

Original Article

Framework for Designing Geomarketing Technology-Based Digital Marketing Tools

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Abstract: Digital marketing research is still relatively young and has a prominent place in the tourism and marketing literature. The research focuses on literature reviews and research into the use of digital marketing tools such as websites and social media. Digital marketing carried out through social media, websites, geotargeting and geofencing has service independence according to their respective contexts. Digital marketing using this technology needs to be integrated. To synthesize knowledge about marketing technology, it needs to be described in a marketing framework as a model to support research that focuses on design tools and marketing design. This research aims to propose a framework for designing geomarketing marketing tools. This framework serves as a model to provide an overview of the work flow of geotargeting service systems and geofencing services in a service system integrated into the geomarketing service system. This research applies the literature review method as it plays an important role in science to synthesize knowledge, reveal interpretable patterns and generate new frameworks. The result achieved in this research is a framework for designing digital marketing tools. The resulting framework provides an overview to support researchers and management conducting research and development of digital marketing tools.

Keywords: Design, Digital Marketing, Geomarketing, Geotargeting, Geofencing.

I. INTRODUCTION

Location-based marketing, such as geomarketing, has become an ideal technique for understanding tourists in planning visits to tourist destinations (Peñarubia-Zaragoza, 2019), as has been done by analyzing strengths and weaknesses through empirical studies of the geomarketing application to territorial segmentation in coastal tourist areas. Geomarketing is the integration of geographic and market intelligence; thus, the main obstacles in implementing geomarketing are such as limited access to demographic data and limited research on geomarketing location-based marketing tools or applications (Melnik & Nyzhnyk, 2018). There have been companies that have experienced the impact of geomarketing on company growth and decision-making in determining business locations (Ramadani et al., 2018). Geomarketing can be used to gain knowledge related to decision-making actions on company marketing, such as food marketing (Nunes et al., 2014).

Geomarketing is defined as location-based marketing applications or tools (Campo et al., 2000; Ford et al., 2005; Cliquet, 2013; Garcia, 2017). Geomarketing technology may influence location-based marketing strategies (Baviera-Puig et al., 2016); therefore, it is extremely important to develop mobile-based marketing service systems that are easy to use (Jaradat et al., 2015; Dolzhenko, 2017; Balogun & Ogbeide, 2020). Through geomarketing, users can be targeted according to the time and geographical location of users using marketing tools (Madleňák, 2021), through available digital technology (Niveditta & Padmavathy, 2017) and help users move faster to search and find what they need (Batra & Keller, 2016). Geomarketing is a combination of marketing using information technology and geographic location (Tkhorikov et al., 2020). From various literature, it can be said that geomarketing requires software components for data visualization, digital maps, and potential data for marketing (Lichtner, 2015) as the basis for a successful business in the era of digitalization and rapidly changing markets. Important terms in geomarketing are geotargeting and geofencing.

Geotargeting means marketing to a specific set of users based on their more general location, such as by postal code, city, or country (Bjork et al., 2021), using geolocation (Biteniece & Van Sant, 2019). Geofencing is the automation of monitoring people's movements within a certain geographic area to determine their location (Adegbenjo & Emmanuel, 2016). Geotargeting is different from geofencing technology, where geotargeting is used to send content to users according to a predetermined geographic location. In contrast, geofencing creates location boundaries and triggers actions on the user's mobile device. Geotargeting and geofencing are important research topics due to the limited research on them.

Research in the field of digital marketing is still relatively young and has a prominent position in the tourism and tourism marketing literature (Pike & Page, 2014). The resulting research findings are in the form of a definition of digital



marketing, and the use of tourism digital marketing tools such as websites, social media, chatbots, and virtual reality carried out through literature reviews between 2016 and 2020 (Chamboko-Mpotaringa & Tichaawa, 2021). In digital marketing and strategic planning, there are main areas highly suitable for online marketing in maximizing communication through digital marketing and its strategies for an active and effective website presence (Piñeiro-Otero & Martínez-Rolán, 2016).

In accordance with the described background based on references from several researches, there is a gap in research on digital marketing strategies. Digital marketing carried out through social media, websites, geotargeting and geofencing has service independence according to their respective contexts. The issue is how to synthesize or integrate this knowledge in a digital marketing framework as a conceptual model to support research that focuses on marketing service design. This research aims to propose a framework for designing geomarketing service systems. This framework serves as a model to provide an overview of the work flow of geotargeting service system and geofencing service in a service system integrated into the geomarketing service system.

This research applies the literature review method as it plays an important role in science to synthesize knowledge (Rocco & Plakhotnik, 2009; Brocke et al., 2009; Luft et al., 2022). Literature reviews are a very important method for revealing interpretable patterns and generating new frameworks (Paré et al., 2015). This research, by conducting literature reviews, produces a framework for geomarketing service system design. A framework that provides an overview to support researchers and management conducting research and development of location-based marketing service systems.

II. LITERATURE REVIEW (SIZE 10 & BOLD)

Organizations have chosen a digital marketing mix, which is an online marketing approach like social media marketing, search engine optimization, content marketing, influencer marketing, and affiliate marketing, as the most desired digital marketing methods (Kumar, 2021). Implementing digital marketing requires consistent innovation in service system design, content and digital media selection by digital marketers. Dynamic content will lead the way for tourism industry digital marketers to be more effective. The term digital marketing first appeared in the 1990s as a very different world at that time. Then in 1999, Web 2.0 appeared, which was created by Darcy DiNucci but was not really popularized until Tim O'Reilly in 2004 popularized it and websites began to be created. Websites then become social places, enablers for online communities (Kingsnorth, 2016).

Digital marketing strategies are used to provide consistent direction for marketing activities carried out online, integrated with other marketing activities to support overall business goals. Digital media is different from digital marketing. Digital media refers to communication aided by content and interactive services offered through different digital technology platforms such as the Internet, online, mobile phones, and interactive television. In the meantime, digital marketing is the application of Internet technology as well as digital technologies associated with conventional communication to accomplish marketing goals (Chaffey & Chadwick, 2016).

Digital marketing is a tool in the tourism sector that allows tourism to be in the public eye at an international level. Based on investigations, it shows how relevant digital marketing is and is most widely used to support marketing strategies thus, there is an intention to improve the tools available for the growing tourism market (González et al., 2019). This technology has influenced all business marketing processes before, during and after the development of tourist destinations with unlimited physical distribution of information. Information distribution is carried out faster, better and cheaper without considering geographical location and time constraints. Therefore, it is extremely necessary for the tourism business should completely accept and apply a variety of digital marketing methods to achieve client fulfillment and profit (Phanos, 2018).

The scope of research in the field of digital marketing can be broadly divided into Websites, Search Engine Optimization (SEO), Email Marketing, Online Business Directories, Social Media (Cook et al., 2019), Pay-per-Click, Content Marketing, Mobile Marketing, Marketing Analytics, Affiliate Marketing (Gustavsen, 2022). Meanwhile, according to John Cashman in his book entitled the Big Book of Digital Marketing, digital marketing has become a separate industry which can consist of the domains of Search Engine Optimization (SEO), Content Marketing, Websites and Social Media Marketing. SEO has two categories: the first is configuring a website so that search engines like Google can index it properly, and the second is ensuring the website created is in the top search results when someone searches through Google. Content Marketing is marketing through the creation of videos, articles, electronic books, how-to guides, image galleries, infographics, or other forms of media which can be distributed in several ways. A website is a marketing tool that must be designed with a bold look and feel to make the users easily use it and the many functions provided. Social Media Marketing is a marketing way to build and maintain more personal relationships with potential customers to generate communication traffic via websites (Cashman & Treece, 2013).

According to Jones et al., in their book entitled internet marketing, they state that internet marketing is marketing carried out online using internet technology through websites by displaying advertisements and other activities such as email

and social networks (Jones et al., 2021). Every component of internet marketing is digital, meaning that information goes around digitally on a computer or comparable device, although the information can be delivered offline. An online marketing strategy center is a website which must be designed using good principles to make it look professional and easy to access and navigate. The relationship that occurs on websites with all research topics about internet marketing can be seen in the mind map in Figure 1 below.

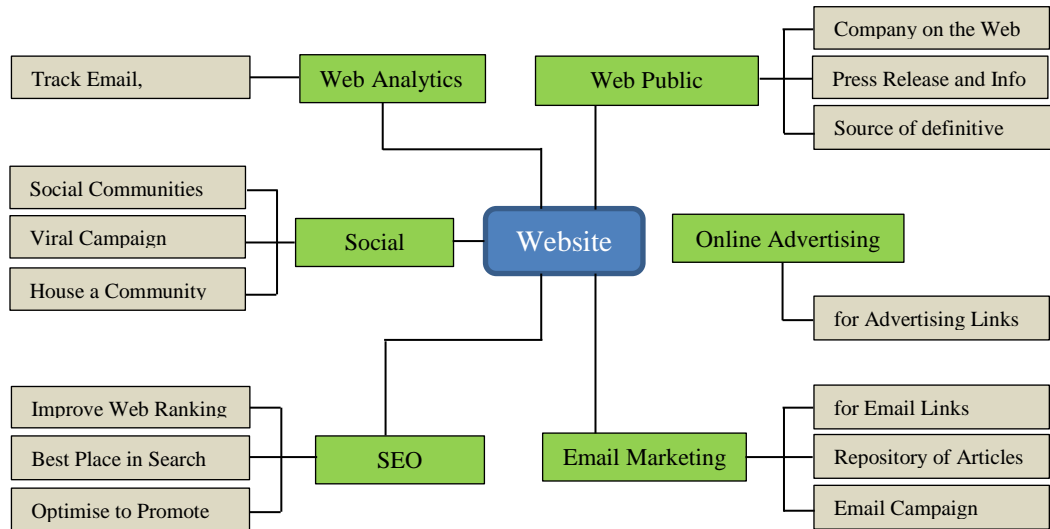


Fig. 1 Mind map of research topics related to websites (Jones et al., 2021)

Apart from websites, mobile marketing has become an integral part of internet marketing due to the rapid development of mobile technology and the increasing use of mobile devices to search for information online, as well as for social interaction. Mobile marketing requires location-based services that are integrated into websites as an internet marketing strategy (eMarketingInstitute*, 2018). Mobile marketing has been taking over marketing strategies slowly but surely and has hugely impacted the way people communicate and exchange information. To be able to respond to search requests via mobile channels, the most important thing in the process of adapting to mobile marketing is responsive website design (eMarketingInstitute**, 2018). One of the most interesting and useful features of modern mobile devices is geolocation so that through mobile apps, the mobile user position can be located.

Geolocation on mobile devices is carried out by utilizing various technologies that provide various levels of accuracy through the onboard geographic positioning system chip on mobile devices to display maps on Google according to coordinates centered on the device's location (Lassoff & Stachowitz, 2015). Statistically, internet access via mobile devices has exceeded desktop users, which influences marketing via social media; thus, websites must be accessible via mobile devices. This is the importance of mobile apps that have easy access to websites by optimizing content on mobile devices for marketing via social media (eMarketingInstitute***, 2018). The description stated above is illustrated in a scheme of research related to the field of digital marketing and internet marketing which shows the research topics in this field, as in Figure 2 below.

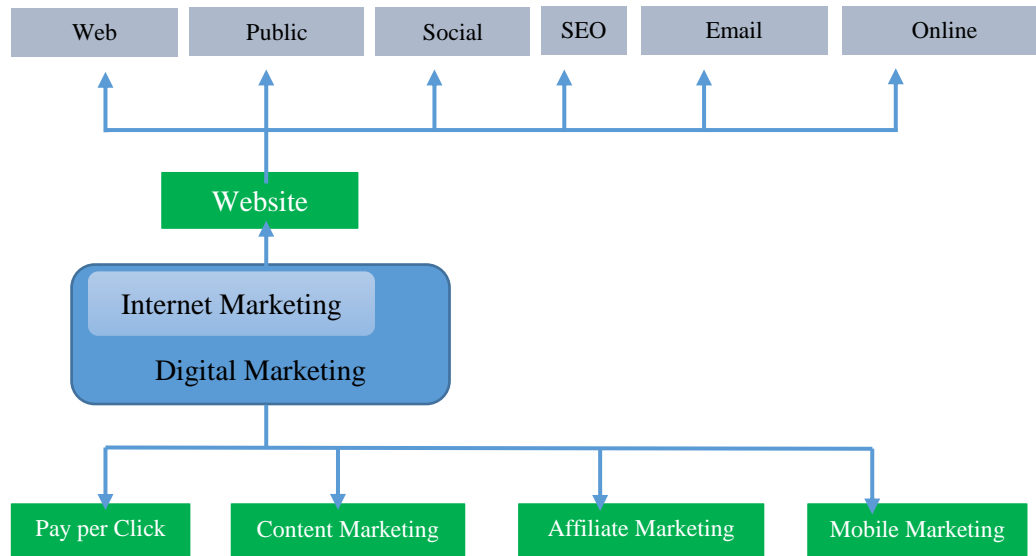


Fig. 2 Digital marketing research scheme (illustrated by Cook 2019, Jones 2021, and Gustavsen 2022)

Figure 2 shows the research branches in the field of digital marketing and internet marketing, which consist of research branches: pay-per-click, content marketing, affiliate marketing, mobile marketing, and websites. In Figure 2, there are two branches of research on mobile marketing and websites. On the topic of research on websites, there are research sub-branches such as web analytics, public relations, social media, search engine optimization, email marketing, and online advertising.

Geomarketing is a new and innovative technology that can facilitate marketing development, such as in the tourism sector with the concept of smart tourism destinations emerging from the development of smart cities. With geomarketing, locations will use the synergy among omnipresent sensor technology and its social elements to enhance visitor experiences (Buhalis & Amaranggana, 2013). Geomarketing allows geographic units to be defined with a degree of homogeneity in terms of preferences, behavior, needs, expectations, purchasing, and consumption patterns. Geomarketing provides procedural information that can be used to analyze and understand events in real-time to facilitate visitor interactions with the surrounding area (Peñarubia-Zaragoza et al., 2019). Using Figure 2 regarding the digital marketing research scheme, geomarketing is also part of digital marketing, which is explained in the results and discussion.

III. RESULTS AND DISCUSSION

Digital marketing tools must be designed for each part of the service carefully. Many researchers make mistakes in thinking about how they view design, as Steve Jobs pointed out. People think that if a designer is given a box and told to ‘make this good’, that is design. That is not what should be thought about design, because design is not just what it feels and looks like. Design is about how it works (Walker, 2003). Designing is not just making it look good but creating services with systems, procedures and customer experience. Design will change the way value is created previously from being driven by management and engineering, from product-centric to user-service-centric.

Research on digital marketing service design is still very rarely conducted, especially in improving services for visitors to tourist destinations, such as research on service design conducted by (Hlee et al., 2019; Lin et al., 2020). An important foundation in building communication relationships between tourist destinations and visitors to build a smart tourism ecosystem must consider communications and information technology-based services. Based on the literature review stated previously, the researcher illustrates a large scheme of research related to digital marketing and internet marketing, which shows the research topics in this domain, as shown in Figure 3. Based on Figure 3, the researcher proposes a research scheme that can be carried out by including a geotargeting research subsection and a geofencing research subsection as part of geomarketing services.

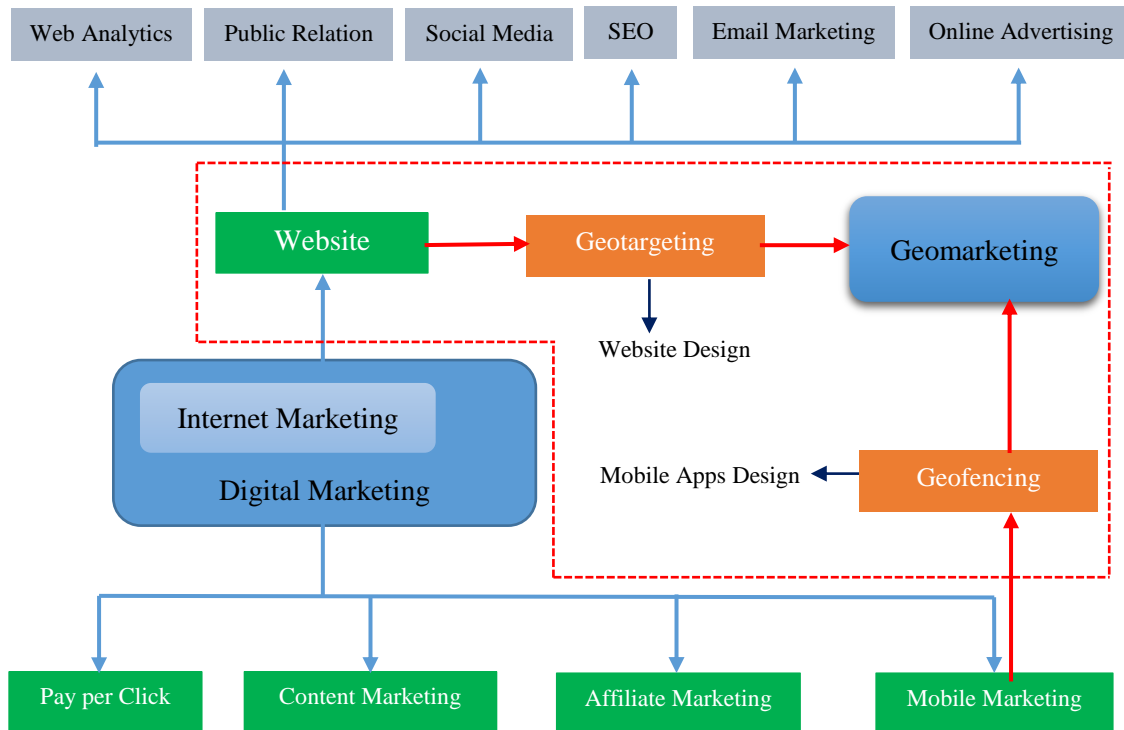


Fig. 3 Geotargeting and Geofencing Service System Design Framework (Wasino, 2024)

There are many frameworks of thought as digital marketing strategy frameworks that discuss certain marketing processes or approaches. Some frameworks combine other aspects, while others stand alone. Businesses must first understand their goals and priorities before choosing any marketing tools to be designed as a digital marketing strategy to help achieve their goals. This research provides results in the form of a framework for developing digital tourism marketing tools. Technically, this research provides two concepts of thought in building a service system, namely, website design as a geotargeting location-based marketing service and mobile-based application design for geofencing services as a location-based marketing tool aimed at real-time user presence.

The marketing service system framework, as in Figure 4, is proposed in this research to explain the scenarios of users accessing the marketing service system, which is divided into two services, namely the geotargeting service system and the geofencing service. Users who access services via the website are users who access geotargeting services. If the user accesses the website at a location targeted by the marketer, the user will receive a notification message as a form of advertising from the marketer. Meanwhile, users who access geofencing services will be integrated with geotargeting services. Users who access geofencing services and move into locations that have been geographically fenced (geofence) will get notification messages from marketers.

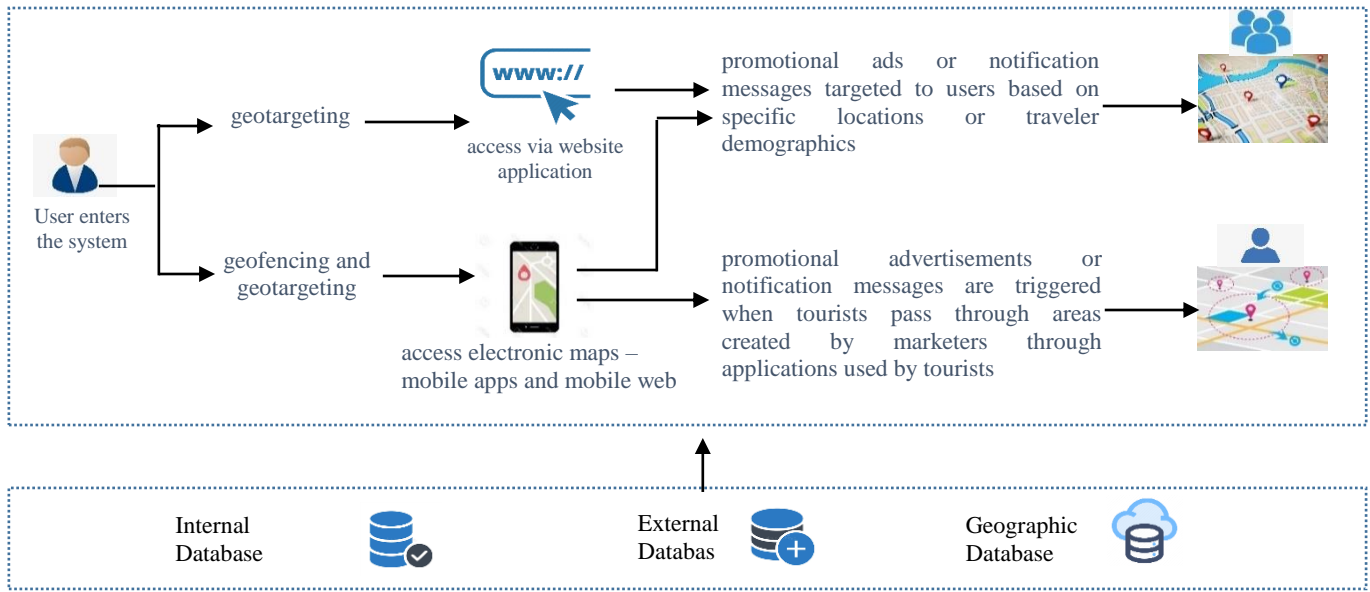


Fig. 4 Framework and Scenarios of User Accessing Geotargeting and Geofencing Services (Wasino, 2024)

Now, upon knowing about the framework for building a service system or digital marketing tool, creating a digital marketing strategy itself is necessary. Based on the framework and scenarios in Figure 4, the framework explains the scenarios of users accessing the geotargeting marketing service system and the geofencing service system, which are location-based services.

Geotargeting is a notification message service via a website with specific objectives based on the user's geographic location within a municipality, province and country. This service system helps deliver more relevant notification messages to targeted users and can increase access traffic to websites with a geotargeting service system, which in turn will increase visits.

Geofencing, as a notification message service via cellular data to trigger actions on mobile devices, uses a geographic positioning system. The geomarketing service system design framework is a comprehensive design that describes how businesses can build various types of applications as marketing tools, with so many marketing tools that can be built and developed to help businesses innovate and continue to change dynamically.

IV. CONCLUSION

In this research, the researcher proposes a framework to provide an overview to other researchers who conduct research in the digital marketing realm and provide an overview to business people and system developers to develop marketing tools following the framework. There is no universal approach to effective digital marketing planning. The digital marketing approach is a process that changes in line with organizational needs change and the design of marketing tools change. Although the resulting service system design framework can provide an overview of the marketing tools research and development, more specific and detailed marketing tools can use certain aspects of their marketing efforts. By integrating marketing tools and more content generated from the same database, marketing will become more competitive.

Design is a powerful catalyst or impetus for the successful building of digital marketing tools. Thus, this framework is very helpful in understanding the relationship between one marketing tool and other marketing tools for which the application must be designed. This includes visual design thinking and principles in the notification messages designed and displayed for the user experience. By taking a digital marketing approach that centers on the design of location-based marketing tools, businesses can create user-centric marketing strategies.

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