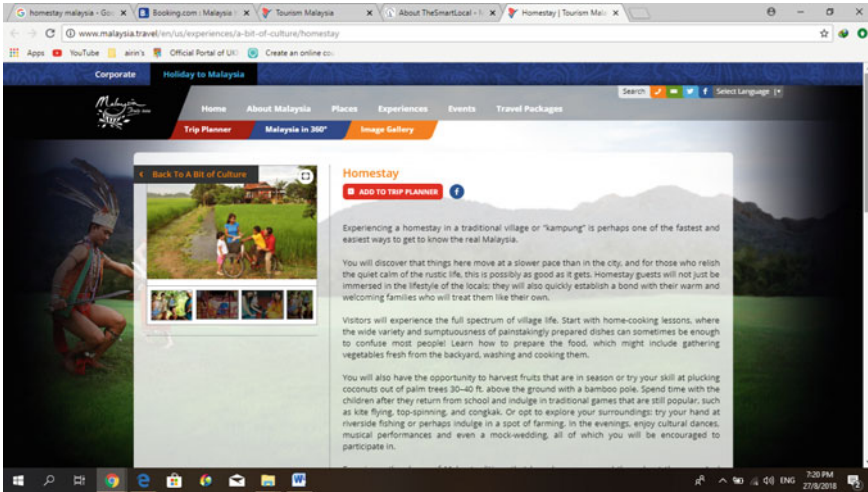


Fig. 5.5 Example of a website that displays homestay information in Malaysia

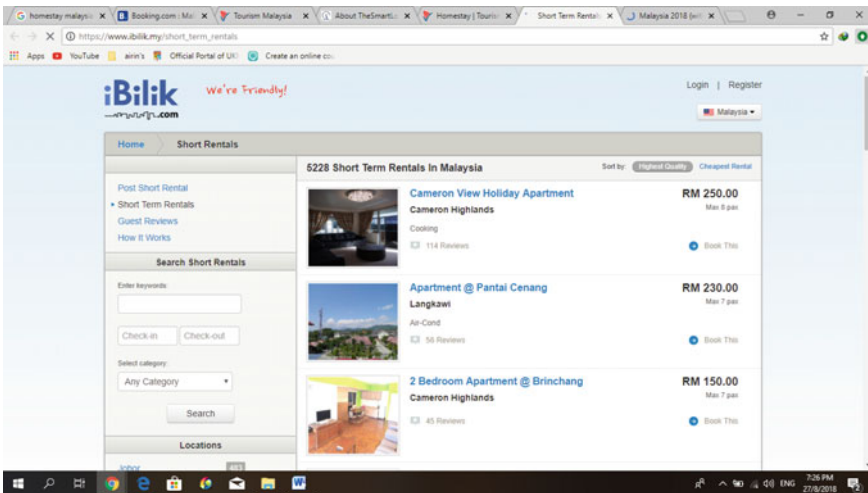


Fig. 5.6 Example of a commercial “inap” house website

to book a room. At the bottom is a wide selection of rooms or apartments for rent, followed by tenant reviews. However, home stay options according to the official concept of this study were not found (Fig. 5.7).

8. <https://caricarihomestay.com/>

This website is the effort of Makrokosmos Resources Sdn Bhd which created this search directory specifically for smartphone users and social media such as Facebook. After finding the desired accommodation information, users can contact directly with the home stay operator, without going through a middleman. Users can also get discounts from bookings through this site (Fig. 5.8).

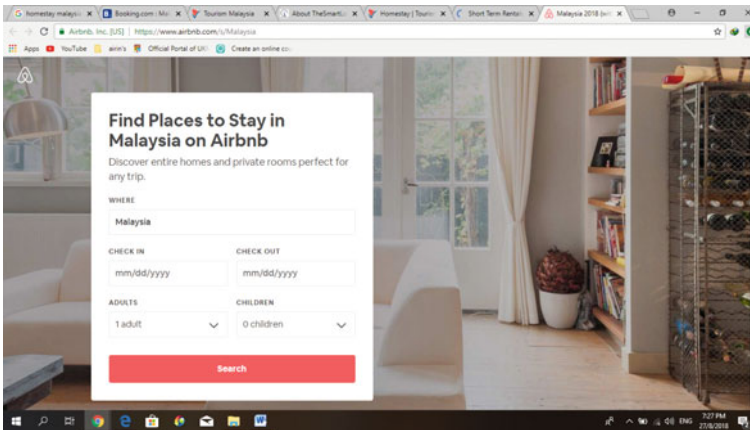


Fig. 5.7 Example of a commercial “*inap*” house website

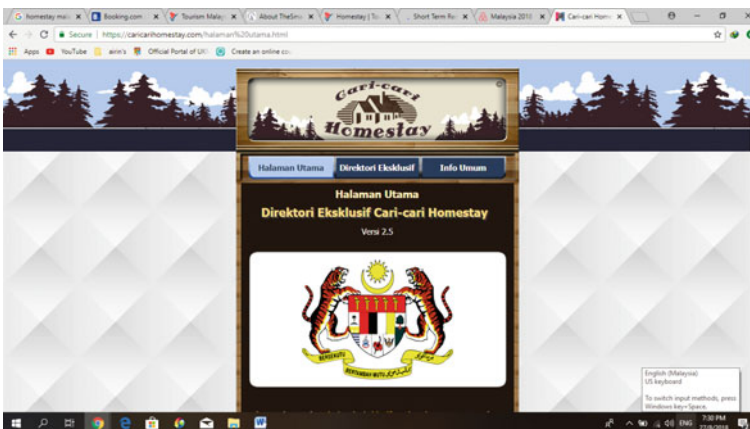


Fig. 5.8 Example of a commercial “*in a*” house website

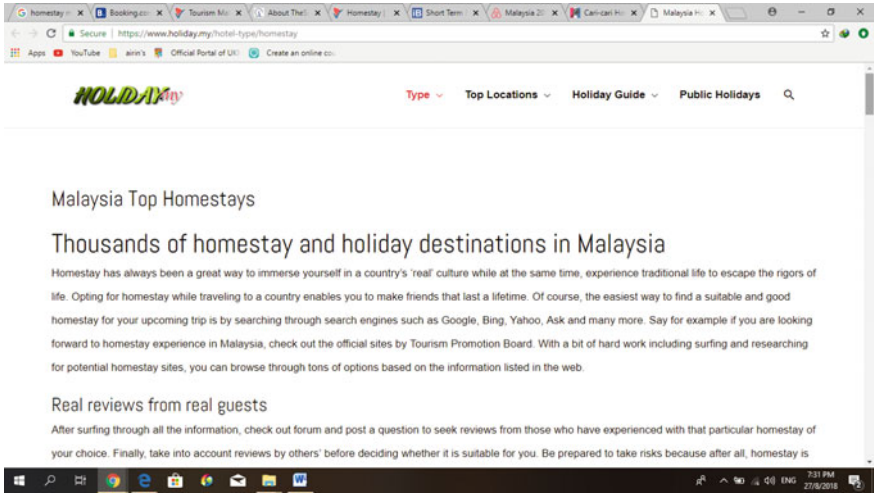


Fig. 5.9 Example of a commercial “*inap*” house website

9. <https://www.holiday.my/hotel-type/homestay>
 The next website was developed by Hong Kong-based Asia mind Network. Homestays are said to be the best way to enjoy and appreciate the local culture and life, as well as the best opportunity to forge lifelong friendships. The site also gives some tips to browsers who are looking for information, for example booking early to avoid disappointment. The site also includes a school holiday calendar to help users make decisions (Fig. 5.9).
10. <https://www.mudah.my/Malaysia/Accommodation-all-9020>
 Mudah.my is operated by 701 Search Pte. Ltd. also based in Singapore and owned by Telenor Group of Norway. The mudah.my website focuses on the sale and purchase of goods, but there are also sellers who offer room rental and private home stays. Accommodation options are also many, namely almost 10 thousand rooms, apartments, and homestays (Fig. 5.10).

Apart from the “*inap desa*” website, some well-known websites that also market the world’s ecotourism products are as shown in Table 5.1.

SMS/Whatsapp/Telegram: This method should be done between members of the group and disseminated using the EWOM (electronic word of mouth) technique. The presentation of the announcement was done briefly by including the web address as an extended reference. In this business in the future, a systematic form of application and SMS notification system that is suitable for the business needs to be created with features as outlined by the management. For ecotourism-related products or places, a lot of information can be disseminated about their benefits, beauty, and uses via SMS/Whatsapp, or telegram. This type of marketing requires the skill of writing effective ‘copywriting’ sentences.