

# Boosting Tourism Promotion Effectiveness by Adopting Contemporary Marketing Systems: The Case of ALICE in Türkiye

**M. Mithat Uner**

*Atilim University, Türkiye*

**Mesut Aslan**

*Hacı Bayram Veli University, Türkiye*

**Elif Eşiyok**

*Atilim University, Türkiye*

**Osman M. Karatepe**

*Eastern Mediterranean University, Türkiye*

## *Abstract*

*Artificial Intelligence (AI) has become prevalent in almost all forms of digital marketing. This study focuses on the impact of combining the latest technology with a unitary organization and an adoptive marketing approach on tourism promotion through nation branding, and explores the application of AI in tourism promotion and nation branding efforts by analyzing the Turkish Tourism Promotion and Development Agency's (TGA) integrated marketing intelligence system (ALICE). We show that the use of AI in marketing intelligence systems provides improved insights into budgetary and organizational efficiency. AI provides an effective adoptive international marketing strategy for destination marketing with unique opportunities for both image protection and promotion, especially since digital marketing requires active and dynamic promotion campaigns on a multitude of platforms on a global scale. Extensive research has been conducted on the utilization of AI in marketing. However, the marketing intelligence system of TGA introduces a consolidated, efficient, and unique approach to tourism promotion and destination marketing. Focusing on the benefits of AI systems for destination image promotion, this study demonstrates the specific*

*advantages of utilizing AI in marketing intelligence systems over traditional approaches.*

### Introduction

Artificial intelligence (AI) is “systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals.”<sup>1</sup> It has developed as an important tool in different industries, with significant potential for the government, society, and economy.<sup>2</sup> For this reason, many different industries have started to use and adapt AI, including the hospitality/ tourism industry to enhance customer experience and service.<sup>3,4</sup>

From a marketing perspective, AI automates choices by gathering and analyzing data, as well as observing audience or economic patterns that impact marketing efforts.<sup>5</sup> In destination marketing, AI could function as offering personalized information to tourists, better understanding visitors' behavior, and enhancing visitor engagement by using AI-powered chatbots and voice assistants.<sup>6</sup>

Governments operate through a range of national bodies, such as agencies, ministries, interest groups, and companies, to manage how their country is perceived as a destination. In this context, the Turkish Tourism Promotion and Development Agency (TGA) leveraged a state-of-the-art marketing intelligence system called ALICE to collect, store, and analyze accurate, real-time data, thereby supporting the development of an effective destination marketing strategy and sustaining a positive national image. From this point, the present study explores the application of AI in tourism promotion and nation branding by analyzing the TGA integrated marketing intelligence system, ALICE, through the theoretical lens of international marketing and destination marketing.

Similar to for-profit companies, governmental organizations aiming to promote a country may utilize standardization or adaptation strategies to prepare and launch a marketing communications approach in a dynamic and competitive market environment. Marketing communication has several advantages. First, a standardized marketing communication strategy decreases the cost of promotional efforts through economies of scale. Preparing and implementing a standardized marketing communication strategy in several targeted markets simultaneously is more effective than adapting marketing communication efforts in each market. Second, the implementation of a standardized strategy eliminates the complexity of managing marketing communication efforts in multiple markets. As a result, this ensures ease of marketing campaign management. Third, the execution

of a standardized marketing communications strategy in a bundle of countries is leveraged to create a coherent destination image and thus establish global brands.<sup>7,8</sup>

While standardization offers managerial and economic advantages in marketing communication, adaptation, also known as localization or customization<sup>9</sup> - appears to be an appealing option for adapting marketing mix elements, notably product and promotion, to better connect with target customers in various national settings. This approach recognizes that “one-size-fits-all” is moot, and that a standardized strategy does not work well in all targeted markets simultaneously. From a destination marketing perspective, it is logical to consider that international travelers from different nationalities do not possess identical perceptions of a destination. Likewise, practitioners operating in an environment that includes centralized structures, such as in the case of Türkiye, may opt to apply standardized marketing strategies.<sup>10</sup> Advocates that the adaptation approach criticizes standardization as a new kind of marketing myopia, representing an oversimplification of reality and contradicting the marketing concept.<sup>11,12</sup>

In the past, the Turkish Ministry of Culture and Tourism chose to practice a highly standardized international marketing communication strategy, namely “Home Turkey,” across target countries. The rationale for this highly standardized international marketing communications campaign was the desire to generate a coherent, meaningful, and attractive brand for Türkiye. Although the aim of the campaign was to generate such a positive image, ignoring differences among different tourist groups may have caused difficulties in achieving the expected consequences of such campaigns. Thus, the findings of a recent study implicitly indicate that a highly standardized international marketing communication campaign fails to produce the intended results.<sup>8</sup>

### **Turkish tourism promotion and development agency: a new actor in promoting Türkiye as tourism destination**

Until 2019, the Ministry of Culture and Tourism conducted all the tourism marketing communications activities of Türkiye. On July 15, 2019, TGA was founded as a new actor, which is subject to private law provisions with statutory autonomy to perform all marketing communications activities to achieve Turkish tourism goals. This new agency was given the task of promoting and marketing all tourism offerings around the world as well as discovering, improving, and developing new offerings with the participation of all related parties involved in tourism. Similar agencies exist at other leading tourist attractions. For example, the Italian National Tourism Agency-ENIT was established in 1919 to promote Italy as a tourism

destination with statutory autonomy regarding management, accounting, and organization under the direction of the Minister of Tourism. Similarly, the National Tourism Board-GNTB has been working internationally to promote Germany as a travel destination for more than 70 years.<sup>13</sup>

TGA comprises the “Board of Directors”, “Executive Board”, and “Advisory Board”, with the Board of Directors functioning as the decision-making unit. The Board comprises 15 members chaired by the Minister of Culture and Tourism of the Republic of Türkiye. The Board brings together one of the four Deputy Ministers in charge of promotional activities: General Manager of Promotion of the Ministry, Chairman of Turkish Airlines, representative of airport and terminal operations, representative of travel agencies, Marmara region representatives (2), Mediterranean region representatives (2), Aegean region representative, Black Sea region representative, Central Anatolia region representative, Eastern Anatolia region representative, and Southeast Anatolia region representative.

All board members have considerable experience in domestic and international tourism. All regional representatives of the board were determined through regional elections. The Executive Board, “the executive branch of the Agency, is chaired by Deputy Minister in charge of the Directorate General of Promotion with a total of 5 members, 3 of whom are named by the Minister among Board of Directors Members and the Director-General.”<sup>14</sup> Although TGA has experienced full-time teams to conduct entire operations such as information technology, data analysis, social media, advertising, public relations, and hosting services, unique information technology services, and digital creative processes requiring special expertise are outsourced to gain access to capabilities not available in-house and/or to reduce costs.

The establishment of the TGA has already provided several benefits to Turkish tourism. First, TGA’s statutory autonomy removed all bureaucratic barriers because of minimal contact or ties with the Ministry of Culture and Tourism. The decision-making process which was up to six months due to tender requirements has been reduced to six hours with the establishment of unit.<sup>15</sup> Second, with the establishment of TGA, additional financial resources have been created to be deployed in marketing communications efforts. Since the foundation of TGA, all marketing activities funded by the national budget have begun to be financed by contributions received from all stakeholders of Turkish tourism, such as hotel companies, travel agencies, tour operators, and airlines. The amount allocated to marketing communications activities is roughly \$110 million in 2021 and expected to be \$140 million by the end of 2022. Today, the share of the government in TGA’s

marketing communications budget is only 19 percent, amounting to approximately \$20-25 million annually.<sup>15</sup>

### **Marketing communications platforms of TGA**

Marketing communication is defined as a process designed to engage audiences and promote conversations.<sup>17</sup> It represent coordinated and consistent means by which countries attempt to inform, incentivize, persuade, and remind target audiences about a country's tourism offerings. The development of information and communication technology, particularly the Internet, has substantially transformed tourism by changing how people access, plan, book, and share their experiences.<sup>18</sup> Therefore, key marketing communications platforms contain advertising, events and experiences, online and social media marketing, mobile marketing, direct and database marketing, and personal selling.<sup>19</sup>

As a new actor in tourism promotion, congruent with contemporary trends, TGA's activities consist of much more than traditional marketing communication. In accordance with current global trends, the agency also leads programs such as Türkiye's 'Safe Tourism Certification Program,' which defines comprehensive safeguards for the transportation and accommodation of both Turkish nationals and international tourists. Using digital marketing techniques, the program aims to ensure the health and safety of travelers and tourism personnel across all facilities.<sup>14, 16</sup>

In harmony with contemporary technologies, TGA has been able to transition from traditional to digital media. Representative marketing communication tools include the following:

1. Television campaigns- "Turkish Riviera," "TurkAegean" and "İstanbul is the New Cool" campaigns consisting of several promotion films were broadcast across over 200 countries including England, the U.S.A., Germany, Netherlands, France, Italy, Sweden, Finland, Japan, India, and South Korea.
2. Digital campaigns- Seventeen campaign films, including those mentioned above, were broadcast online across target countries and were viewed over 1.1 milliard times in more than 200 countries by September 2024.<sup>59</sup> In addition to campaign films, TGA continued to publish theme films serving special motivations, banners, and original content. They were also published on 378 high-traffic websites across 13 countries.
3. Go.Türkiye.com- The digital global tourism information platform with 1,345 live pages was visited by 3 million individuals per month in 2025.

4. Go.Türkiye on social media- As of May 2025, social media marketing-via Instagram with 3,7 million followers, X with 730,805 followers, and YouTube with 5,16 million followers-was another marketing communication tool employed by TGA.
5. Events and visitors hosted- In 2021, TGA hosted a total of 3,770 media personalities, influencers, travel agencies, tour operators, and opinion leaders from 62 different countries, largely from Europe, Russian Federation, and Central Asian nations at 209 special events. A total of 3,632 written, visual, and digital images were obtained, including 521 from print press and television, and an additional 3,111 online via influencer reflections with 1,1 million views.<sup>14</sup>

TGA's main function of TGA in Turkish tourism is to create and promote a favorable image as a destination. To create and/or maintain a favorable image as a tourism destination, TGA requires a great deal of data about perceptions of actual and potential visitors to develop effective marketing communication decisions. TGA employs a state-of-the-art marketing intelligence system, namely ALICE, for collecting, storing, and processing accurate and real-time data. TGA operates as a destination management organization and coordinates all activities related to the maintenance of a favorable country image.

### **Destination marketing, destination image and marketing intelligence system**

Destination marketing involves several stakeholders, including governmental and private organizations and local citizens, and each has limited control over the promotion of the destination.<sup>20</sup> Successful destination marketing requires efficient collaboration among multiple stakeholders, each of whom plays an important role in promoting and enhancing the destination's attractiveness, despite varying degrees of influence. The role of stakeholders and governance in destination marketing and its return on investment should also be investigated.<sup>21</sup>

Instead of concentrating only on a location as a destination, destination marketing focuses on both the environment and how travelers are shaped and influenced by it.<sup>22</sup> Building tourist trust in a destination's facilities, services, and overall experience is crucial because, in return, experience can affect the decision process of tourists.<sup>23</sup> Destination marketing efforts are also affected by the destination image of a country. If a country has a strong image, it offers different advantages to that destination, including creating a bond between the destination and consumer.<sup>24</sup>

Image is the sum of the perceptions and trust that people hold in their minds regarding a specific location.<sup>25</sup> One of the primary reasons for tourists'

behavioral intentions is the destination's image.<sup>26</sup> Destination image are dynamic in nature.<sup>27</sup> Although destination image is one of the most widely studied topics in the literature, it is “a term with vague and shifting meanings,”<sup>28</sup> and thus there is no agreed upon definition in the related literature.<sup>29</sup> Consistent with the purpose of this study, two of the destination image definitions stressing the notion of perception are adopted. The first one defines destination image as “the perceptions of individual destination attributes and holistic impression made by destinations.”<sup>30</sup> The other definition views destination image as “the perception of a person or a group of people regarding a place.”<sup>31</sup> It is well established that tourists' perceptions of the image about a destination play a vital role in their decision-making, destination choice, post-trip evaluation, and future behaviors.<sup>32</sup> Destinations with strong and positive images would be considered and selected in the travel decision process.<sup>8,30,33</sup>

Information sources, including marketing communication efforts undertaken by a country, known as stimulus factors or image-forming agents, contribute to the formation of perceptions and evaluations.<sup>33,34,35</sup> It is generally accepted that the creation of a suitable destination image is a consequence of the effective use of marketing tools, including communication efforts by various agents such as destination management organizations.<sup>36</sup>

For several reasons, such as the violation of human rights by a country, the image of a destination may shift rather quickly. A rapidly changing external environment requires the management of images as an ongoing process. The following tasks are essential for active management of destination images:

1. Collecting data about perceptions of tourists to identify actual image of the destination.
2. Developing a desired image to gain competitive advantage.
3. Comparing the actual image with desired image.
4. If there is a gap between the desired and actual images, appropriate marketing communication strategies should be developed and implemented to achieve the desired image.
5. Preserving and strengthening the favorable image over time.
6. Gather ongoing data to measure the effectiveness of implemented marketing communication strategies to achieve or protect the desired image.

Tourism destinations, and more specifically Destination Marketing Organizations (DMOs), are increasingly investing in digital technologies to achieve and maintain their competitive advantage and improve their economic, social, and environmental performance over longer sequences of



short periods of time.<sup>37</sup> Concepts of artificial intelligence (AI) applied to the image of the destination have also evolved within recent years with developments in AI technology. As the tourism industry involves ongoing interactions with tourists and there is a huge amount of data, the use of AI for marketing in the industry becomes crucial.<sup>38</sup>

### **An overview of TGA's state-of-the-art marketing intelligence system**

TGA's state-of-the-art marketing intelligence system has no common and widely accepted definition.<sup>39,40</sup> However, there are common features of AI in the literature that enable us to specify the general boundaries of this new technological tool. Common features of AI include "perception of the environment, information processing, decision-making, and achievement of specific goals.<sup>39</sup> In essence, AI can be defined as an algorithm that has "the ability to make appropriate generalizations in a timely fashion based on limited data."<sup>40</sup>

Big data refers to the gargantuan amount and unprecedented scope of information available, thanks to the rise and spread of digital information technologies including, but not limited to, the Internet, social media, and network-enabled mobile devices.<sup>41</sup> Contemporary technology enabled the collection of 90 percent of the data created in the world in just two years between 2016 and 2017.<sup>42</sup> This exponential growth of information signifies the fact that today's information cannot be stored or analyzed with traditional methods. Such continuous information flow cannot be monitored or analyzed effectively by humans.<sup>43</sup> The continuous usage of big data is required for smart destination management.<sup>38</sup> The need to develop useful predictions from big data has paved the way for the rise of Machine Learning and AI algorithms.

Machine learning is built upon the argument that "simple statistical methods, when supplied with a sufficiently large number of examples, are capable of tasks that would otherwise appear to require comprehension and insight."<sup>40</sup> In this sense, many examples, which are required for the modern ML algorithms, are acquired from big data. This is one of the main reasons why ML approach to the AI has gained popularity in recent years together with the burgeoning big data, especially with the rise of a new approach called deep learning which enabled algorithms to better classify and detect patterns from multiple layers of unstructured data with little or no supervision.<sup>44</sup> Improvements in ML popularized big data based on AI algorithms and made AI more accessible by lowering both development and utilization costs.



The use of AI in destination marketing has become a topic of discussion among scholars. The use of AI technology in destination marketing offers different advantages for destination marketing. For example, DMOs can incorporate machine learning for predictive analytics, using digital assistants such as chatbots, and converting their web pages into AI-enhanced booking engines to improve visitor experiences via personalized services and real-time data.<sup>6</sup> AI is also being used at destinations to control and manage visitor flows, control robots and autonomous trolleys at airports, and enhance staff well-being through collaborations with artificially intelligent systems.<sup>45</sup>

In the tourism industry, AI-based marketing intelligence systems provide better projections of consumer behavior, help with identifying new market opportunities, as well as improve the consumer's experience.<sup>57</sup> Besides, companies could decide how to allocate their budgets through forecasting the trends in the industry.<sup>58</sup> By facilitating more precise forecasts, identifying market gaps, and improving customer involvement in the tourism industry, AI-based marketing intelligence systems provide deeper consumer insights.

TGA's marketing intelligence system, internally referred to as ALICE,<sup>16</sup> depends on the digital channels. The functions of TGA's software include data collection, analysis, and prediction, which rely on big data, machine learning (ML), and artificial intelligence (AI), respectively. With this intelligence system, TGA monitors tourists' perceptions of Turkish brands on a global scale, tackles crises and negative sentiments towards the nation's brand, and performs improved promotion strategies based on the predictions and analyses provided by AI. In the following discussion, we provide features of TGA's ALICE, which incorporates big data, ML, and AI.

TGA software utilizes information processing and decision-making facets of AI in the ALICE system to monitor tourists' perceptions of Turkish brands globally in the digital world. While sentiment analysis is not a unique concept only made possible by AI monitoring tourists' perceptions of a national brand on a global scale is only possible with modern sentiment analysis methods.<sup>46,47</sup> Occasionally known as opinion mining, sentiment analysis is an approach to language processing that reveals the emotional tone embedded in a text. Utilizing AI enables multilanguage, relatively objective, faster, and more accurate sentiment analysis with less labor-intensive processes and lower human resources. Traditional lexicon-based methods of sentiment analysis have an upper hand in accuracy when applied to a small single-language dataset. However, for a large body of multilingual information collected from different sources, AI algorithms based on deep learning ML provide more accurate results.<sup>56</sup> These systems work by creating lexicons and giving each word a positive or a negative value. However,

traditional methods have important shortcomings, such as creating and maintaining lexicons and corpuses for each language, assuming each sentence carries a single sentiment, or recognizing sarcasm.<sup>48</sup>

Sentiment analysis methods utilizing AI enjoy multiple advantages over their traditional supervised counterparts, especially because of the relatively recent high-level programming languages, which are geared towards the development of ML and AI, such as Python. This enables developers to rapidly create, manage, and improve these algorithms.<sup>49</sup> Sentiment analysis utilizing AI does not require the same amount of labor and is easy to implement for multiple languages. Because TGA requires continuous monitoring of various data sources from different parts of the world, it uses AI for sentiment analysis and enables the agency to swiftly act in the event of a crisis. There are multiple cost-effective services that provide programming interfaces for sentiment analysis. In addition to sentiment analysis, ALICE measures trends in the digital world regarding the spread of specific information.<sup>50</sup> The ability to track trends enables TGA to continuously monitor and determine if a specific trend is spreading or diminishing. This, in turn, makes it easier for managers to take appropriate actions on a timely basis. Since TGA needs to globally track trends and monitor a wide variety of perceptions, ALICE needs to incorporate comprehensive information sources, including established and relatively small independent news outlets, social media, and various websites.

Programmatical tracking or incorporating big data flow into a system generally utilizes a special interface called an Application Programming Interface (API), which enables computer programs to communicate with each other without a user interface.<sup>51</sup> Generally, APIs are generally categorized as public (open), partner, and private according to their availability. Open Web APIs provide publicly accessible information in machine-readable formats such as Extensible Markup Language (XML) or JavaScript Object Notation (JSON) for developers.<sup>52</sup> Today, thousands of commercial and public web APIs are available to provide information and functionality in finance, travel, sports, flight data, and more categories provided by public organizations, social media and news platforms, governments, and international organizations.

ALICE incorporates APIs for information sourcing, including, but not limited to, 55,000 news, social media platforms, flight tracking, and general user review and evaluation platforms.<sup>53</sup> This broad selection of information sources as opposed to selecting few “prestigious” or popular sources is also important, considering contemporary misinformation and “fake news,” even after effective correction.<sup>54</sup> Therefore, an effective strategy must include an early warning system to combat these threats before they become

widespread. TGA takes an indirect approach to these issues, based on a two-pronged approach. On the one hand, if an article or news source starts gaining traction, TGA targets the same audience with up-to-date information about the issue via social media online and traditional advertising. On the other hand, if the issue is misrepresented in a significant way, TGA officials work in tandem with diplomatic missions in the publishers' country to ensure that a refutation is published on a timely basis. If the issue originates in social media and is gaining traction, early warning systems enable TGA to pinpoint the source and their impact. Depending on the case, TGA can offer a first-hand experience for key influencers by inviting them to visit Turkey.<sup>15</sup>

TGA's ALICE implements an early warning module that alerts the team about growing trends and creates a visual representation of information diffusion by utilizing heat maps and node networks. Similar to the sentiment analysis, there are various probabilistic methods such as independent cascade models used for information diffusion analysis.<sup>54</sup> However, on this scale and pace, AI offers much more flexibility and utility compared to traditional methods.<sup>16</sup> In social networks, finding influential nodes (e.g., influential social media users) indicates which information is more probable to spread and which actors are going to be exposed to it.<sup>55</sup> TGA can view these social networks and analyze information diffusion for both trend analyses and select the right marketing communication strategies such as measuring real impact of "influencers" on social media. Data collected from social media platform APIs enable AI to provide analysis based on the number of interactions, follower counts, fake accounts, and so on.

In addition to these efforts, TGA has initiated a platform called Go Türkiye to introduce various experiences available on Turkish cultural and historical sites, such as cuisine. This platform also uses AI to show relevant and popular experiences determined by previously collected data based on the visitors' location.<sup>16</sup> This, in turn enables TGA to target the audience and continuously measure and prioritize certain content tailored to visitors. Such precision is critical in an era where misinformation can rapidly spread across digital networks, as seen in the recent circulation of fake Turkish government advertisements targeting Indian tourists. In this context, ALICE detects misinformation in real time, coordinates with social media platforms for removal, and protects the country's tourism image.<sup>61</sup> Similarly, the system detected and responded to false terrorist-related news. When ALICE detects such content using real-time sentiment analysis, it creates automatically generated reports and sends takedown requests to internet sites where misinformation is spread. In parallel, ALICE enables TGA to disseminate correct information via official channels and internet marketing. This

reaction helps avoid reputational harm and reduces fear or misunderstanding among tourists.

In summary, TGA's use of ALICE enables it to rely on an intelligent information system, implemented with contemporary technologies, to promote the Turkish brand as a tourism destination and enhance the broader country image around the world. Nation branding depends heavily on perceptions, and the digital age perception is shaped in the digital world. The unique approach of TGA is that the ALICE platform implements AI to collect information from publicly available sources, and well-informed marketing decisions are based on hard data. From social network analysis to news sourcing, measuring the real impact of influencers to analyze the success of marketing campaigns based on AI enables TGA to make evidence-based decisions and act swiftly with relatively low costs.

### Conclusion

AI can greatly improve tourist experiences by recognizing and predicting visitors' requirements, making tailored suggestions, and allowing for real-time on-site planning and assistance based on individual preferences.<sup>45</sup> By adopting contemporary digital technological tools, TGA materialized a transition from a highly standardized strategies to destination marketing to the adaptation strategy. Thus, the real-time response system has several benefits. First, the system provides valuable insights into the dynamic market perceptions of target countries on hourly, daily, weekly, and annual bases. Second, the system alerts decision-makers about emerging or escalating negative perceptions on a timely basis, not only textually but also visually.<sup>15</sup> Third, due to incoming warning signs from a country, the system helps develop marketing communication strategies to convert negative perceptions into positive sentiments or at least mitigate negative perceptions and direct the country's attention to another topic. In other words, the system facilitates greater adaptation of message content, timing, and location, enabling marketers to utilize more media to achieve specific communication objectives.<sup>19</sup>

Fourth, the system allows the assessment of the effectiveness of the communication strategies implemented to convert undesirable perceptions into desired ones. Fifth, data flow on a continuous basis from a wide variety of reliable sources enables decision makers to predict potential tourism activities for the country and determine the source countries from which visitors may originate. Finally, the system provides substantial cost advantages owing to the widespread use of digital media as opposed to high-cost traditional media in marketing communication activities.

With the implementation of ALICE, the TGA observed a considerable increase in the efficiency and effectiveness of its marketing campaigns. In April 2025, targeted digital advertising campaigns reached over 1,2 billion users globally.<sup>60</sup> Additionally, TGA reported a measurable reduction in marketing costs due to AI-based media planning and performance monitoring, thereby optimizing budget allocation. ALICE also enhanced the country's image management efforts through consistent, data-informed messaging, contributing to an increase in web traffic to GoTürkiye.com and higher visibility of the "Safe Tourism" certification program. These practices suggest that ALICE offers a scalable and adaptive framework for destination marketing that aligns with the global trends in AI utilization.

Developing destination image is imperative in a highly interconnected digital world and at a time when potential visitors have a multitude of tourism destinations. The adoption of artificial intelligent systems could serve as a tool for planning and evaluating branding strategies. In such an environment, public and private actors strive to create and preserve the most favorable image of their homeland as a place to do business, invest, visit, and enrich lifestyles. Modern information technology and communication tools facilitate such efforts, enabling greater impact and rapid response. We hope that the case study of TGA and its ALICE system presented in this paper will inspire future research on the deployment of modern tools for destination marketing.

### Authors

*Mithat Üner completed his BA degree at Hacettepe University School of Business, MBA degree at Gazi University, M.Sc. in International Business at the University of Wisconsin-Madison, and Ph.D. at the Gazi University Graduate School of Business. Professor Üner also completed postdoc studies at the Pisa University in Italy. He has a long record of service as an academic leader, scholar, and advisor to industry. He taught and served as Dean at Gazi University in Ankara for over three decades. Currently, Professor Üner teaches and serves as Dean at Atılım University School of Business. He has published widely in leading journals on such topics as internationalization of the firm, foreign market entry strategies, services marketing, and marketing strategy. Public and private organizations frequently seek him as a speaker and consultant.  
email: mithat.uner@atilim.edu.tr*

*Mesut Aslan graduated from Department of International Relations, Gazi University in 2013. Then he got his M.A. degree from the same department. His Ph.D. about the role of liberal democracies in the rise of illiberalism was finished in 2021 at AHBV University. His areas of studies are the role and importance of*

technological advancements such as internet, artificial intelligence, autonomous systems and social media in International Relations and politics. In parallel, his work includes authoritarianism, diffusion of political systems and surveillance.  
email: aslan.mesut@hbu.edu.tr

Elif Eşiyok Barut received her Ph.D. in Public Relations and Publicity from the Gazi University in 2015. She is currently working at Atilim University, Management Faculty, Public Relations and Advertising Department as a Professor. She teaches courses on media planning, advertising design, campaign planning and organizational communication. Her research areas are advertising, social media, consumption culture and media.  
email: elif.esiyok@atilim.edu.tr

Osman M. Karatepe, PhD, is Professor of Marketing in the Faculty of Tourism at Eastern Mediterranean University. His research interests are in the areas of services marketing and management, internal marketing, green management and marketing, and strategic management. He is the Managing Editor of the *Journal of Hospitality and Tourism Insights* and the Regional Editor for the Middle East and Africa of the *International Journal of Contemporary Hospitality Management*. Dr. Karatepe, who has an h-index of 92 according to Google Scholar citations database, has authored or co-authored over 190 articles in various journals, including *Journal of the Academy of Marketing Science*, *Journal of Business Research*, and *International Journal of Information Management*. He also sits on the editorial boards of leading journals such as *International Journal of Hospitality Management*, *Journal of Hospitality Marketing and Management*, and *The Service Industries Journal*. Dr. Karatepe is frequently shown as one of the most prolific researchers in the field of hospitality management. He has appeared within 2% of the list of the world's most influential scientists in all career-long and single year datasets since 2020.  
email: osman.karatepe@emu.edu.tr

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## Endnotes

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