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Innovation in the tourism industry through personalization for the case of Thessaloniki: Tourist types and their role in development strategies

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Abstract

The tourism industry has been one of the most significant and fastest-growing globally. The pandemic of COVID-19 had a crucial and unprecedented impact on tourism, from which it is currently trying to recover. Innovations and technology are among the most vital tools for this recovery. In order to effectively utilize and employ technological innovations, they need to be targeted toward the trends and desires of consumer demands, which are increasingly pointing to personalized experiences and products. Personalisation can significantly benefit businesses and improve consumer satisfaction, especially in tourism. To this end, the present paper explores tourist types through qualitative and quantitative analyses and formulates ten "personas" based on their unique technological, social, economic, and cultural traits and behaviour. Overall, tourists are open to the locality, willing to participate in events, taste local cuisine and interact with the local population. They consider security and quality as essential preconditions of visiting a destination. Cultural tourism appears as the most favoured scope of travelling. The individual types of tourists presented can play an essential role in implementing strategic planning and are necessary for creating personalized tourism products and experiences. The analysis focuses on the city of Thessaloniki (the second-largest city in Greece). The results are further utilized for creating personalized city tours through a newly developed innovative mobile application.

Keywords: Tourism industry; Development strategies; Personalization; Consumer behaviour; Thessaloniki

1. Introduction

Tourism is a global phenomenon that significantly impacts many countries' social, cultural, and economic construct. The public and private sectors have been extensively transformed by this dominant economic trend of recent decades, as tourism is no longer limited to the privileged but a widespread experience [1]. At the same time, tourism is the world's third-largest export industry, following fuels and chemicals and ahead of automotive products and food [2]. Export earnings from international tourism (travel and passenger transport) are an essential source of foreign revenues for many destinations worldwide, helping create jobs, promote entrepreneurship, and develop local economies. Additionally, tourism is a crucial component of export diversification for emerging and advanced economies, with a solid capacity for reducing trade deficits and compensating for weaker export revenues from other goods and services.

Tourism, consisting of both inbound and domestic tourism, represents a significant industry for many economies and generates millions of direct and indirect jobs. Additionally, 80% of tourism enterprises are small and medium-sized

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(SMEs), employing a high share of women and young people, with women making up 54% of the tourism workforce (compared to 39% in the overall economy) [2]. Tourism can also contribute to regional development, public finance, fiscal policy, education, and culture.

Apart from many other contributions, tourism constitutes a significant segment of many countries' total Gross Domestic Product (GDP). Figure 1, below, shows the share of GDP directly associated with tourism (as a share of the total GDP) for all countries with available data. The figure includes the countries for which this share exceeds 4%. The share of tourism GDP in GDP is significant for many countries, developed and emerging. Greece is among the countries with a share of around 7%, which is far from trivial, especially for countries that do not have other specializations or strong industries.

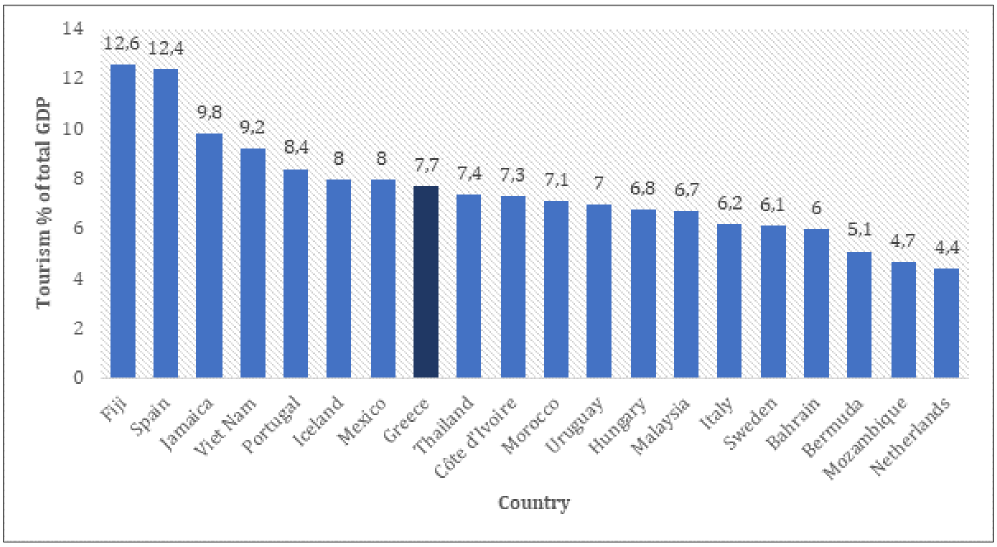

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Figure 1 Tourism direct GDP as a proportion of total GDP

Tourism is one of the most critical sectors of the Greek economy and a key pillar of economic growth that directly employed 381.800 people in 2018, accounting for 10.0% of total employment in the country [4]. Additionally, tourism is an export champion in the Greek economy, with exports accounting for 43.3% of total service exports in 2018 [4].

Despite the severe effects of COVID-19, the tourism industry continues to be one of the most significant for a wide range of countries, driven by the relative strength of the global economy, the fast urbanisation observed in many economies, and the technological advances. In this regard, the European Parliament voted on the Own-Initiative (INI) report on Sustainable Tourism. The aim is to acknowledge the importance of the tourism industry, fully integrate it into European and national development plans, enhance its quality, make it more sustainable and accessible for all, and launch public and private investments in digitalisation and overall modernisation of the sector [5].

Current development plans should utilise all available technologies and approaches to achieve these goals. Any method of capturing and predicting consumer behaviour linked to the destination's overall strategy and the individual policies adopted among its members and stakeholders could facilitate this transition. In conjunction with the development pattern and existing or potential supply and demand, it is imperative to understand the supply and demand matrix and then identify the characteristics of demand (typology of tourists, activities, and infrastructure) to adapt the supply and formulate appropriate strategic planning.

At the same time, there is a shift from mass production toward mass customisation and personalization [6]. Technology has evolved to the point where technological advancements do not depend on one-size-fits. The mass personalisation paradigm is a profitable business strategy that allows individuals to tailor products [7]. Furthermore, approaches that capitalize on the personalization approach could improve the accessibility of tourism from the demand side and the access of small and medium enterprises to the tourists, thus contributing to more balanced growth.

The analysis focuses on Thessaloniki, the second-largest city in Greece, located in its northern section. The city has many strengths and opportunities, such as its location and human capital, but has been facing stagnation for several years. Thessaloniki, and other cities facing similar challenges, could utilize current technologies, gain an advanced understanding of their visitors, and improve their experience through innovation. The analysis includes primary and secondary research regarding tourist perceptions and preferences. In what follows, an attempt will be made to outline the patterns of tourism development in Thessaloniki and understand the insights that emerge from analysing them.

The analysis results will also be utilized in a newly developed innovative application for mobile devices (mobile app) that formulates personalized tours of the city to promote sustainable and balanced tourism growth in the city of Thessaloniki. The app has the potential to create revenues from partnering businesses, which will also have an opportunity for growth while facilitating and improving the visitors' experience. Additionally, the concept can be expanded to include more cities within the country and abroad.

An additional contribution of the paper is that its results will have relevant implications for many cities and regions worldwide. The characteristics of Thessaloniki are similar to several other countries, especially within the European Union (EU). Most European countries receive the majority of their tourism in their capital and face hindering regional inequalities in the rest of their regions [8]. At the same time, tourism offers excellent opportunities for growth with comparatively small investments. Thus, a well-structured and current strategic approach that utilises technological innovations can be adapted by other cities that experience stagnation in their economic growth despite their size or significant contribution to their country's economy.

Section two briefly presents tourist consumer behaviour in the current digital transformation era, based on the relevant literature. Section three includes the material and methods, including the research methodology, while section four presents and discusses the results. The last (fifth) section concludes the paper.

2. Tourist consumer behaviour in the era of digital transformation

Development based on digital technologies continues to contribute toward creating a new world with unique characteristics and dynamics [9]. Companies are aware of the impact of the newly developing social networks and technological tools that have entered consumers' lifestyles, especially in tourism. New specialised tools such as robotics, artificial intelligence, virtual and augmented reality and blockchain technology are among the latest technologies that are beginning to enter the consumption habits of tourists, changing how tourists interact before and during their trip, as well as transforming the traditional economy into a digital one. As the volume of content increases and the display of information becomes more creative and user-friendly, tourists' reliance on online resources is likely to increase [10]. Social media, e-loyalty programs and other technological tools have become some of the most critical influences on consumer behaviour in tourism. Information technologies such as artificial intelligence and blockchain technology are expected to contribute significantly to the realisation of a new tourism ecosystem, radically changing consumer behaviour in tourism by transforming consumers into digital tourists. Decentralised applications and smart contracts enhance tourism, their value proposition to businesses and tourists and bring tourism into a new era. Personalization is one of the new approaches that utilise current levels of technological progress toward increasing user/consumer satisfaction.

Consumer behaviour is a multi-level and dynamic area involving dynamic interactions and exchanges. The American Marketing Association defines consumer behaviour as "the dynamic interaction of the influence, knowledge, behaviour, and environment with which people conduct the exchange part of their lives" [11]. However, technology's rapid development has changed how people seek information about hospitality and tourism services [11]. More and more consumers rely on information from the internet before deciding on their purchases [12]. The internet has changed the way customers purchase travel products. Instead of heading to the nearest travel agency, customers can visit one of the hundreds of websites and complete their purchase [13]. Generational differences provide evidence of how tourist expectations have evolved and the differences observed between consumers of the new digital age compared to those of the previous era. All generations have, to some extent, specific consumer behaviour because each has different lifestyles and faces diverse environmental and other conditions. For example, traditionalists value hard work because they were born in an era of crises and were taught how to work hard and save money. These factors influence travel decisions by valuing the possibility of taking longer trips outside their country or region. The Baby Boomer generation was born after the war, so they are more optimistic and care more for community involvement. They had children at a young age, and because of this, they prefer quality time with their family away from home. They often also travel for business.

Furthermore, although Generation X did not face any critical situations such as a war or a crisis, they were affected by conflicts worldwide. They try to balance their work and family life and are more likely to take holidays with their children. Generation Y was born in a digitised world, making them more curious and, at the same time, more familiar with destinations, as they have access to a wide range of communication channels [9].

3. Material and methods

3.1. Development model of tourism development in Thessaloniki

The specification of strategic axes and defined, measurable operational actions are of major importance for development planning, and elaboration of the tourism development model and the objectives pursued. The actions need to be fully adapted to the existing local development and social characteristics and the productive potential of the metropolitan Thessaloniki. It is vital that strategic and operational programming needs to be specific to the area of intervention to promote tourism in the best possible way and strengthen competitiveness, which is inextricably linked to the allocation of development funds and their maximum absorption. These are also essential tools for regional development, which, in general, needs to be harmonised with the basic development guidelines of the broader region of Central Macedonia, creating a quality-intensive multi-functional productive development model based on: (1) Strong and potentially substantial competitive advantages, (2) The strengthening of social cohesion and social inclusion, (3) Sustainable and inclusive growth, (4) The optimal use of new technologies.

Elaborating on the present strategic planning, the study team considered it necessary to define the general macroscopic framework around the intervention area to shape a clear development vision. This vision must reflect the aim for equitable, intelligent, sustainable, socially acceptable development for all, avoiding phenomena of excessive tourist activity. A vital aspect of such projects is the active participation of all officials, local stakeholders, and the entire business and production base. Thus, a bottom-up development approach is implemented, ensuring maximum citizen participation and ownership in formulating and implementing the shared development vision.

3.2. Establishing the strategic development canvas

The primary position from which the identification of the development pattern starts are the challenges that arise for the intervention area and the potentials and weaknesses it has to address, rather than a *one-size-fits-all* strategy. The development plans should address space in both its geographical and productive aspects. They need to consider the challenges that may arise from social, economic and productive aspects, as well as the specific existing or potential characteristics for the development strategy to be appropriately adapted by creating the foundations needed.

Regarding the strategic goals, the formulation of the objectives of the development model presupposes and includes a framework of principles as fundamental elements of its programmatic planning and operational functioning. As a result, four basic principles emerge, which define the strategy, the objectives, and the actions of the programme and formulate decisive factors for the successful outcome of its implementation.

3.2.1. The strategy should involve all citizens, institutions, organisations and businesses

SMEs and start-ups should be part of the tourism redesign programme. Public authorities, economic and social players and their organisations must participate in solidarity in promoting a collective and cohesive vision at all organisational levels of the intervention area.

3.2.2. The strategy should aim at sustainability beyond the programmatic feasibility

The implication is to preserve natural resources consciously and actively as an individual and collective responsibility.

3.2.3. The strategy should strengthen digital network infrastructures

Digital networks can enhance the ability to access and develop innovative applications that require significant processing power and the speed and efficiency of sharing material.

3.2.4. The strategy should ensure equal opportunities and actions against exclusion

Encouragement of the integration of young scientists into the labour market and entrepreneurship, reducing differences in treatment, promoting the abolition of occupational divisions, and developing services and infrastructure to serve people with disabilities.

3.2.5. The strategy should value effectiveness and sustainability as critical principles

Impling defining individual policy measures that reflect corporate responsibility and create employment opportunities.

The development strategy described in this paper targeting the above-described principles adopted the following priorities, which, in order of importance, are: (1) The emergence of Metropolitan Thessaloniki as a leader in conference tourism, (2) The emergence of Thessaloniki as a leader in three-day and city break tourism, (3) The emergence of Thessaloniki Metropolitan Region as a leader in promoting and exploiting the creative cultural industry (Creative Industries), (4) Strengthening the multipliers and indicators of economic acceleration, (5) Promoting knowledge transfer and innovation, (6) Optimal use of the existing and developing comparative advantages and infrastructure of the Thessaloniki Metropolitan Area.

The first two priorities utilise the existing competitive advantages of the intervention area that are not used to their full potential. More specifically, current operations almost wholly neglect the city's MICE (Meetings, Incentives, Conferences, and Exhibitions/Events) and city-break tourism. Thessaloniki is a powerful commercial, educational and medical centre of the regional urban system of Greece and the Balkans [14]. Additionally, Thessaloniki provides access (through its airport and roads) to the neighbouring region, Chalkidiki, which is considered a Defined Area of Concentrated Tourism (DACT) [15]. Thus, a significant volume of domestic and foreign tourists passes through Thessaloniki for recreational, business, and other purposes, many unaware of the city's cultural and touristic experiences. The third priority also concerns an unexplored potential for the city as Thessaloniki has a solid creative and cultural community and hosts multiple annual international events and festivals involving film, culture, art, dance, music, design and more.

The priorities are coherent and complement each other in serving the development objectives and the model of intervention in the area. For instance, the three first and the fifth priorities will significantly contribute to the fourth. Additionally, the first three priorities constitute optimal uses of existing comparative advantages of Thessaloniki, which is part of the last priority. Strengthening the digital promotion of the cultural and creative heritage of the city will have lasting positive effects on the local tourism industry and create opportunities that can be further utilized. Lastly, an essential aspect of the strategy is to promote and embolden synergies and interconnections between businesses, with the potential for the emergence of cooperation and networks.

Thessaloniki offers a variety of types of tourism, such as urban, cultural, health and wellness, religious, medical, business, education and gastronomy, while being close to coastal tourism destinations. The core of the development strategy lies in utilizing these multiple and diverse types of tourism available in combination with the global phenomenon of mass personalisation. Personalised products and experiences can allow businesses to demonstrate the value consumers can get from their data while also gaining a deeper insight into consumer behaviour. At the same time, personalisation can improve customer satisfaction and business traffic. The strategy approaches the aim of personalisation through the innovative app mentioned earlier that tries to capture the user's preferences and learns more about them with each use. In order to create personalized experiences, there needs to be a set of personas, each with specific attributes. The user is initially attached to one of the personas based on core criteria. With each use, the software improves the approximation of the customer's preferences, progressively creating a fully personalized experience.

Based on all the above, the present paper examines the following research questions: a) what are the types (personas) and attributes of tourists visiting Thessaloniki are, b) whether they are familiar with new technologies and apps, and c) to what extent is personalisation a significant factor in touristic experiences.

3.3. Research methodology

The formulation of the personas and their corresponding attributes began with primary qualitative analysis. The type of analysis was chosen following a review of relevant scientific literature and current good practices. Primary qualitative research (focus groups) was chosen over other forms of analysis as its main subject is the determination of specific behavioural characteristics, which focuses on the study of the perception of human experience and explores people's views [16], [17]. The initial analysis also included a thorough analysis of the current state of the city's natural, built, and artificial environment and relevant economic sectors to establish the general context of supply and demand. The primary qualitative survey was conducted through a remote chat platform from June to October 2021. It was directed at two focus groups (one representing field experts and one comprised of travellers). The most significant advantage of utilizing focus groups is that during interviews, a participant's comments can provoke successive reactions, stimulation, and a willingness to discuss the topic [18].

Moreover, focus groups can provide a suitable framework for developing arguments and counterarguments based on 'real' social groups [19]. The conversations were recorded and transcribed into text using a simple notation system, which faithfully and permanently captures the utterances and some typical paralinguistic expressions (such as laughter, long pauses and strong intonation). The research team accurately rendered the groups' words without correcting errors, lapses, interruptions and repetitions, as relevant research indicates [20]. Additionally, a structured questionnaire and personal interviews were carried out at three points in time and four different points of interest. In total, 950 questionnaires were collected, from which 891 were usable. The questionnaire included the following sections: (1) Tourist perceptions of Thessaloniki, (2) Destination image about Thessaloniki, (3) Destination image about Greece, (4) Tourist satisfaction from visiting Thessaloniki, and (5) Destination consistency and loyalty.

The next stage of the analysis determined the framework of the development model and the characteristics (personas) of tourists, which were aligned with the development model. Regarding the social class structure, we follow the structure of Savage [21]. The main idea behind this decision is that this model is one of the most currently prevalent relevant structures, designed to elucidate the operation of cultural and social boundaries and how this might suggest new lines of class division [21].

The following section presents the analysis results and the initial types of tourist (personas) formulated. These personas are "initial" because the software updates and evolves each user's persona based on their preferences when using the app.

4. Results and discussion

4.1. Travel Market Segments

The results from the quantitative research can provide insights into the travel market, depicting the characteristics of the demand side. Concerning the sample's demographic characteristics, 37% were male, and 62% were female. 25.56% were ages 18-24, 18.92% were between 25-34, 16.22% 35-44, 12.61% 45-54 and 8.11% were above 65, indicating a normal distribution. In terms of educational level, 74% of the sample had a college or university and postgraduate degree. Regarding their marital status, 41% were single, 48% were couples (married or civil partnership), and 6,7% were divorced. Income-wise, 20.14% of the sample earned less than 10.000 euros, 18.29% less than 20.000, 14.47% up to 30.000, 19.10% over 40.000, 17.36% over 50.000, and 10.65% over 60.000. It is also interesting that almost 90% of the sample travel 1-3 times per year (excluding the pandemic period).

The first questions concerned the activities, starting with the question, "What comes to mind when you hear about Thessaloniki?". As Figure 2 shows, most of the participants choose "Culture, heritage, and tradition", followed by "Nightlife", "Shopping", and "Local gastronomy". Less popular, in descending order, were "Trade fairs and conferences", "Festivals", "Sea and sun", "Adventure", and "Sports/recreation".

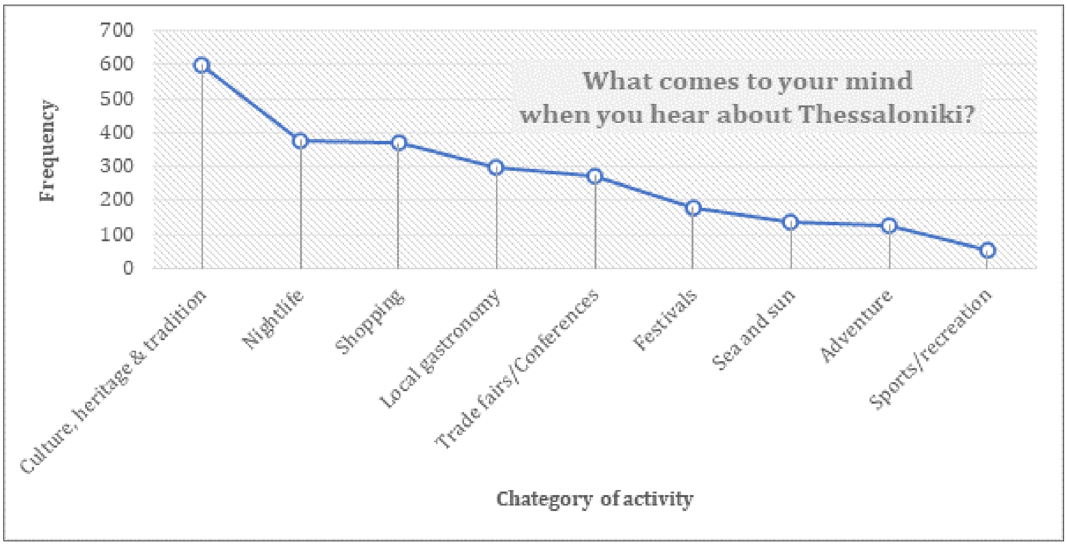

Figure 1 Sample replies on their perception of the examined destination

The following section contained statements for which the participants were asked to determine their level of agreement. The first stating, "*I am interested in learning about different cultures*", was found agreeable by 89% (strongly agree and agree). On the statement "*I like to be physically active on vacation*", 87% had a positive reply (strongly agree and agree).

Regarding the statement "*I like to learn about local products and try the local wine and food*", 86% declared a strong agreement. Similarly positive were the responses to the statements "*I participate in cultural events*", "*I enjoy folk architecture*", "*I like to try something new*", "*I like to meet locals*", and "*I want to feel safe*". On the contrary, the sample had a more neutral or adverse reaction to the statements: "*I try to go to places visited by wealthy, famous or influential people*", "*Sharing my experiences on social media is an integral part of my holidays*", "*I follow fashion trends*" and "*I am looking for intense emotions*."

These statements aimed at identifying what the sample considers significant in selecting a destination and during their visits. Thus far, the responses point to people being open to cultural diversity and interested in local philosophy and cuisine while impartial to trends, celebrity tendencies, and intense experiences. These intermediate inferences require further insights that are in part related to the habits and preferences of the participants. Starting from the sample's travel habits regarding their travel company, **Error! Reference source not found.** shows that the sample usually travels with a partner or spouse, with friends, or with other family menders. To a smaller extent, the sample responded that they usually travel alone, with a child or children, or with an organized group. The results imply a relatively balanced sample, which contributes to the validity of the overall outcome and consequent implications.

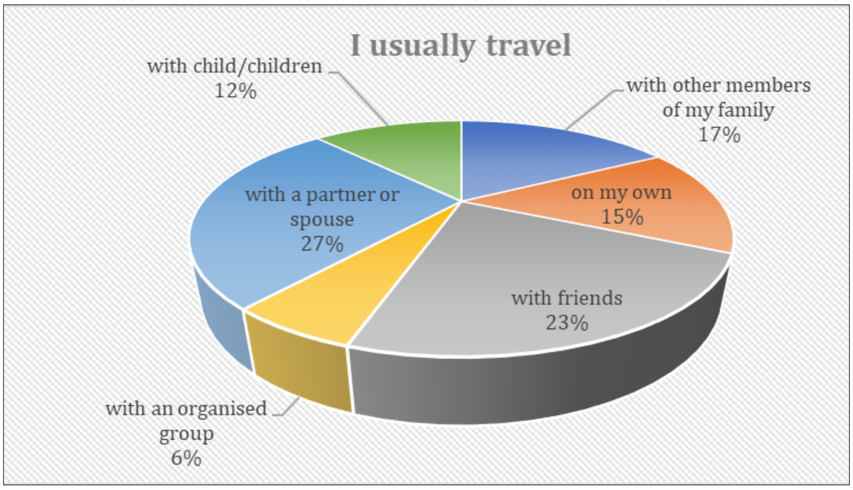

Figure 2 Sample replies on their travel habits

On the criteria based on which they choose the destination, value is the most significant, followed by sights, local culture, safety, climate conditions, and accessibility (Figure 4). Popularity, health, and specialized forms of tourism offered (such as agrotourism, cycling tourism, and walking tourism) appear to be the least significant criteria.

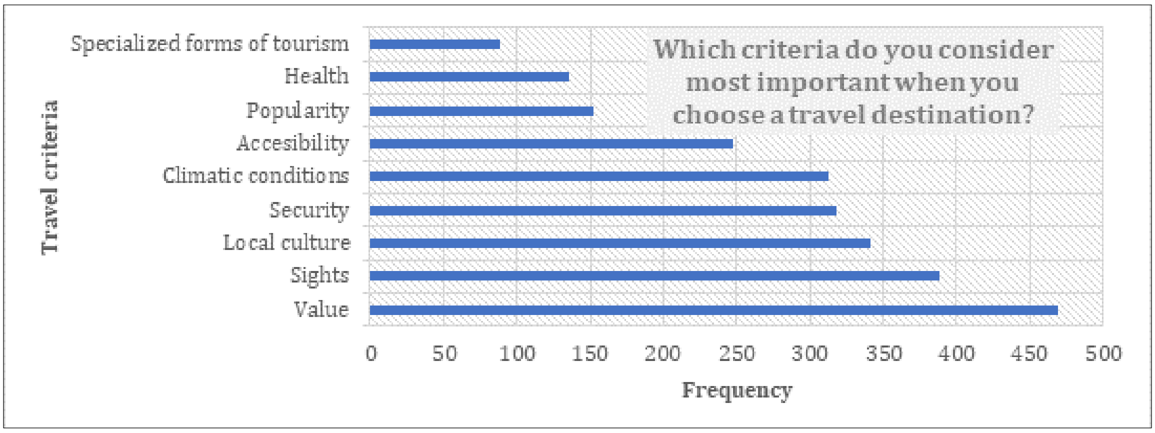

Figure 3 Sample replies on criteria for selecting a travel destination

Another critical point of tourist behaviour is their sources for information regarding their future travels. As **Error! Reference source not found.** below shows, the internet is the most popular source of information for people planning a trip. According to the sample, information from friends and family is the second most important source, followed by social media and past experiences. To a lesser extent, people seek info about their travels from travel agents, books, and brochures. Maps, movies, TV, and newspapers appear to be the least significant information source concerning travel plans.

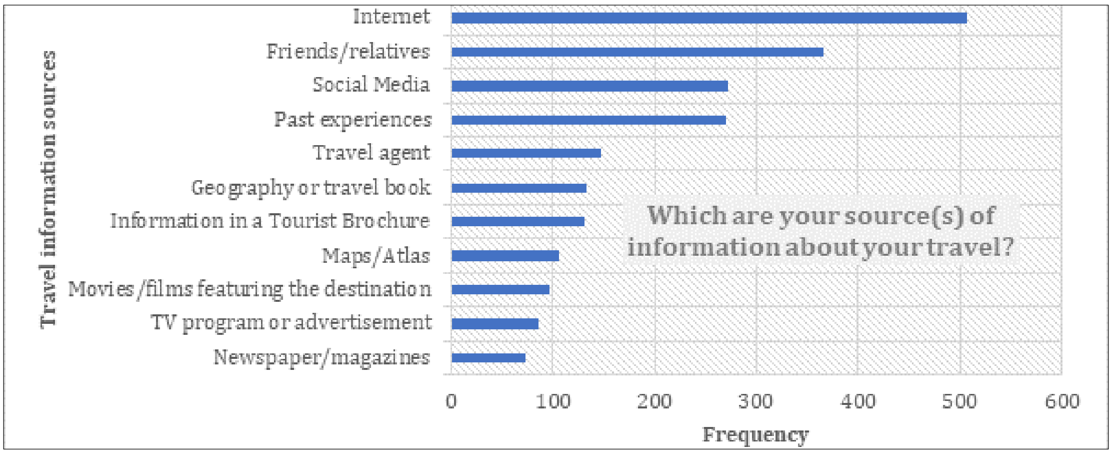

Figure 4 Sample replies on travel information sources

The sample differentiates their source of information when the trip has already begun demonstrating a fascinating amalgam of answers, including new technologies, social media, and locals. Figure 6 shows that most participants prefer their smartphone, followed by social media with much less volume and the locals as the third preferred option. This result is encouraging for innovations in tourism development as most of them involve smartphones and social media.

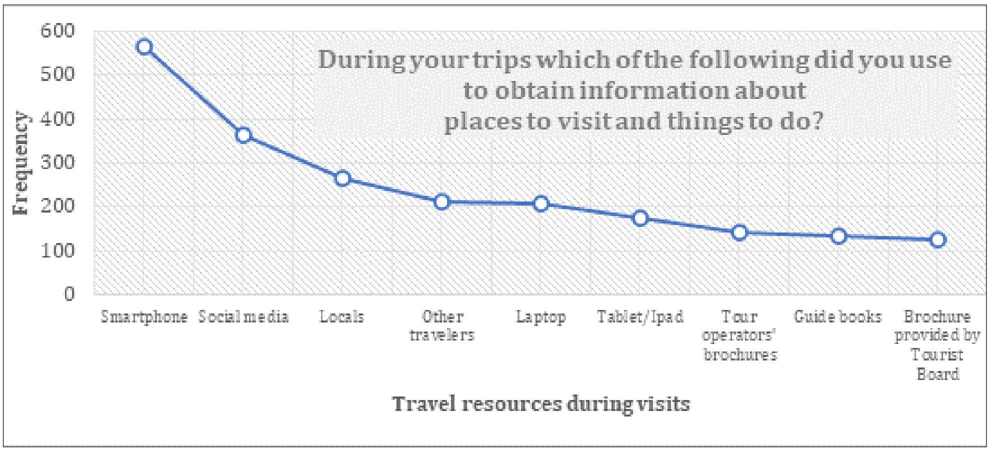

Figure 5 Sample replies on travel resources during visits

4.2. Tourist types (personas)

Regarding the qualitative research, the focus groups having access to data gathered from the quantitative research indicated that several segments of the personas could be elaborated. We present demographic info, geographic, psychographic, and behavioural characteristics for each. The psychographic characteristics include Plog's characterisations, the most cited theories in tourism research. Plog's psychographic typology classifies tourists by their personalities and distributes them to destinations based on their dominant characteristics [22].

Business Travelers are divided into three sub-segments (A1, A2, A3). Sub-segment A1 is Greek men aged 28-40, in a relationship, married with no children, or married with minor child (ren). Usually, they have post-secondary education or bachelor's degree, work as commercial visitors, and have low to medium income. As for their behavioural characteristics usually commute by car and have a high travelling frequency, mainly for business. Sub-segment A2 is Greek men and women (majority men) living in urban centres, aged 30-45, in a relationship, married with no children, or married with minor child (ren). Most of them also hold master's degrees. They are self-employed professionals, and their income is medium. They commute by plane or car and have a high frequency of travel, primarily for business purposes, alone or with partners. Sub-segment A3 is mainly comprised of men (30% are women), ages 40-55. They are either married with no children or adult child (ren). Most of them hold a bachelor's degree, with 60% holding a master's degree. They primarily work in middle and senior management and have a high income. They live in major urban areas and frequently travel via plane, primarily alone, for business reasons. The personas of business travellers are presented in Table 1 below.

Table 1 Characteristics of Business travellers and sub-segments

Psychographic Characteristics	**A1**	**A2**	**A3**
Lifestyle	Conservative[1]	Runaways[2]	Experimenters[3]
Special interests	Entertainment, nightlife	Gastronomy and drinks, Monuments and typical sights, entertainment, and nightlife	Cultural heritage and history, cultural activities (modern), gastronomy and drinks
Expected benefits of using the applet	Practical, timesaving	Demanding, timesaving	To learn, to enjoy with their senses
Desired experience of the ad hoc route	To have fun, to enjoy with their senses	To escape, to learn	To learn, to enjoy with their senses
Degree of familiarity with mobile technologies	High	Very high	Medium to high
Travel experiences	Many, in the context of their work, mainly within Greece	Many, in the context of their work, within and outside Greece	Many, for both and other purposes, in Greece and abroad
Social class	a) New workers of Abundance[4] b) Rising Service Workers[5]	Young Workers of Abundance[6] b) Emerging Service Workers[7]	Established Middle Class[8]
Plog's characterisation	Psychocentric[9]	Allocentric[10]	Allocentric

Notes: 1. Do not want to make discoveries, feel insecure at the destination, seek organised procedures; 2. Want to escape from routine, do not want to be stressed on the trip, socialising is more important than the destination; 3. Seek new and different experiences and products that reflect their personality, wish to promote themselves through novelty; 4. This is a class group of socially active young workers with middle-class economic capital; 5. These are young workers in urban centres with medium to low income and medium social and cultural capital; 6. Socially and culturally active but with middle-class economic capital; 7. These are young workers living in urban centres with middle income and middle social and cultural capital; 8. This is the second most affluent social class with high levels in all three dimensions of capital (economic, social and cultural); 9. Repressed, nervous, not adventurous, prefer well-organised, well-defined packages and itineraries; 10. Extroverted, have varied interests, are excited to explore and do new things, and want many choices.

Shoppers, the second category of personas, are divided into two sub-segments (B1, B2). In Sub-segment B1 are men and women, 30-50 years old in a relationship, married with no children or married with adult child (ren). They are artisans, professionals, and self-employed, with medium to high incomes. They live in Greece, close to urban centres, and they travel by car, with a low to medium frequency. The primary purpose of their trip is to shop and visit large urban centres, travelling in pairs or together with other friendly couples. Sub-segment B2 are Bulgarian, Serbian and North Macedonian men and women, 35-55 years old, married with or without children. They are office workers, professionals or self-employed, with medium to low income. The trip's purpose is usually to shop and visit major urban centres abroad, travelling in couples or together with other friendly couples. The personas of shoppers are presented in Table 2 below.

Table 2 Characterists of Shoppers and sub-segments

Psychographic Characteristics	**B1**	**B2**
Lifestyle	Conservative	Experimenters
Special interests	Primarily buying products, secondarily visiting monuments, and going sightseeing	Primarily buying products, secondarily religion, cultural heritage and history
Expected benefits of using the applet	Discovering opportunities for shopping, information on typical tourist attractions	Information on shopping opportunities, the discovery of shopping opportunities, information on typical tourist attractions of religious (mainly) interest and cultural interest
Desired experience of the ad hoc route	To learn, feel that they have gained new experiences, and navigate intelligently in a place where they feel insecure	To learn, to feel that they have gained new experiences, to and navigate intelligently in a place where they feel insecure
Degree of familiarity with mobile technologies	Medium to low	Medium
Travel experiences	Low, primarily within Greece, outside of Greece, they travel in organised tours (groups)	Medium, travelling both individually and in organised tours (groups)
Social class	Technical Middle Class[1]	a) New Workers of Abundance b) Established Middle Class
Plog's characterisation		Somewhat insecure in the tourist destination, marginally allocentric
Notes: 1. This is a smaller but distinct group of people with wealth but lower social and cultural capital than the Established Middle Class, and this is something that marginalises them socially		

The third segment, Culture & Heritage, is further divided into three sub-segments (C1, C2, C3). Sub-segment C1 is young men and women, singles or in a relationship. They are university students or recent graduates. They are employed in precarious jobs or are junior business executives. Their income is low to medium, and they live in large and medium urban centres. They usually travel by car, bus, or plane to explore culture, participate in cultural events, and have fun. Sub-segment C2 includes males and females aged 30-55 in a relationship, married without a child, or married with a child. They usually have a bachelor's degree and often a postgraduate degree. They are professionals, self-employed, middle and senior civil servants, or middle and senior business executives. They live in large and medium urban centres close to the main highway running through the country. Their income is medium to high, and they frequently travel, by plane or car, mostly on their own within and outside their country, aiming at history and cultural heritage. Sub-segment C3 includes males and females between 20 and 40 who are single, in a relationship, married without a child, or married with a child. They are students or have a bachelor's degree, often a postgraduate one. If they are not students, they are professionals, self-employed, middle and senior civil servants, or middle and senior business executives. Their income is low (for students) and medium to high for the rest. However, regardless of their income level, they are willing to spend a medium to a high amount of money for gastronomic explorations. They reside in Greece, mainly in Attica and large urban centres. They do not frequently travel, but when they do, they travel by plane or car, primarily looking for gastronomy, drinks, entertainment, and cultural heritage. The personas of culture and heritage travellers are presented in Table 3 below.

Table 3 Characterizes of Culture & Heritage travelers and sub-segments

Psychographic Characteristics	**C1**	**C2**	**C3**
Lifestyle	Experimenters	Existential tourists[1]	Existential tourists
Special interests:	Cultural heritage and history, cultural activities (modern), secondarily entertainment	Primarily medical reasons and therapies, and secondarily the purchase of products. Monuments and typical sights, as well as entertainment	Special interests: Primarily gastronomy, secondarily cultural heritage, and activities (modern)
Expected benefits of using the applet	To discover new and exciting activities	Quantity and quality of specialised information for cultural attractions, events and bars, cafés and restaurants	Quantity and quality of specialised information for cultural attractions, events and bars, cafés and restaurants
Desired experience of the ad hoc route		To go deeper into specific activities, routes and cultural attractions not visited by “mass” tourists	To go deeper into specific gastronomic activities, routes and attractions that do not interest other tourist-travellers
Degree of familiarity with mobile technologies	Very high	Medium	High to very high
Travel experiences:	Medium, mostly travel on their own (or in groups of 2-4 people) in their country and abroad	High, mostly travelling on their own within and outside their country	Medium to high, mostly travelling on their own within and outside of Greece
Social class	a) Students b) Service Workers: New young workers living in urban centres with low incomes but high social and cultural capital. c)New Workers of Abundance	a) Elite[2] b) Established Middle Class[3]	Established Middle-Class New Young Workers of Abundance, Rising Service Workers
Plog’s characterisation	They move with ease within the tourist destination. Allocentric		They are comfortable moving around at the tourist destination and are allocentric

Notes: 1. They seek the “authentic”, want to learn new things, and are significantly “involved” with the product or the experience they consume-live; 2. This is the most privileged class with the highest level in all three dimensions of capital (economic, social and cultural); 3. This is the second most affluent social class with the second-highest level of cultural capital compared to the elite.

The last Segment includes the Silver tourists, further divided into two sub-segments. Sub-segment D1 is males and females above 65, married with children or widowed. They have finished post-secondary education or hold a bachelor’s degree and reside in provincial towns and villages. They are mostly retirees with medium to low income. They travel by car, bus, or plane, on their own or with an organized group, and their travelling frequency is medium to high. They usually travel to visit friends and relatives and are also interested in monuments and sightseeing. Sub-segment D2 has the same demographic and income characteristic, but they live in medium and large urban centres and may hold a postgraduate degree. They are primarily interested in sightseeing, entertainment, leisure and rest, luxurious environments, and, secondarily, the purchase of products. Their travelling frequency is medium to low, through car, bus, or plane, usually travelling on their own or with organized groups. Their reason for travel is often to visit friends and family. The personas of silver tourists are presented in Table 4 below.

Table 4 Characteristics of Silver tourists and sub-segments

Psychographic Characteristics	**D1**	**D2**
Lifestyle	Conservative	Conservative
Special interests	Monuments and sights primarily and purchase of products secondarily	Primarily, sightseeing, entertainment, leisure and rest, luxurious environments, and, secondarily, the purchase of products
Expected benefits of using the applet	Locating points of interest, simplified software use	Creating their own “balanced” leisure package
Desired experience of the ad hoc route	To be able to be somewhat independent of the friends or relatives that they are visiting at the destination	Desired experience of the ad hoc route: to be able to be somewhat independent of the friends or relatives that they are visiting at the destination
Degree of familiarity with mobile technologies	Very low	Very low
Travel experiences	Medium to low, they travel independently or participate in organised group excursions	Medium to low, they travel both on their own as well as participate in organised group excursions
Social class	Retirees with middle to low pensions	Retirees with middle to low pensions
Plog’s characterisation	Relatively insecure in the tourist destination. Almost psychocentric	Relatively insecure in the tourist destination. Almost psychocentric

5. Conclusion

It is well known that for any developmental strategy to be effective, it needs to consider the challenges, strengths, and opportunities in the intervention area. These factors are crucial for the sustainability of the strategy; however, currently, their inclusion is not enough for the success of the strategy. The product or service being offered needs to be in line with the trends of the demand side, which, presently, seem to be focused on personalization, especially in the tourism industry. With the aim of providing successfully personalized products and experiences, the supply needs to capture and understand the desires and aspirations of the customers. To this end, the present paper includes primary and secondary qualitative and quantitative analyses aiming at identifying the types of tourists, which are formulated into four personas – segments of the tourism market – each with two or three sub-segments. Ten personas were identified with unique technological, social, economic, and cultural traits and behaviour, which play a vital role in implementing strategic planning. These can be utilized to create personalised experiences, as does the mobile app created for Thessaloniki (TripMaker) but can also be used to approach the target audience(s) better.

Overall, the examined sample of tourists is generally positive but also critical of new technologies. Nonetheless, they consider the internet an essential source of information concerning their travels. They are open to the locality, willing to participate in events, taste local cuisine and interact with the local population. At the same time, they consider security and quality as essential preconditions of visiting a destination. Cultural tourism seems to be one of the favoured aims in travelling. However, offering multiple options and experiences is crucial for attracting large volumes of tourists and for creating personalised alternatives. Thus, innovation is essential for a successful and current tourism development strategy. Additionally, the innovative aspect of any strategy, such as progressive personalization, needs to be emphasised in the promotional approaches employed. The reason is that people nowadays value the use of innovation, especially when it improves their experiences.

Another crucial factor in a developmental strategy is local actors (organisations, bodies, chambers, local businesses, local initiatives, and entrepreneurship), which are the main drivers of the development process. The productive structure, the labour market, the level and quality of local entrepreneurship, natural resources, social and political structures, traditions, and cultural heritage are the cornerstones on which economic growth and improved standard of living can be attained. Thus, developmental strategies should not be based on the formulation and application of a "one size fit all" approach. Instead, there should be a set of spatial approaches and sectoral policies which integrate innovation, quality, and local differentiation into the development plan for the area of intervention.

Applications such as TripMaker could evolve and cover current and future needs, thus significantly contributing to the success of tourism development strategies. Moreover, innovative approaches such as applications that utilize available technologies can relatively inexpensively allow lagging regions to increase their economic growth through tourism. Such approaches are particularly beneficial to the overall economy as they can facilitate a more balanced growth by being utilised in non-leading regions.

In terms of further research, this study includes valuable and interesting data from the tourists' perspectives, which could provide compelling insights into tourist behaviour if the analysis includes a sociological angle. Multiple patterns could arise linking tourist behaviour with socio-economic, geographic, demographic, psychographic and behavioural characteristics that can further improve the personalization capabilities.

Compliance with ethical standards

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The authors hereby declare that there is no conflict of interest among them or with any person/organization.

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Statement of informed consent

Prospective Participants were invited and oriented on the purpose of this study. Informed consent was obtained before the study, and the participants were allowed to withdraw at any time.

References

[1] Qiao, G., Ding, L., Zhang, L. and Yan, H. Accessible tourism: a bibliometric review (2008–2020), *Tourism Review*, 2022 Vol. 77 No. 3, pp. 713-730. https://doi.org/10.1108/TR-12-2020-0619

[2] United Nations World Tourism Organization (UNWTO). International Tourist Numbers could fall 60-80% in 2020, UNWTO Reports, 2020

[3] United Nations World Tourism Organization (UNWTO). Economic contribution of Tourism and beyond: Data on the economic contribution of Tourism, UNWTO Department of Statistics on *Economic Contribution and Sustainable Development Goals*, 2022

[4] *Organisation for Economic Co-operation and Development (OECD).* Tourism Trends and Policies 2020, OECD Report, 2020.

[5] European Parliament, European Union Strategy for Sustainable Tourism Text Adopted by European Parliament, 2021.

[6] Aheleroff S., Mostashiri N., Xu X., Zhong R.Y. Mass Personalisation as a Service in Industry 4.0: A Resilient Response Case Study, *Adv. Eng. Informatics*. Oct 2021; 50: 101438.

[7] Delloite, Made to Order : The Rise of Mass Personalisation Contents, *The Deloitte Consumer Review*, 2019.

[8] Lipps J., Schraff D. Regional inequality and institutional trust in Europe, *Eur. J. Polit. Res.* Nov 2021; 60(4): 892–913.

[9] Coşkun, İ.O., Yılmaz, H. An Introduction to Consumer Metamorphosis in the Digital Age. In: Sezgin, E. (eds) e-Consumers in the Era of New Tourism. Managing the Asian Century. Springer, Singapore, 2016; 1-12 https://doi.org/10.1007/978-981-10-0087-4_1

[10] Cohen S.A., Prayag G., Moital M. Consumer behaviour in tourism: Concepts, influences and opportunities, *Curr. Issues Tour.* Nov 2014; 17(10): 872–909.

[11] Mattila A.S. Consumer behavior research in hospitality and tourism journals, *Int. J. Hosp. Manag.* Dec 2004; 23(5): 449–457.

[12] Haridasan A.C., Fernando A.G., Saju B. A systematic review of consumer information search in online and offline environments, *RAUSP Manag. J.* Jul 2021; 56(2): 234–253.

[13] Halkiopoulos C., Antonopoulou H., Papadopoulos D., Giannoukou I., Gkintoni E. Online reservation systems in e-Business: Analyzing decision making in e-Tourism, *J. Tour. Herit. Serv. Mark.* 2020; 6(1): 9–16.

[14] Gemenetzi G. Thessaloniki: The changing geography of the city and the role of spatial planning, *Cities*. Apr 2017; 64: 88–97.

[15] Michailidou A.V., Vlachokostas C., Moussiopoulos N. A methodology to assess the overall environmental pressure attributed to tourism areas: A combined approach for typical all-sized hotels in Chalkidiki, Greece, *Ecol. Indic.* Mar 2015; 50: 108–119.

[16] Mohajan HK. Qualitative research methodology in social sciences and related subjects, *J. Econ. Dev. Environ. People*. 2018; 7(1): 23–48.

[17] Hancock B., Windridge K., and Ockleford E. An Introduction to Qualitative Research. The National Institute for Health Research (NIHR), 2007

[18] Stewart, D. W., & Shamdasani, P. N. Focus groups: Theory and practice. Sage publications, 2014

[19] Casey, M.A., Krueger, R.A. Focus group interviewing. In: MacFie, H.J.H., Thomson, D.M.H. (eds) Measurement of Food Preferences. Springer, Boston, MA, 1994; 77-96. https://doi.org/10.1007/978-1-4615-2171-6_4

[20] Seers K. Qualitative data analysis, *Evid. Based Nurs.* Jan 2012;15(1): 2–2.

[21] Savage M. Devine F., Cunningham N., Taylor M., Li Y., Hjellbrekke J., Le Roux B., Friedman S., Miles A., A New Model of Social Class? Findings from the BBC's Great British Class Survey Experiment, *Sociology*. Apr 2013; 47(2): 219–250.

[22] Plog SC. Why Destination Areas Rise and Fall in Popularity, *Cornell Hotel Restaur. Adm. Q.* Feb 1974; 14(4): 55–58.