

Understanding the entrepreneurs' behavioural intentions towards sustainable tourism: a case study from Greece

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Abstract This study's aim is mainly to provide insights into the factors that affect sustainable tourism entrepreneurs' behavioural intentions, employing data from Greece. Given that intention is a powerful predictor of actual behaviour, to stimulate sustainable entrepreneurial activity in the tourism sector and achieve sustainable development, it is important to study the factors that affect entrepreneur's behavioural intentions towards sustainability. Findings through this empirical analysis support that entrepreneur's demographics parameters and firm characteristics have distinctive effects in explaining respondents' behaviour towards sustainable entrepreneurship and acknowledgement of sustainability options of a community. In particular, results suggest that younger entrepreneurs are probably more informed about the potential of the sustainability for the regions and are more likely to favour sustainable tourism practices. Entrepreneur's income is also a statistical significant parameter towards sustainable entrepreneurship intentions within the tourism sector. Finally, entrepreneurs reported as important for the promotion of tourism sustainability the creation of knowledge networks and websites to focus on sustainable business and the promotion of environmental labels and certified management systems in tourism businesses.

Keywords Sustainable tourism development · Sustainable entrepreneurship · Demographics · Socio-economic factors

1 Introduction

Tourism as an economic activity is closely linked to climate change, jeopardizing prospects for sustainable development. In 2005, carbon dioxide emissions generated directly from the tourism sector accounted for 5 % of global emissions. Concerning emissions from

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tourism by sector, the contribution of accommodation-related emissions is 20 % (UNWTO-UNEP- WMO, WMO 2008).¹ By 2035, under a “business as usual” scenario, a 130 % increase in carbon dioxide emissions is estimated from global tourism (UNWTO 2009)² electronicversion.pdf. That is why, the United Nations World Tourism Organization called for drastic reductions in greenhouse gas emissions from tourism of around 25–30 % by 2020 and 50 % by 2035 (with 2005 being taken as the base year) (UNWTO 2009).

However, tourism is not a panacea. Even though the recession in Greece has affected almost all productive sectors, recent approaches indicate that Greek tourism remains one of the few sectors that are still competitive. Tourism is still regarded to be one of the main fields that create jobs and enhance economic development (Karoulia and Tsionou 2013; Styliadis and Terzidou 2014). In particular, international tourist arrivals in Europe increased by 5 % in 2012. Greece is the second largest destination in the Mediterranean and Southern European region, recording a tourism growth of 16 % (UNWTO 2014).³ According to Association of Greek Tourism Enterprises, the tourism sector in Greece accounted for 16.4 % of Greece’s GDP and 20 % of employment in 2012. The contribution to Greece’s GDP is estimated around 20 % in 2014.⁴

Given the economical benefits that an expanding touristic sector will bring to Greece, combined with the increasing environmental pressure it entails, the sustainable tourism development is perhaps the most challenging goal to be achieved. Therefore, the necessity for the implementation of sustainable tourism development is profound. In Greece, the responsibilities for sustainable tourism are divided amongst the Ministry for the Environment, Physical Planning and Public Works, the Ministry of Development, Ministry of Tourism and the Greek National Tourism Organization. The Greek National Tourism Organization (GNTO) is a public entity supervised by the Ministry of Tourism. A strategic plan for tourism development has been elaborated recently by GNTO, in the framework of the “National Plan for Regional Development 2000–2006”. This plan was called Operational Program for Tourism and took into account all relevant environmental concerns while describing specific actions towards a sustainable tourism development (UN, Johannesburg Summit 2002, Country profile, Greece p. 61).⁵

A shift to develop sustainable tourism practices is necessary, because as mentioned in a plethora of previous studies, it can combine environmental, social, cultural and economic benefits (see e.g.: Swarbrooke 1999; Fennell 1999; Richards and Hall 2000; Bestard and Nadal 2007; Thompson et al. 2011; Angelkova et al. 2012). Through adapting the theoretical approach of economic flow of income in the case of tourism sector, it is understood that both tourists and tourism entrepreneurs’ choices can, through consumption and production options, either contribute to sustainable development or undermine it.

Several researchers have developed a theoretical approach through studying the concept of sustainable entrepreneurship (see e.g.: Lordkipanidze et al. 2005; Tilley and Young 2006; Cohen and Winn 2007; Dean and McMullen 2007; Parrish, 2010) as a means to achieve sustainable development. Sustainable entrepreneurs are defined as individuals that combine economic, environmental and social aspects into their business. Their potential contribution towards sustainable development has been well established in the literature.

¹ Available at: <http://sdt.unwto.org/sites/all/files/docpdf/climate2008.pdf>.

² Available at: <http://sdt.unwto.org/sites/all/files/docpdf/fromdavostocopenhagenbeyondunwtopaper>.

³ Available at: http://dtxq4w60xqpw.cloudfront.net/sites/all/files/pdf/unwto_highlights14_en.pdf.

⁴ Available at: <http://sete.gr/EN/Home/>.

⁵ Available at: <http://www.un.org/esa/agenda21/natlinfo/wssd/greece.pdf>.

However, it is necessary to explore how sustainable entrepreneurship can be encouraged. Apart from public policies, an intriguing way to do so is to stimulate behavioural change from “conventional” to sustainable entrepreneurship. As explained by Ajzen (1991: 181), intentions express positive attitudes and are a powerful predictors of actual behaviour. A part of conclusion of Steg and Vlek (2009: 314) is: “promoting behaviour change is more effective when one (1) carefully selects the behaviours to be changed to improve environmental quality and (2) examines which factors cause those behaviours”.

However, empirical studies aimed to examine characteristics that affect behaviour geared towards sustainable tourism business practices amongst entrepreneurs are limited (Tzschentke et al. 2008; Schaltegger and Wagner 2011; Koe et al. 2014; Akrivos et al. 2014). Unlike previous studies, building upon the previously mentioned theoretical framework, this study aims to examine the demographics and economics characteristics that affect entrepreneurs' attitudes towards sustainable tourism practices, employing data from a case study in Greece. We expect our results to exert policy makers the opportunity to identify the potential market segment that should be educated towards sustainability issues. As Tosun (2001) argues, the identification of sustainable tourism entrepreneurs explains the direction of behavioural change that can promote sustainable development.

The overall justification of the research conducted within the present study is based on the following conceptual framework. In particular, the objective of the study is to estimate the factors affecting the promotion of sustainable tourism management, as expressed by the entrepreneurs' intention to adopt relevant actions. The conceptual framework used and the reasoning of objective of the study and the relevant research questions are described below. More precisely, given that tourism sector has both positive and negative effects (UNWTO-UNEP- WMO, WMO 2008), but is also an important element to boost economic growth (www.sete.gr), an increased need for sustainable tourism development emerges. This need can combine all three pillars of sustainable development (economic, environmental and sociocultural) alleviating the negative impacts of tourism due to economic activities (see e.g.: Swarbrooke 1999; Fennell 1999; Richards and Hall 2000; Bestard and Nadal 2007; Thompson et al. 2011). Nonetheless in order to foster sustainable tourism development, sustainability tourism management, which is expressed as a set of decisions (Schaltegger and Wagner 2011), should be adopted by entrepreneurs, the sustainable entrepreneurs (see e.g.: Dean and McMullen 2007; Parrish 2010; Hall et al. 2010). Since entrepreneurs are by definition driven by profit-seeking motives, behavioural change is necessary to encourage sustainable entrepreneurship. However, behavioural change can be achieved by examining which factors can cause relevant behaviours. Intentions are positive attitudes of a person and are good predictors of actual behaviour Ajzen (1991). Despite that, within studies that examine the entrepreneurs who are favourable to sustainability issues in tourism sector, they appear to be scarce (Tzschentke et al. 2008; Koe et al. 2014; Akrivos et al. 2014). Thus, an environmental friendly behavioural change, which can be caused by information dissemination (Vining and Ebreo 1992), becomes a difficult emission for policy makers, because the target groups of entrepreneurs influenced to shift towards sustainability remain unknown.

In the proposed conceptual framework that explains the necessity of the objective of the present study, the following two research questions emerge: (1) what factors affect entrepreneurs' intention to adopt sustainable tourism practices and (2) what is the profile of tourism entrepreneurs who are not aware of potentials for sustainable development in their area.

2 Literature review

2.1 The concept of sustainable development

The concept of “sustainable development” was first introduced in 1972 at the United Nations Conference on the Human Environment held in Stockholm. It later gained prominence through the Brundtland Report presented to the United Nations by the World Commission on Environment and Development also known as “Our Common Future”. The definition emerging from the report states that “Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs” (WCED 1987: 43; Brundtland 1987). This report constitutes a critical expression of the increased need for environmental protection.

A commitment to sustainable development is expressed through Agenda 21. Agenda 21, established at the United Nations Conference on Environment and Development, also known as “Earth Summit”, in Rio de Janeiro, Brazil, in 1992. Agenda 21 is a global action plan for sustainable development into the twenty-first century that addresses the development of societies and economies by focusing on the conservation and preservation of our environments and natural resources. Agenda 21 asks governments to integrate sustainable development into their national strategies. Nations that have pledged to take part are monitored by the International Commission on Sustainable Development and are encouraged to promote Agenda 21 at the local and regional levels within their own countries. These pledges paved the way for gradual inclusion of the social, economic and environmental dimensions of sustainable development into governmental policy-planning and policy-making at regional, national and international levels.⁶

Convened 10 years after the United Nations Conference on Environment and Development in Rio, the World Summit on Sustainable Development (WSSD), also known as “Earth Summit 2002”, was held in Johannesburg, South Africa, to reaffirm sustainable development. In particular, it was convened to review progress since the Rio Conference in 1992, and to agree a new global deal on sustainable development by setting implementation strategies, answering questions of accountability and forming partnerships beyond traditional boundaries. It was clear that the concept of sustainable development was not considered complete without mentioning three dimensions as key elements of sustainability: the economic, environmental and sociocultural dimensions. Unlike its predecessor, it was primarily concerned with implementation rather than with new treaties and targets, although a number of new targets were agreed. Article 14 of the Johannesburg Plan of Implementation states that: “Fundamental changes in the way societies produce and consume are indispensable for achieving global sustainable development” (UN Department of Economic and Social Affairs, Division for Sustainable Development 2005).

In 2012, the United Nations Conference on Sustainable Development was also held in Rio and is also commonly called Rio+20 or “Rio Earth Summit 2012”.⁷ The Conference decided on topics within a number of fields, including sustainable tourism. As announced at the Johannesburg Summit, the World Tourism Organization, in collaboration with United Nations Conference on Trade And Development, launched the Sustainable Tourism-Eliminating Poverty initiative to develop sustainable tourism as a force in poverty alleviation.⁸

⁶ Available at: <http://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>.

⁷ Available at: <http://sustainabledevelopment.un.org/rio20>.

⁸ Available at: <http://sustainabledevelopment.un.org/topics/sustainabletourism>.

2.2 Sustainability, sustainable tourism and sustainable development

Having defined sustainable development, a further step is needed to be taken to adapt this concept to tourism in the sustainability concept. The World Tourism Organization (UNWTO) defined sustainable tourism at the “Euro-Mediterranean Conference on Tourism and Sustainable Development” in 1993 based on the definition from Brundtland Report. The definition proposed by the World Tourism Organization states that: “Sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems” (UNWTO 2001).

In 2005, the altered definition proposed for sustainable tourism states that: “Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities” (UNEP and UNWTO 2005).⁹ Within this context, sustainable development should combine socio-economic benefits for all stakeholders with a high level of tourist satisfaction. This includes as stable employment and income-earning opportunities, social services to host communities as well as raising tourist’s awareness about sustainability issues and promoting sustainable tourism practices amongst them.

“Sustainability, sustainable tourism and sustainable development are all well-established terms that have been used loosely and often interchangeably in the literature” (Liu 2003: 460). Tourism is characterized as an interconnected system of circuits between consumption and production (Atelijevic 2000).

Tourism is considered as an important engine for the economic growth and development of countries or local areas (see e.g. Chiutsi and Mudzengri 2012; Voon and Voon 2012; Webster and Ivanov 2014) having both positive and negative contributions to a society (Briassoulis 2002). An increase in tourism is perceived to increase the standards of living, to contribute to new investment opportunities and to generate revenues for local communities and authorities (Stylidis and Terzidou 2014). The demand for tourism services can promote the local development because it may supplement household incomes through entrepreneurship.

The interactions between visitors, tourism enterprises and the environment create several tensions. However, tourism should not be considered as a panacea for all of the problems in indigenous communities (Tao and Wall 2009). To avoid negative environmental impacts of tourism, new business development models should be promoted that they will give a higher degree of control to local communities for administering the tourism services (Reid and Sindiga 1999). The effect that tourism can have on community on a social, economic and environmental level depends highly on the management of tourism assets (Swarbrooke 1999). Within this context, previous studies have discussed the importance of community-based natural resources management (CBNRM) on the effectiveness of local developmental programs. Whande (2007) presented an overview of the literature focusing on examples in southern Africa region where the adopted community-based natural resource management has been promising for rural development strategy. These studies have generally emphasized on the positive impacts of improved socio-economic well-being in local communities. However, recently conducted empirical analysis based on household level data has demonstrated mixed effects of Namibia’s CBNRM program on socio-economic well-being (Riehl et al. 2015).

⁹ Available at: <http://sdt.unwto.org/content/about-us-5>.

Several researchers suggest that community involvement is important to pursue sustainable tourism development. That is why governance in sustainable tourism management should gain attention. Governance concerns “how societies are governed, ruled or steered” (Wang 2012: 988). “Sustainable tourism governance requires engagement and coordination of tourism, environment, community and wider development interests at local level” (UNWTO 2013: 7).¹⁰ Aall et al. (2015) comment that although local authorities have more effective control over sustainability issues, there is a need to have an overarching framework at an international or national level to provide guidance. However, Hall (2011) underlines that the potentials of improvements regarding sustainable tourism governance should be based on policy learning from past experience.

Sustainable tourism is not an antigrowth approach (Bramwell and Lane 1993: 2). Quite in the contrary, it is characterized as a positive approach that “acknowledges that there are limits to growth”. A holistic approach to sustainable tourism development should combine economic, cultural and social well-being to achieve a balance between growth and its impacts (Swarbrooke 1999; Richards and Hall 2000; Bestard and Nadal 2007; Thompson et al. 2011; Styliadis and Terzidou 2014). Hunter (1997) argues that sustainable tourism encompasses a set of principles, management methods and policy decisions. Policies towards sustainable tourism should not only be theoretically sound but also practically feasible. Thus, a feasible policy would rely on applying the sustainability principles on conventional tourism (Liu 2003), without contradicting the principles of development (Tosun 1998). Lafferty and Hovden (2003) bring up the issue of sustainable tourism by incorporating environmental concern apart from the traditional tourism schemes.

Sustainable tourism development should therefore focus on the implementation of all four areas of sustainable development (economic, environmental, social and cultural) in tourism industry. The most important issue is of being both sustainable and competitive. Sustainable tourism development programs that respect environmental component can also contribute to the tourism competitiveness (Hassan 2000). In such a case, “environmental commitment will be the forefront issue for the economic revitalization of the tourism industry (Hassan 2000: 244). Pulido-Fernández et al. (2015: 47) prove that “progress in tourism sustainability does not affect a country’s main economic tourism indicators in the short term, and does not constrain profitability and competitiveness”. Farmaki et al. (2015: 187) conclude that “the development of a legal framework penalizing unsustainable tourism practices could provide the driving force for encouraging sustainability”.

2.3 Sustainability-driven entrepreneurship and tourism

Sustainability management should be performed by entrepreneurs, expressing a set of decisions focused on promoting sustainable development in the mass market (Schaltegger and Wagner 2011). Linking entrepreneurship to sustainability management created a new way of organizing business operations called “sustainable entrepreneurship” (Dean and McMullen 2007; Parrish 2010). Sustainable entrepreneurship can be considered as part and parcel of entrepreneurship (Koe and Majid 2014). “Sustainability-driven entrepreneurs” are characterized as those who express entrepreneurship in order to contribute to improved social and ecological well-being (Tilley and Young 2006; Cohen and Winn 2007). Similarly, Majid and Koe (2012: 300) argue that sustainable entrepreneurship is regarded as “a process in which entrepreneurs exploit the opportunities in an innovative manner for

¹⁰ Available at: <http://www.e-unwto.org/doi/pdf/10.18111/9789284414741>.

economic gains, society equity, environmental quality and cultural preservation on an equal footing”.

When sustainability parameters are integrated in the core of entrepreneurs' decisions, their sustainability performance can also bring economic benefits for their business (Schaltegger and Wagner 2011; Figge et al. 2002; Young and Tilley 2006; Roberts and Tribe 2008; Parrish 2010). Since entrepreneurs are by definition driven by self-interested profit-seeking motives, sustainable development can be achieved if entrepreneurs are motivated by making it profitable to do so (e.g. Cohen and Winn 2007; Dean and McMullen 2007). Innovation can be the focal response to environmental problems (Hertin et al. 2001). The so-called business case for sustainable development supports that engaging in environmental friendly initiatives can both reduce operating costs and improve a firm's reputation. Schlange (2007) proved that successful sustainability-driven entrepreneurs are notable for their ability to simultaneously meet competing objectives in the economic, social and environmental field.

Empirical study by Kirk (1998) proves that sustainable tourism entrepreneurs recognize significant benefits for their firms such as improved public relations and better relationships with their local community. Atelijevic and Doorne (2000: 388) argue that some entrepreneurs choose to “stay within the fence” in order to preserve both their quality of life in their socio-environmental contexts and their “niche” market position. Similarly, Shepherd and Patzelt (2011) mentioned that benefits emerging from sustainable entrepreneurship are not only economic. A question remains on “how opportunities to bring into existence future goods and services are discovered, created, and exploited, by whom, and with what economic, psychological, social, and environmental consequences” (Cohen and Winn 2007: 35). Although Gibbs (2009: 65) warns that the concept of sustainable entrepreneurship is a “black box”, it is an opportunity where the exploitation of environmentally relevant market failures can simultaneously reduce environmental degradation. As stated “market system and the institutions that define them evolve over time in a manner that can resolve social ills” (Dean and McMullen 2007: 72).

Given the vagueness of the concept of sustainability in tourism, there is a tendency to misuse it by tourism entrepreneurs. The sustainability idea “can easily be adopted by entrepreneurs to advertise their tourism product, without any real steps being taken to apply it, even in the widest sense in which the concept is generally understood” (Cohen 2002: 268). Green entrepreneurship is characterized by a focus of noneconomic motivation and outcomes. Gibbs and O'Neil (2012) point out that the green entrepreneurs are seeking to combine environmental and business objectives. Rodgers (2010) argues that green entrepreneurs are concerned with the quality rather than quantity of their business, and with the impact of their entrepreneurship decisions.

Attention from professionals, groups and the media directed the tourism organizations towards sustainable tourism (Swarbrooke 1999). In addition, the need for sustainable tourism practices emerged as a result of the increased demand for diversification of tourism products (Lordkipanidze et al. 2005). Similarly, Cohen (2002) argues that it is necessary to understand the patterns and motivations for tourism in tourism behaviours, with a part of tourists that seek for authenticity and a connection with “untouched” environments and cultures.

2.4 Intention theory and its assessment of entrepreneurs' behaviour towards sustainable development

The penetration of a sustainable tourism plan is strongly related to the acceptance and adoption of relevant practices by tourism stakeholders. The degree to which stakeholders

of the tourism sector implement sustainable practices affects the effectiveness of a sustainable tourism plan for a region. Researchers have examined the role of employees on sustainable entrepreneurship (Wolf 2012) or visitors' perspectives on sustainable tourism patterns (Nicholas and Thapa 2010). However, as discussed earlier, entrepreneurs are considered an important stakeholder group to boost sustainable tourism development. As Tosun (2001) argues, the identification of sustainable tourism entrepreneurs signals the direction of a change. Sustainable development means change; change in personality, behaviour and attitudes. In this context, Crnogaj et al. (2014) support that entrepreneurship as a focal element of sustainable development is not a random process, but it is highly and importantly dependent on entrepreneurs' personality and characteristics. So, in order to stimulate sustainable entrepreneurial activity in the tourism sector and achieve sustainable development, it is important to study the factors that affect entrepreneur's behaviour towards sustainability. Studies adopted intention theory, also known as the Theory of Planned Behaviour, as explained by Ajzen (1991: 181),¹¹ who refers to "the indication of how hard people are willing to try or how much an effort they are planning to exert, in order to perform a behaviour". The intention theory is a powerful predictor of actual behaviour. Individuals who possess intention towards a behaviour would demonstrate a favourable evaluation or simply known as "positive attitude" on that particular behaviour.

Within this framework, research was developed to predict factors affecting intention towards sustainable entrepreneurship (Koe et al. 2014; Koe and Majid 2014). Specifically, results suggest that intention to embark on sustainable entrepreneurship is indirectly influenced by entrepreneur's perceptions on desirability and feasibility, which in turn are influenced by personal, situational and cultural factors (Koe and Majid 2014). Another observation is that managers with a positive attitude towards sustainability have also perceived themselves as having sufficient ability for adopting sustainable entrepreneurship practices (Koe et al. 2014). When considering socio-economic parameters that affect behaviour towards sustainable tourism entrepreneurship, empirical studies are limited and most researchers focus on explaining factors affecting green entrepreneurship in general. In particular, Braun (2010) found that women had stronger environmental attitudes and commitment to the green entrepreneurship program than males, suggesting that women entrepreneurs may be more engaged in green issues than male entrepreneurs. Tzschentke et al. (2008) argued that hospitality operators became environmentally involved primarily through the development of environmental consciousness. In regard to environmental practices, a developed sustainability attitude was also considered as a main predictor of pro-environment intention (Tonglet et al. 2004).

Similarly, exposure to local environmental initiatives had raised the awareness of some green entrepreneurs (Tzschentke et al. 2008). Allen and Malin (2008) also confirm that green entrepreneurs have high degrees of awareness about their environmental impact and a lower level of interest in economic success. Information dissemination may also be used to promote environmental awareness, which in turn can affect behaviour (Vining and Ebreo 1992). The main finding of the research of Akrivos et al. (2014) is that tourism entrepreneurs, who run business in the area of Evritania Greece, do not adopt sustainable operation practices due to the recession and its negative side effects on the economic performance of their business.

¹¹ The Theory of Planned Behaviour is an extension of the Theory of Reasoned Action (for more details see: Fishbein and Ajzen 1975).

Another important factor is a firm's size. More precisely, stronger socio-environmental values have been attributed to small firm-owners (Atelijevic and Doorne 2000). Schaltegger and Wagner (2011) empirical finding confirmed that there is some negative relation between the size of a firm and the sustainability innovation it attempts. However, Omar and Samuel (2011) reported that larger firm's adoption on environmental management was more promising than small and medium ones. Finally, environmental psychologists also have an important role to play in the management of environmental problems by promoting behavioural changes. In particular, Steg and Vlek (2009: 314) concluded that "promoting behaviour change is more effective when one (1) carefully selects the behaviours to be changed to improve environmental quality, (2) examines which factors cause those behaviours, (3) applies well tuned interventions to change relevant behaviours and their antecedents, and (4) systematically evaluates the effects of these interventions on the behaviours themselves, their antecedents, on environmental quality and human quality of life". As previously justified, the adoption of environmental friendly business practices is one part of sustainable entrepreneurship along with economic, social and cultural aspects. Thus, examining the factors that cause positive attitudes towards sustainable entrepreneurship is critical to develop a plan for achieving sustainable development in the tourism sector.

3 Methodology of research

3.1 Study area

The study area encompasses a large part of the Thessaly region, a region located in the middle of the mainland of Greece (Fig. 1). The region of Thessaly, consisting of the following four prefectures: Larissis, Magnisias, Trikalon and Karditsas, is located almost 350 km from Athens, the capital of Greece. The climate can be characterized as transitional between Mediterranean and continental Mediterranean climate. Within the region of Thessaly, two specific urban cities were chosen, namely Karditsa from the Karditsa prefecture and Kalabaka from the Trikala prefecture.

Both cities were chosen not only because they belong to neighbouring prefectures with the most popular tourist destinations on the mainland of Greece, but also because they have similarities and combine specific criteria, as described below, with high potential on sustainable tourism development, corresponding to the aim of the present study. In particular, both cities are urban areas surrounded by an environment of outstanding natural beauty and cultural heritage. Specifically, Karditsa city is very close to Plastira Lake, one of the most beautiful tourist destinations of mountainous Greece, whereas Kalabaka city is very close to Meteora, characterized as UNESCO's world heritage. The study areas have been designated as Natura2000 site (codes: GR 1440001; GR 1440002; GR1440003) and contain rich and rare fauna and flora and a high diversity of habitats. Apart from that, both cities benefited from "Leader+ European Program", for the period of 2007–2013.

"Leader" program was one of the most proactive EU initiatives aiming to diminish regional inequalities and contributing to the integrated development of the rural sector in Greece. LEADER I Community Initiative at first, followed by LEADER II and LEADER+ reinforced the local identity of the regions in which they were implemented, enhancing their natural and cultural resources, bringing together for the first time local productive sectors like agriculture and tourism together with revived local skills. In several cases,



Fig. 1 Map of the study area

Leader program enforced the competitiveness of rural areas, by elaborating through the implementation of pilot applications, on environmental, social, economic and cultural assets. Therefore, as expected through Leader programs, actions aimed at aspects of sustainable rural development were integrated (Mitoula et al. 2008).

3.2 Sampling selection procedure

According to the estimations of the local chamber of commerce, in the region of Karditsa, the total number of the entrepreneurs involved in the tourism sector is 550.¹² Particularly in the city of Kalabaka, the total number of tourism entrepreneurs is 270, whereas the remaining 280 entrepreneurs run a tourism business in Karditsa. Initially, 350 questionnaires were equally distributed between the sampled cities and the entrepreneurs, resulting in a participation of 175 entrepreneurs per city. Thus, our sample constituted 64.8 % of the entrepreneurs' population from Kalabaka (175 entrepreneurs out of 270) and 62.5 %, respectively, from Karditsa (175 entrepreneurs out of 280). The high per cent of sample

¹² The estimates refer to the year 2013.

was set as a goal due to the expected low rate of return. Given the purpose of this study, entrepreneurs were interviewed at their tourism businesses. To increase the probability of participation in the survey, the questionnaires were kept anonymous. As a prerequisite, the respondents were solely the decision makers of the tourism enterprises, excluding managers and employees of the company.¹³

The survey took place during the summer of 2013. The surveyed entrepreneurs sampled in each city were randomly selected by the researchers. The sampling frame used to the present study was as follows: (1) researchers obtained the list of the population of all the tourism businesses in each city, (2) a number was assigned to each tourism business, different for each city. Numbers in the list were arranged so that each digit has no predictable relationship to the digits that preceded it or to the digits that followed. Thus, the digits were arranged randomly. (3) A random number generator was selected in each case/city to choose the sampled business, taking into account the population size in each city and the sample size, and (4) the tourism business corresponding to the selected number was included to the initial sample. A business could be selected only once. Thus, a random sampling without replacement was performed. Surprisingly, the response rate was high, reaching almost 82 %, and the survey resulted in a total data set of 287 entrepreneurs. Specifically, 146 questionnaires were selected from the area of Karditsa and 141 from the area of Kalabaka.

The questionnaire was a structured questionnaire, which included closed-type questions. Given the limited number of empirical studies (as analysed in the literature review section), the questions were formed not only by taking into account relevant previous studies but also regarding eco-entrepreneurs who are favourable to sustainable practices. Feedback on sustainable tourism business practices was provided by several experienced entrepreneurs, resulting in the formation of the last part of the questions. Specifically, the questionnaire consisted of two sections: the first section included closed-type questions on demographic characteristics of the entrepreneurs such as gender, age, educational background and family status. In addition, fourteen questions were included, which aimed to describe the economic performance of the business. In particular, entrepreneurs were asked about their revenues and their monthly private income, the type of employment—seasonal or full year—their employees and the marketing strategy they follow. In the second section, entrepreneurs were asked about the environmental performance of their businesses and their attitudes towards sustainable tourism management. The initial draft was pilot tested to an initial sample of 50 tourism entrepreneurs from the sampled city, requesting feedback on wording, presentation and relevance of the question included on it. The results of the respondents showed no significant changes to be implemented other than wording, and the final questionnaire was reproduced.

3.3 Model specification

The overall justification of the research conducted within the present study is based on the conceptual framework presented in the previous sections of this study.

¹³ The following definition is followed: “entrepreneur is someone who exercises initiative by organizing a venture to take benefit of an opportunity and, as the decision maker, decides what, how, and how much of a good or service will be produced. The entrepreneur is usually a sole proprietor, a partner, or the one who owns the majority of shares in an incorporated venture” (available at: <http://www.businessdictionary.com/definition/entrepreneur.html#ixzz3LUPPv0Kb>).

Given the above-proposed theoretical framework, the novelty of the present research is based on the fact that the study is handled based on primary data from entrepreneurs in the tourism industry and the application of econometric methods for drawing conclusions.

The objective of the study is to estimate the factors affecting the promotion of sustainable tourism management, as expressed by the entrepreneurs' intention to adopt relevant actions. To address the research questions of the study, empirical analysis is performed based on the estimation of logistic regression models. First, a binary logistic model is estimated to predict the probability of entrepreneurs' intention to adopt sustainable business practices, identified by the values of the explanatory independent variables. Next, an ordered logistic regression is used for predicting the awareness of entrepreneurs towards potential development on sustainable tourism in their area. In both models, the independent variables were chosen by taking into account previous relevant studies towards factors affecting entrepreneurship, green entrepreneurship or environmental behaviour in general (Tzschentke et al. 2008; Steg and Vlek, 2009; Akrivos et al. 2014; Koe et al. 2014). Therefore, in the empirical study, the following expanded specifications were estimated.

First, a logistic regression model is estimated to answer the first research question of the analysis:

$$\begin{aligned} \text{Logit}[\text{Pr}(Y = 1)] = & c_0 + c_1 \text{gender}_i + c_2 \text{age}_i + c_3 \text{income}_i + c_4 \text{owner}_i + c_5 \text{employees}_i \\ & + c_6 \text{previous}_i + c_7 \text{env}_i + \varepsilon_i \end{aligned} \quad (1)$$

where the dependent variable is a binary variable indicating whether the entrepreneur i intend to adopt sustainable practices into their tourism business or not;¹⁴ specifically, the variable has a value of 1 when the entrepreneur expresses a positive attitude and zero otherwise; gender_i is a dummy variable accounting for 1 if the respondent is female and zero if male; age refers to the entrepreneur's age; income_i is the entrepreneur's monthly private income in euros; owner_i is a dummy variable accounting for 1 if the respondent is the owner of the business and zero otherwise; employees_i is a qualitative variable expressing the number of employees per business; env_i is a dummy variable accounting for 1 if the entrepreneur is aware of environmental problems of his area and zero otherwise; previous_i is a dummy variable accounting for 1 if the entrepreneur has previously implemented an eco-friendly action to his company such as recycling and zero otherwise; and ε is an error term.

Next, an ordered logistic regression model is estimated to predict the level of agreement regarding the statement "I am aware of potentials for sustainable tourism in my area" (Answers: totally disagree: 1, disagree: 2, neutral: 3, agree: 4, totally agree: 5) and is estimated regarding the second research question. The general specification of the proposed model regarding the second research question is the following:

$$\begin{aligned} y_i^* = & b_0 + b_1 \text{gender}_i + b_2 \text{age}_i + b_3 \text{income}_i + b_4 \text{owner}_i + b_5 \text{employees}_i + b_6 \text{previous}_i \\ & + b_7 \text{env}_i + \varepsilon_i \end{aligned} \quad (2)$$

where y_i^* is the latent variable measuring the level of entrepreneur's awareness towards potentials for sustainable development in their area; gender_i is a dummy variable

¹⁴ More precisely, the formulation of the question was: "Do you intend to adopt sustainable practices in your firm? Sustainable practices are defined those associated with all the pillars of sustainable development (economic, social-cultural and environmental)" (Dichotomous choice answer: Yes or No).

accounting for 1 if the respondent is female and zero if male; age is the entrepreneur's age; income_{*i*} is the entrepreneur's monthly private income in euros; owner_{*i*} is a dummy variable accounting for 1 if the respondent is the owner of the business and zero otherwise; employees_{*i*} is a qualitative variable expressing the number of employees per business; envi_{*i*} is a dummy variable accounting for 1 if the entrepreneur is aware of environmental problems of his area and zero otherwise; previous_{*i*} is a dummy variable accounting for 1 if the entrepreneur has previously implemented an eco-friendly action to his company such as recycling and zero otherwise; and ε is an error term. The empirical results from the estimation of Eqs. (1) and (2) are presented in the next section of this study.

4 Results

The results of the statistical and econometric analyses to estimate the determinants that affect entrepreneurs' behavioural intentions and beliefs towards sustainable tourism practices and development of the area are as follows:

4.1 Statistical analysis

The total sample used in the analysis was 287. The gender of the entrepreneurs was 42.5 % women and 57.5 % men. Most of the entrepreneurs were university-educated (45.2 %), while 36.9 % had completed secondary education. Respondents were between the ages of 26 and 40 years (49.5 %); 12.2 % were between 20 and 25 years, 21.6 % between 41 and 50 years and 16.7 % above 50 years. From the sample of entrepreneurs in question, 53.0 % of entrepreneurs were married. The entrepreneurs' average monthly private, nonproperty-related, income was €850, with a large percentage (25.1 %) of monthly incomes being no higher than €400. The income of 30.3 % of entrepreneurs varied between €400 and €800, 15 % of entrepreneurs' declared income varied between €801 and €1200 and 24 % declared having an income above €1201. The businesses' average years in operations were 14.6.

Regarding businesses' characteristics, from the sample of entrepreneurs in question, 20.2 % run hotels or resorts, 16.7 % restaurants and coffee shops, 39 % commercial shops and the rest (24 %) souvenir shops. The great majority of the respondents (84.3 %) were employed exclusively in this particular business. Family members of the owner were also employed in the business (51.2 %), while nonrelated employees were local workforce (91.1 %). On average, each entrepreneur employed four persons and only 13 % of the enterprises employed more than 10 persons. Of the enterprises, 89.2 % operated all year round, while the rest operated seasonally. However, most of the enterprises made more profits during summer (64.5 %) and holidays seasons (41.1 %) compared to the other seasons. Entrepreneurs who did not advertise their business amount to 32.4 %. Almost half of the entrepreneurs (50.7 %) thought that small and medium enterprises are not able to compete with bigger ones. Most of the entrepreneurs considered their business profitable. However, only 19.2 % of entrepreneurs had joined a local development program such as Leader. Finally, local competition (59.6), lack of innovation (11.5 %) and lack of access to financing (13.2 %) were characterized as the most important problems to entrepreneurship.

Entrepreneurs were asked about the environmental performance of their businesses and their perspectives on sustainable tourism practices. As several previous studies (Tosun 2001; Nicholas and Thapa 2010; Wolf 2012; Crnogaj et al. 2014) indicate, the identification of sustainable tourism entrepreneurs signals the direction of a change in personality,

behaviour or attitude. To avoid negative environmental impacts of tourism, new business development models should be developed that will give a higher degree of control to local communities for administering the tourism services (Reid and Sindiga 1999). In our case, almost half (46 %) of the entrepreneurs did not recognize that the economic activities of their business contribute to the degradation of the natural environment, 36.6 % thought that they contributed only a little and only 21 % answered “very much”. A correlation exists between educational status and stated awareness of contribution to environmental degradation. More specifically, entrepreneurs’ educational level is related to the recognition of the level of environmental degradation due to their economic activities. Correlation tests were performed; education level and the understanding of environment degradation are also estimated to be significantly associated ($\chi^2 = 39.208 \sim p \text{ value} < 0.01$).

Of the respondents, 36.2 % remained a neutral view on their customers expected willingness to pay more for environment friendly services, whereas 34.8 % disagreed and 20.2 % totally disagreed with that option. This result may be explained by several aspects such as: (1) the current economic crisis in Greece and its negative effect on household income, (2) lack of information regarding sustainability issues and (3) lack of priorities on the part of the entrepreneurs regarding the promotion of eco-friendly services.

The majority of respondents (64.1 %) practices are associated with all the pillars of sustainable development (economic, sociocultural and environmental). About their eco-friendly experience thus far, almost half (44 %) of the entrepreneurs reported that their enterprise had in the past taken eco-friendly actions, while the majority of the entrepreneurs (72.8 %) were willing to act accordingly in the near future.¹⁵

Several studies (Bramwell and Lane 1993; Voon and Voon 2012; Styliadis and Terzidou 2014) supported that tourism is perceived to increase the standards of living and lead to a sustainable economic growth for a local area. Within this context, entrepreneurs were asked to define the term “sustainable development” of a region. It is interesting that only 9.1 % selected “environmental friendly activities” or “solely economic activities” (15.7 %) and 74.9 % chose “economic activity with respect to environmental protection”. Gender and educational level of the entrepreneurs are also significantly associated with sustainable development as “economic activity with respect to environmental protection” (gender*sdefinition $\sim \chi^2 = 12.110 \sim \text{prob} = 0.017$, educational level*sdefinition $\sim \chi^2 = 35.302 \sim \text{prob} = 0.019$) at 5 % level of significance. It is interesting that 42.3 % of the sample who indicated that the sustainable development is an eco-friendly economic activity was women and 57.7 % was men.

As regards to educational level attainment, 7.7 % of the sample reported that economy and environment are interrelated, was entrepreneurs who had completed primary school, whereas 46.1 % of them had a secondary school degree and 46.2 % had a university degree. However, 33.8 % of the entrepreneurs reported that they were moderately, or only a little (25.1 %) informed about the potential for sustainable tourism development in their area. Vining and Ebreo (1992) point out the importance of informational strategies on sustainability issues. The results support that only 6.6 % of the entrepreneurs were “very much” informed about the potential for sustainable tourism development in their area.

With respect to the question “What, in your opinion, are the essential elements for the promotion of sustainable tourism?” 70.2 % of interviewees indicated respect for the local culture and natural environment, and 41.8 % answered that the education of local population and tourist guides towards sustainability is important. Only 5 % of entrepreneurs answered that limiting the number of tourists in their area is a solution to achieve sustainability. However, 58.9 % of entrepreneurs characterized that the use of existing

¹⁵ Intention is a positive attitude to do something, whereas willingness suggests a desire to do.

infrastructure with continuous improvements or the effort to enhance the economic benefits from tourism is an essential element for sustainable tourism. Lastly, only 11.3 % chose the training of tourists on sustainability issues. The aforementioned question was based on several studies that have linked the issue of the relationship between attitudes and practices from the side of entrepreneurs and the topic of sustainability. According to several studies, it is high of interest that a holistic approach to sustainable tourism development should combine economic, social and environmental benefits for a local area (see e.g.: Bramwell and Lane 1993; Swarbrooke 1999; Voon and Voon 2012; Webster and Ivanov 2014; Styliadis and Terzidou 2014).

Finally, it is known that entrepreneurs' decisions can also bring benefits not only for their business (Schaltegger and Wagner 2011; Figge et al. 2002; Young and Tilley 2006; Parrish 2010) but also for the sustainability of a local economy (Hertin et al. 2001; Schlange 2007). Thus, entrepreneurs were asked about the actions that they consider as important to support tourism sustainability. In particular, 56.7 % of entrepreneurs reported that the creation of knowledge networks and websites focused on sustainable business are important and 26.2 % selected the promotion of environmental labels and certified management systems in tourism businesses. According to the entrepreneurs, important factors for tourism sustainability were the promotion of initiatives or innovative ideas on sustainability amongst business (36.2 %) as well as the idea of informing tourists about the benefits of sustainable tourism (33.3 %). No statistical significant differences were found between the previously mentioned questions and the demographics of the entrepreneurs or firms' characteristics.

4.2 Econometric analysis

4.2.1 Estimating factors affecting entrepreneurs' intention to adopt sustainable tourism practices

Several results were obtained from the empirical estimation of Eq. (1). Table 1 presents the estimated coefficients regarding tourism entrepreneurs' intention to adopt sustainable business practices. From Table 1 can be derived that the variable "previous" is statistically insignificant. The main results are the following:

1. The variable "age" is statistically significant at a 1 % level. In particular, the coefficient of "age" is -0.048 and the relative risk of this particular variable is 0.953 which implies that the corresponding percentage change is -0.047 . This means that in relation to age, the odds of entrepreneur's intention to choose eco-friendly strategies for their business decrease by 4.7 %, *ceteris paribus*.
2. In the case of "gender", results imply that men rather than women have increased probability to adopt practices for greening their businesses by almost 1.3 %, *ceteris paribus*. This result is not awkward in Greek case since it is common sense that men are mainly the decision makers regarding business plans.¹⁶
3. In the case of ownership, result implies that the corresponding percentage change is 0.485. This means that, as expected, owners are more likely to be willing to adopt sustainable practices in their business compared to others, with all other variables

¹⁶ Please note that as presented elsewhere, Braun (2010) concluded that women had stronger environmental attitudes and commitment to the green entrepreneurship program than males. The author(s) believe that the results are not comparable since the stated research question in our case is different, focusing on intention to adopt sustainable business practices.

Table 1 Estimated binary logistic regressions of entrepreneur's intention to adopt sustainable tourism practices in his/her company (yes: 1 no: 0) ($n = 287$)

Independent variables	Estimated coefficients	Odds ratio	$e^{\beta} - 1$
Constant	2.66*** (3.33)	–	–
Gender	–0.003* (–2.01)	0.987	–0.013
Age	–0.048*** (–3.36)	0.953	–0.047
Income	0.19** (2.70)	1.127	0.127
Owner	0.911** (1.93)	1.485	0.485
Employees	0.027* (1.76)	1.027	0.027
Previous	–0.251 (–0.55)	0.778	–0.222
Envi	0.116* (1.88)	1.017	0.017
Log likelihood	–144.862		
Pseudo R^2	0.271		
Hosmer and Lemeshow	2.19 (0.544)		

***, **, * Represent levels of significance at 1, 5 and 10 %, respectively. Z statistics are presented in parentheses

remaining fixed. Similarly, entrepreneurs in the high impact group are more likely in greening their companies, with an increase of 0.127 in relation to at 5 % level of significance.

- Finally, as the number of employees increases the probability of being positive to sustainable practices in the company increases too, by almost 3 %. This relation was at a 10 % level of statistical significance. Entrepreneurs who stated that they were aware of the environmental problems of their region showed the same significance.

4.2.2 Estimating determinant factors of entrepreneurs' awareness towards the potentials for sustainable development

Table 2 summarizes the empirical results of the ordered logit equation's estimated coefficients with respect to the awareness regarding the potentials for sustainable tourism development in the area. In particular, the parameters of the ordered probit model were estimated by maximum-likelihood estimation. Estimation results are shown in Table 2. First, the main focus of this discussion is the interpretation of the statistical significance of the independent variables, the so-called marginal effects. The changes in the probability levels of the dependent variables are also estimated, which provides an interpretation of the substantive effect of the independent variables. This allows interpreting changes in the probability of the agreements levels for a change in a given parameter, relative to the reference case. As shown, in the second column of Table 2, in the case of entrepreneur's socio-economic variables, all the variables are statistically significant in 0.01 or 0.05 levels. The main results are the following:

1. Results imply that an increasing negative correlation exists between the level of awareness of the potentials for sustainable tourism development in the area and the age profile. Each added year of age is associated with a 9.7 % (OR 0.097) decrease in the odds of reporting agreement in relation to awareness, with all other values remaining constant.
2. Females are more likely to be aware of the potentials for sustainable tourism development in the area when compared to men. The odds of reporting awareness are 1.185 times greater for female in comparison with men.
3. An increasing positive correlation exists between the level of agreement regarding awareness of the potentials for sustainable tourism development in the area and the income of the entrepreneurs. This means that in relation to entrepreneurs in the high-income group, the odds of agreeing to be aware of the potentials for sustainable tourism development in the area increases by almost 19 % (OR 1.188) with all other

Table 2 Estimated ordered logistic regression of entrepreneur's awareness towards the potentials for sustainable tourism development in their area

Independent variables	Estimated coefficients	Odds ratio	Marginal effects				
			Totally Disagree	Disagree	Neutral	Agree	Totally agree
Gender	0.169** (2.78)	1.185	-0.019	-0.021	0.008	0.023	0.009
Age	-0.032*** (-2.97)	0.097	0.004	0.004	-0.0014	-0.004	-0.002
Income	0.173** (2.04)	1.188	-0.019	-0.021	0.008	0.023	1.009
Owner	0.289 (0.86)	1.335	-0.036	-0.034	0.017	0.038	0.017
Employees	-0.051** (-2.02)	0.951	0.006	0.006	-0.0023	0.007	-0.003
Envi	0.119*** (2.65)	1.126	-0.014	-0.014	0.006	0.016	0.007
Previous	-0.229 (-1.38)	0.796	0.026	0.028	-0.011	-0.03	-0.013
_cut1	2.892 SE: 0.553						
_cut2	-1.463 SE: 0.536						
_cut3	0.0587 SE: 0.528						
_cut4	1.767 SE: 0.552						
Log likelihood	-216.45						
Pseudo R ²	0.299						
LR χ^2	124.90 (0.0008)						

Totally disagree: 1, disagree: 2, neutral: 3, agree: 4, totally agree: 5

n = 287

***, ** Represent levels of significance at 1 and 5 %, respectively. Z statistics are presented in parentheses

- variables remaining fixed. Similarly, the variables “advertisement” and “price” are not statistically significant.
4. Results indicate that ownership status (owner) and an entrepreneur’s past experience regarding eco-friendly practices in their business (previous) are not statistically significant variables. Contrary, the odds of an entrepreneur’s awareness of the potentials for sustainable tourism development in the area are lower by 0.951 times in relation to the number of employees occupied in their business.
 5. An increasing positive correlation exists between the level of awareness of the potentials for sustainable tourism development in the area and entrepreneurs’ awareness of the environmental problems of the area, at 1 % level of significance. The odds of confirming awareness of the potentials for sustainable tourism development in the area are 1.126 times greater for persons who know the environmental problems of their region, in comparison with others, *ceteris paribus*. Thus, it is confirmed that a positive relation exists between entrepreneurs’ environmental awareness and awareness of the opportunities towards sustainable development within the community.

5 Discussion

The objective of this paper was to investigate parameters behind entrepreneur’s favourable decisions towards sustainable business management. Specifically, this study tried to explore the determinant factors affecting respondents’ intention towards the adoption of sustainable entrepreneurship and their awareness of the potentials for the sustainable tourism in the study area. The interconnection between sustainable development and sustainable entrepreneurship is established through reviewing topical literature. In order to fulfil the objective of our study, emphasis was paid to differences in the attitude of entrepreneurs towards sustainability issues in regard to their demographics and their firm’s characteristics, running regression models. All variables included in these models to explain intention towards sustainable entrepreneurship (Eq. 1) and acknowledgement towards sustainable opportunities (Eq. 2) were also incorporated in other similar surveys, regarding the entrepreneurs’ profile or eco-friendly attitudes in general, but not yet in the context of tourism, nor within a regression modelling approach.

In general, the results, justified by the conceptual framework adopted in the study, are in line with previous approaches. Specifically, variables included in logit models have the anticipated signs as examined elsewhere. Dean and McMullen (2007) pointed out that the growing interest of many entrepreneurs for the cessation of environmentally degrading activities was combined with a willingness to pay for a reduction in relevant activities. It is confirmed that environmental awareness has a positive effect on entrepreneurs’ intentions to adopt sustainable practices. This positive effect is also seen regarding their awareness of sustainability potentials within the community. These results confirm previous studies which reported that the decision to become environmentally involved had been influenced primarily by the development of environmental consciousness (Tonglet et al. 2004; Tzschentke et al. 2008). Akrivos et al. (2014) also concluded that resources were not used in a sustainable manner because of the attitude amongst entrepreneurs disregarding tourism as being harmful to the environment.

Demographics explain statistically significant differences towards an intention to adopt sustainable entrepreneurship. In our case, age has a negative impact on both the intention to pay in order to adopt sustainable tourism practices as well as the acknowledgements of

sustainability options. In general, previous studies argued that sustainable entrepreneurship is linked to the adoption of innovation in business (e.g.: Goodman 2000). Younger entrepreneurs are supposed to be more supportive to nascent enterprises and innovative ideas (Lévesque and Minniti 2006; Blanchflower and Oswald 1998). Thus, our result is connected to the reservation and risk averseness that may characterize elders in regard to innovative actions, such as implementing sustainable developments within the core of their business activity. Empirical analysis found that women had stronger awareness of sustainability opportunities, whereas men are more likely to adopt sustainable business strategies, as they are the main decision makers.

The results indicate that entrepreneurs in the high-income group are more favourable to sustainable business practices. This was expected since some environmental friendly business practices are costly, commonly with a low rate of return. However, this result can also be interpreted differently. In particular, given the “business case” for sustainable development, (e.g. Cohen and Winn 2007; Dean and McMullen 2007), entrepreneurs may be favourable to sustainable practices because of the indirect outcomes of the adoption of eco-friendly actions. These outcomes can be reduced operating costs and an improved competitiveness of their firm in the light of changing tourist demands (Schaltegger and Wagner 2011; Figge et al. 2002). Finally, results of the present study point out that firm's characteristics, such as larger size and ownership, positively affect their intentions towards sustainable entrepreneurship. As Omar and Samuel (2011) reported, owners of larger firms are more favourable to adoption of environmental management than SMSs.

6 Conclusions

This study's aim is mainly to provide insights into the factors that affect entrepreneurs' behavioural intentions regarding sustainable tourism practices, employing data from Greece. Summarizing the findings of the empirical analysis, it is concluded that entrepreneur's demographics parameters and firm's characteristics have distinctive effects in explaining respondents' behaviour towards sustainable entrepreneurship and acknowledgement of the sustainability options of a community. This study also shows the importance of environmental awareness on entrepreneurs' intentions towards sustainable entrepreneurship. In addition, it is estimated that elders are less informed about the potentials for sustainable development and less intended to adopt sustainable practices compared to younger ones. Another important factor that positively affects tourism entrepreneurs' choice to act eco-friendly is income. Results suggest that entrepreneurs value adopting relevant sustainability actions within their business, such as the promotion of environmental management systems, or by supporting similar actions independently such as participating in campaigns to inform tourists about the benefits of sustainable tourism.

A key question is why analysing sustainable entrepreneurship matters. It matters because sustainable entrepreneurship is directly related to achieving sustainable development goals. Within this context, there are several implications. Particularly, managers are confronted with environmental issues in their decisions, not only in considering environmental responsibilities and business ethics, but also strategically, to ensure profitability in today's competitive market (Molina-Azorin et al. 2009). Sustainable entrepreneurs could expand their market share by focusing their advertising campaigns on the eco-friendly customers. The research has also implications for practitioners in identifying under which

firms are most likely to make moves towards sustainability innovation. (Schaltegger and Wagner 2011). The results are crucial for policy-making because the identification of sustainable tourism entrepreneurs points to the needed direction in order to achieve sustainable development (Tosun 2001); change is highly dependent on entrepreneurs' personality and characteristics (Crnogaj et al. 2014). Thus, in order to achieve sustainable tourism development, it is important to study the factors that affect and stimulate entrepreneur's behaviour geared towards sustainability. Market segmentation would help policy makers formulate differentiated informational strategies specifically targeting those entrepreneurs groups that were identified as being inclined to make sustainable decisions. Targeting and influencing entrepreneurs in becoming more eco-friendly will limit the impact of their business on their environment.

This paper is not without any limitations. First, this study only focused on intentions for adoptions of sustainable entrepreneurship practices. Thus, further research is needed on the actual sustainable entrepreneurship and the specific sustainable practices taken by the entrepreneurs. Second, the explanatory variables used in the empirical models are only entrepreneurs' demographics and firm characteristics. Thus, future researchers are recommended to examine the impact of social norms or peer groupings. Third, given that the sampled tourism entrepreneurs came from a specific urban part of Greece, the findings are specific for that region and did not take into consideration business differences within the different geographic areas of Greece. Lastly, further research is needed on specific motives, including economic ones, that can encourage a tourism entrepreneur in adopting the principals of sustainability in their business strategies. For this purpose, a national sustainable tourism development framework should be formulated.

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