The effects of entrepreneurial orientation dimensions on performance in the tourism sector

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Abstract

Purpose – The purpose of this paper is to examine the influence of entrepreneurial orientation (EO) dimensions on firm performance in the tourism sector. The goal is twofold: on the one hand, the paper aims to test whether EO dimensions are still significant determinants of performance after controlling for possible confounding factors; on the other hand, it aims to address the question of which EO dimension exerts the strongest effect on performance.

Design/methodology/approach – A survey was carried out in the Sardinian accommodation sector in 2012 and 224 questionnaires were collected. The multidimensional EO constructs were adopted.

Findings – The results show that innovativeness, proactiveness and autonomy were significantly associated with tourism firm performance, whereas risk-taking and competitiveness were not.

Research limitations/implications – The results are limited to the Sardinian accommodation context. Self-reported data were used to measure firm performance. Further research works could replicate the analyses using objective firm performance not only in similar touristic destinations but also in other countries and incorporating other industries.

Practical implications – The study suggests educational and managerial implications. Entrepreneurs in the tourism sector should be encouraged to adopt an innovative, autonomous and proactive approach in managing their firms.

Originality/value – The study advances entrepreneurial knowledge in the tourism sector and in particular in the accommodation industry. The multidimensional EO approach has never been adopted among touristic firms. Furthermore, considering that EO research has been overlooked in the country of Italy, this study's contribution is also providing evidence from an area that has received minimal attention to date.

Keywords Entrepreneurial orientation, Multidimensional approach, Accommodation sector, Ordered logit regression, Tourism sector

Paper type Research paper

Introduction

Tourism encompasses many different services, facilities and attractions (Leiper, 1979; Smith, 1988) that create a lot of entrepreneurial opportunities. In many countries and regions, the tourism industry is considered to be one of the largest industries when it comes to wealth production and job creation. During the last decade, despite the general negative macroeconomic context, it is worth noting that tourism has been constantly growing. In 2016, tourist demand grew for the seventh consecutive year reaching 1,235 million international tourist arrivals with the strongest increasing recorded in Africa, Asia and Pacific regions. The growth in tourism obviously influenced the increase in the demand in touristic services (World Tourism Organization, 2017).

Tourism is considered an appealing industry capable of attracting many entrepreneurs. Often, however, these “improvised entrepreneurs” enter into the market without sector-specific

experience and with inadequate managerial skills or entrepreneurial attitudes (Hjalager, 2010). Among various causes of failure in the sector, the most frequent concern is low managerial competence and lack of experience (Kirby, 2003).

It seems natural to focus research efforts on the analysis of entrepreneurial activities and attitudes in this promising economic sector. Recent years have seen an increase in the number of studies dealing with entrepreneurship in the hospitality and tourism industry (Li, 2008; Solvoll *et al.*, 2015). Some studies have shown how entrepreneurs recognize opportunities during chaotic periods (Russell and Faulkner, 1999, 2004). Within the research branch related to small and medium-sized tourism enterprises (Ateljevic, 2007; Shaw, 2005; Thomas *et al.*, 2011), many researchers have focused on the personality traits and attitudes of entrepreneurs (Legohrel *et al.*, 2004; Lerner and Haber, 2001; Getz and Petersen, 2005). Finally, some authors have shown a positive relationship between entrepreneurial orientation (EO) and tourism firms' performance (Jogaratham *et al.*, 1999; Jogaratham, 2002; Sul and Khan, 2006; Jogaratham and Tse, 2006; Tajeddini, 2010).

This study aims to examine how entrepreneurially oriented tourism firms are and to what extent entrepreneurial activities contribute to better performance in the Sardinian context. Sardinia represents a renowned tourism destination where entrepreneurial opportunities do not yet seem to be totally exploited[1]. This could be related to a lack of entrepreneurial capabilities. This makes the Sardinian case a particularly interesting context to see whether EO dimensions can make the difference in determining firms' performances. This paper adopts a multidimensional EO approach to examine the degree of the five EO dimensions – innovativeness, risk-taking, proactiveness, competitiveness and autonomy – and their individual contributions to the increasing/decreasing performance of tourism firms. So far the multidimensional approach in tourism studies has not received much attention. In fact, previous studies conducted in the sector have adopted the unidimensional approach focusing on the linkage between the EO-performance considering all dimensions as a unique one (Jogaratham *et al.*, 1999; Jogaratham, 2002; Jogaratham and Tse, 2006).

A better understanding of this relationship could produce relevant policy, education and managerial implications; activities and abilities such as risk-taking or innovativeness could be encouraged through public policy incentives or educational courses addressed to prospective or current entrepreneurs involved in tourism businesses.

To achieve these ends, a survey was carried out in the Sardinian accommodation sector. The accommodation sector was chosen since it is more directly connected to the tourism industry than any other business (Smith, 1988). The paper consists of five sections. Following the introduction, the second section presents the EO construct and describes its relationship to firm performance, paying particular attention to tourism firms; the third section briefly describes the empirical context where the survey was carried out; the fourth section describes the methodology and reports the results; and finally, the fifth section discusses the findings and outlines the main conclusions.

Literature review

EO suggests that some activities, which can be considered entrepreneurial, develop inside firms, affecting the decisions, features, processes, actions and performance of an organization (Covin and Slevin, 1991; Lumpkin and Dess, 1996). The EO construct comes from the strategic management literature (Miller, 1983; Mintzberg, 1973) and deals with the strategy-making process. According to the strategic management perspective, the entrepreneurial posture of a firm is an important component with regard to achieving organization goals and good performance. It is viewed as being determined by the way the firm adapts to its external context (Miles and Snow, 1978).

EO was initially born as a scale to measure entrepreneurial firm attitudes (Miller, 1983). Later, EO measurements were often used in empirical analyses with the aim of investigating the

linkage between EO and firm performance (Covin and Slevin, 1989, 1991; Lumpkin and Dess, 1996; Gupta and Gupta, 2015; Wales, 2016). Thus, several empirical studies have found a positive relationship between EO measures and performance among firms from different industries and national cultural contexts (Rauch *et al.*, 2009; Wales *et al.*, 2013; Gupta and Dutta, 2016).

The EO construct consists of five dimensions: innovativeness, proactiveness, risk-taking, competitive aggressiveness and autonomy (Lumpkin and Dess, 1996; Dess and Lumpkin, 2005). These dimensions encompass the most acknowledged entrepreneurial skills and have been extrapolated from the entrepreneurship and strategy-making process literature. Innovativeness involves the firm's attitude to developing the innovative processes that often lead to new products, new services and technological discoveries (Lumpkin and Dess, 1996; Schumpeter, 1934). Proactiveness concerns the firm's ability to anticipate market changes, in particular customer trends; it therefore relates to a proactive orientation to seize market opportunities (a sort of Kirznerian alertness). Using a metaphor, in a chess competition, proactive companies are able to anticipate the moves of other players and see new winning strategies, rather than limiting themselves to defending the king for the whole match (Kirzner, 1973; Shane, 2003; Lumpkin and Dess, 1996). Proactive companies are trend-setters rather than followers.

Risk-taking deals with the firm's inclination to undertake risky activities with uncertain implications (Knight, 1921), such as exposure to debts and risky investments (Lumpkin and Dess, 1996). Competitiveness concerns the firm's attitude toward dealing with competitors. It consists of continuously monitoring and countering rivals' strategies (even by imitating other firms) with the aim of achieving a competitive advantage and a better performance (Porter, 1985). Autonomy deals with the predisposition toward suitable conditions for development and the subsequent implementation of innovative ideas. An organizational culture that promotes new initiatives without hindering individual creativity could be considered autonomous (Lumpkin and Dess, 1996).

A later improvement in EO research has been the investigation of all dimensions together, rather than considering them as unique. This is the so-called multidimensional approach (Covin and Wales, 2012; Lumpkin and Dess, 1996). How active a firm is in terms of each dimension seems to vary in relation to firm stage, type of production or service and environment (Miller, 2011). The multidimensional approach can provide additional details about the origin of EO and the influence of each dimension on firm performance.

Although the majority of empirical analyses on the relationship between EO and performance have used the unidimensional scale, an increasing number of studies adopting the multidimensional approach can be found (Rauch *et al.*, 2009; Wales *et al.*, 2013). In this regard, Table I summarizes articles that investigated the contribution of the single EO dimensions on firms' performance, highlighting dimensions analyzed, the country where the study was conducted and samples. Looking at EO studies in general, it is noteworthy that despite the fact that there has been an increase in terms of different national cultural contexts, many countries, such as Italy, remain unexamined (Wales *et al.*, 2013).

With regard to the tourism sector, previous studies focused on EO-performance relationship have tended to neglect the contribution of each single dimension (Jogaratham *et al.*, 1999; Jogaratham, 2002; Jogaratham and Tse, 2006). As noted by Hjalager (2010), innovativeness is a unique entrepreneurial attitude, which has been deeply examined in tourism. For example, Tajeddini (2010, 2011) analyzed the relationship between innovativeness and performance in the Swiss hotel industry. Evidence from both studies suggested that innovative activities have a significant and positive effect on performance in the hotel industry. This paper seeks to get a more in-depth look at how EO impacts on firm performance. It accomplishes this aim by investigating the impact of each entrepreneurial dimension separately within the accommodation sector in a regional Italian context. In fact, so far, the multidimensional EO approach has never been adopted among touristic firms and EO research in Italy has been previously overlooked.

Paper	Journal	Sample	Country	EO dimensions investigated
Andersén (2010)	<i>International Journal of Entrepreneurial Behaviour & Research</i>	172 firms in manufacturing industry	Sweden	Proactiveness, innovativeness, risk-taking
Boso <i>et al.</i> (2012)	<i>International Business Review</i>	212 exporting firms	England	Product innovation intensity, product innovation novelty, risk-taking, proactiveness, competitiveness
Boso <i>et al.</i> (2013)	<i>International Small Business Journal</i>	164 exporting firms	Ghana	aggressiveness, autonomy Product innovation intensity, product innovation novelty, risk-taking, proactiveness, competitiveness
Casillas <i>et al.</i> (2010)	<i>Family Business Review</i>	317 family businesses	Spain	aggressiveness, autonomy Proactiveness, competitive aggressiveness
Dai <i>et al.</i> (2014)	<i>Journal of Business Venturing</i>	500 SMEs spanning 10 industries	USA	Proactiveness, innovativeness, risk-taking
Farja <i>et al.</i> (2016)	<i>New England Journal of Entrepreneurship International</i>	626 SMEs	Israel	Proactiveness
Gunawan and Duysters (2016)	<i>Entrepreneurship and Management Journal</i>	120 SMEs in footwear industry	Indonesia	Proactiveness and risk-taking
Gupta <i>et al.</i> (2016)	<i>New England Journal of Entrepreneurship</i>	16 large retail companies	USA	Proactiveness, innovativeness, risk-taking
Hughes and Morgan (2007)	<i>Industrial Marketing Management</i>	211 young high-technology firms	UK	Proactiveness, innovativeness, risk-taking, competitiveness
Koe (2013)	<i>Journal of Entrepreneurship Management and Innovation</i>	153 government-linked companies	Malaysia	aggressiveness, autonomy Proactiveness, innovativeness, risk-taking, competitiveness
Kollmann and Stockmann (2014)	<i>Entrepreneurship: Theory & Practice</i>	228 ICT companies	Germany	aggressiveness, autonomy Proactiveness, innovativeness, risk-taking
Kozubiková and Zoubková (2016)	<i>Journal of International Studies</i>	429 micro-enterprises	Czech Republic	Innovativeness, competitive aggressiveness
Kozubiková <i>et al.</i> (2015)	<i>Transformations in Business and Economics</i>	1,141 SMEs	Czech Republic	Innovativeness, competitive aggressiveness, proactivity
Kraus (2013)	<i>The Services Industries Journal</i>	310 service firms	Austria	Proactiveness, innovativeness, risk-taking
Kraus <i>et al.</i> (2012)	<i>Review of Managerial Science</i>	164 SMEs (manufacturing and services industry)	The Netherlands	Proactiveness, innovativeness, risk-taking
Kreiser <i>et al.</i> (2013)	<i>Small Business Economics</i>	1,668 SMEs across 9 industries	Australia, Costa Rica, Finland, Greece, Indonesia, Mexico, the Netherlands, Norway and Sweden	Proactiveness, innovativeness, risk-taking

(continued)

Table I.
Articles examining
EO dimensions-
performance
relationship

Table I.

Paper	Journal	Sample	Country	EO dimensions investigated
Kuivalainen <i>et al.</i> (2007)	<i>Journal of World Business</i>	185 exporting firms	Finland	Proactiveness, risk-taking and competitive aggressiveness
Lechner and Gudmundsson (2014)	<i>International Small Business Journal</i>	117 small firms	Iceland	Proactiveness, innovativeness, risk-taking, competitiveness aggressiveness, autonomy
Li <i>et al.</i> (2008)	<i>Journal of Small Business Management</i>	213 firms	China	Proactiveness, innovativeness, risk-taking
Lumpkin and Dess (2001)	<i>Journal of Business Venturing</i>	94 firms	USA	Proactiveness, competitive aggressiveness
Mason <i>et al.</i> (2015)	<i>Procedia Economics and Finance</i>	200, 100 SMEs	Italy and Austria	Proactiveness, innovativeness, risk-taking, aggressiveness, autonomy, competitive energy
Naldi <i>et al.</i> (2007)	<i>Family Business Review</i>	265 family and 431 non-family firms	Sweden	Risk-taking
Richard <i>et al.</i> (2004).	<i>The Academy of Management Journal</i>	155 banks	USA	Innovativeness, risk-taking
Shazad <i>et al.</i> (2016)	<i>Journal of Management & Organization</i>	1,015 public corporations	USA	Proactiveness, innovativeness, risk-taking
Swierczek and Ha (2003)	<i>Entrepreneurship and Innovation</i>	172, 306 SMEs	Thailand and Vietnam	Proactiveness, innovativeness, risk-taking

The context of our analysis: the Sardinian destination

A survey was conducted in the Sardinian accommodation sector in 2012. Sardinia is an Italian island located in the center of the Mediterranean Sea and represents one of Italy’s most popular tourism destinations. Tourism growth started during the 1960s when a group of tycoons discovered a pristine part of the east coast. They were so impressed by the beautiful landscape, unspoiled nature and tranquillity that they decided to establish the “Costa Smeralda Consortium,” a residential destination to spend holidays and leisure time. In 1962, an economic and social development plan was initiated by the Region of Sardinia with the aim of strengthening tourism development on the island. These actions – together with the improvement of the general Italian economic condition – encouraged the rise in touristic demand, mainly based on seaside tourism. The rising demand brought about a growth in the tourism industry as well as in the accommodation sector. During the following decades, Sardinia became one of the world’s most famous tourism destinations. In the light of the weak economic situation that characterizes the island economy based mainly on traditional agro-pastoral activities and services, over the past few years the tourism sector has been rising, playing an important role in the growth of value added (Hospers, 2003). In 2011, the tourism sector produced 10.9 percent of Sardinia’s gross domestic product. This can be considered a significant result if compared to the national average of 7.4 percent (Becheri and Maggiore, 2013).

Although the island has become renowned for luxury tourism on the northeast coast, holiday solutions are copious and located everywhere. Crystal-clear water, white sand and a pleasant climate make Sardinia a seaside tourism basin of attraction. According to the 2010 CRENOS Report, 70 percent of total arrivals to the island are concentrated in the months from May to September. This produces seasonal problems such as strong pressures on tourism resources in some coastal destinations for a short period of the year,

unemployment outside summer months and a general territorial overload. To tackle seasonality, other forms of tourism that exploit the territorial characteristics of the island and that can be enjoyed all-year around have been promoted. These are as climbing, cycling, trekking, cannoning, kayaking, diving, wine and food experiences, etc. Most of these activities can be practiced in the internal part of the island and they especially attract guests from abroad. A latest type of tourism practiced along Sardinian shores all-year around is related to water boardsports like windsurf, kitesurf and surf. Due to windy weather and ideal wave conditions in specific shore locations, an increase in both local and foreign practitioners has been observed. The latter produce a tourism demand of goods and services especially during off-season period. On the supply side, several schools located all around the Sardinian coasts have been founded. In these structures, boardsports are taught to mainly foreign tourists. International arrivals have been growing over the last few years. Meanwhile, the number of domestic tourists is declining; they are also reducing both their period of stay and the expenditure devoted to leisure, probably because of the economic crisis (Istituto Nazionale Ricerche Turistiche, 2012). Table II provides data on arrivals, overnight stays and average duration of stay in Sardinia from 2007 to 2011. As shown in Table II, although there has been an overall reduction of arrivals, the number of arrivals of guests from abroad increased by about 10 percent from 2007 to 2011.

Analyzing the Sardinian accommodation sector, two main types of business can be observed: hotels and other structures, such as camping, summer houses, agritourism and bed and breakfasts. They differ in their supply of facilities, amenities, level of comfort and quality of service. Table III provides information about the types of accommodation that were officially registered in Sardinia during the period from 2009 to 2012.

Methodology

Data collection and sample

To analyze the relationship between EO and firm performance, a questionnaire addressed to accommodation managers and owners was designed. The questionnaire was then pre-tested by asking four academics and ten hotel owners to complete it. The pre-test was done in order to refine the research tool and make sure that the content was appropriate, clear and relevant. After this phase, some items were changed[2].

The population for this study comprised all the accommodation included in the Guide of Accommodation prepared by the Department of Tourism of the Sardinian local government (July 2012 version) with information freely available on the Sardinia Tourism website (www.sardegneturismo.it), which is the official tourism website of the regional government. The guide includes most known and organized accommodations in Sardinia. The guide comprises 976 facilities, mainly hotels and camping accommodation, showing for each

Year	Domestic			International			Total		
	Arrivals	Overnight stays	Average length in stay	Arrivals	Overnight stays	Average length in stay	Arrivals	Overnight stays	Average length in stay
2007	1,528,445	8,238,807	5.4	802,554	3,920,022	4.9	2,330,999	12,158,829	5.2
2008	1,575,538	8,452,914	5.4	803,537	3,894,419	4.8	2,379,075	12,347,333	5.2
2009	1,564,219	8,243,836	5.3	883,178	4,066,854	4.6	2,447,397	12,310,690	5.0
2010	1,544,211	8,149,164	5.3	840,212	4,023,759	4.8	2,384,423	12,172,923	5.1
2011	1,355,554	6,975,572	5.1	884,739	4,467,864	5.0	2,240,293	11,443,436	5.1

Source: Our elaboration – data from Sardinia Statistics on tourism – <http://sardegna statistiche.it>

Table II.
Arrivals, overnight stays and average duration of stay in Sardinia (2007-2011)

Table III.
Registered
accommodation
types on Sardinia
(2009-2012)

accommodation a variety of information such as star rating, contact details, minimum and maximum overnight prices, website and e-mail address. The distribution of accommodation types in the guide is presented in Table IV. These mainly consist of hotels and camping accommodations. The guide includes most of the hotels, camping accommodations and resorts that were officially registered in Sardinia in 2012 (cf. Table III).

Each facility was contacted by e-mail. Once we had excluded accommodation with missing information about e-mail addresses or where the e-mail address turned out to be incorrect, the number of facilities was reduced to 867.

Type	2009	2010	2011	2012
Hotels	898	916	927	913
Camping and resorts	96	91	91	90
Summer housing and flats	300	324	372	426
Agritourism	590	617	614	639
Other accommodation types ^a	1,752	1,966	2,025	2,036
Total	3,636	3,914	4,029	4,104

Note: ^aThis category includes accommodations such as B&B, hostels and shelters

Source: Sardinia Statistics Department (www.sardegnastatistiche.it)

Table IV.
Accommodation
types and profile

<i>Type</i>	Sample collected (<i>n</i> = 224)		Guide of accommodation (<i>n</i> = 976)	
	Frequency	Percent	Frequency	Percent
Hotel (star rating)	173	77.2	834	85.5
5	10	4.5		
4	62	27.7		
3	86	38.4		
2	11	4.9		
1	4	1.8		
Guest house	2	0.9	7	0.7
Scattered hotel	6	2.7	8	0.8
Residential hotel	7	3.1	22	2.3
Camping	23	10.3	76	7.8
Summer housing and flats	7	3.1	9	0.9
Residence	3	1.3	7	0.7
Resort	3	1.3	13	1.3
Total	224	100	976	100
<i>Amenities</i>				
Swimming pool	110	49.1		
Other different sport activities	102	45.5		
Rent bikes or other sports equipment	106	47.3		
SPA	31	13.8		
Excursions	11	4.9		
Only restaurant	42	18.8		
Restaurants in total	179	79.9		
No facilities	15	6.7		
<i>Family business</i>				
Yes	116	51.8		
No	108	48.2		

Source: Own calculation based on data from Guide of Accommodations (www.sardegnaturismo.it)

An e-mail was sent to the qualifying accommodation companies with a link to a web-based questionnaire. Although the use of e-mail surveys and online questionnaires presents many well-documented advantages (David and Sutton, 2011), such as low development costs, reduced response time and the opportunity to reach a broader population, some limitations are observed. In this specific case, these include the obvious selection of accommodation for which e-mail addresses were available, in addition to a relatively low response rate.

The data collection concluded around mid-October with 224 questionnaires completed and a response rate of 25.8 percent. However, this sample size can be considered satisfactory if compared to the response rates achieved in similar surveys carried out in the hospitality sector (Keegan and Lucas, 2005) and among small tourism and hospitality firms (Thomas *et al.*, 1998).

Accommodation and respondent profile

Table IV provides some information about accommodation type and other features of the sample. The accommodation types in the sample provide a good representation of the accommodation types in the study population. For example, hotels and camping accommodations account for a share of 77.2 and 10.3 percent in the sample, whereas these two types account for a share of 85.5 and 7.8 percent in the study population (Table IV).

Most of the hotels were three-star (38.4 percent) or four-star rated (27.7 percent). The amenities provided by the sampled accommodation were mainly related to sports and recreational activities. Almost half of the sampled accommodation had a swimming pool (49.1 percent) and offered facilities for sports other than swimming (45.5 percent) and the possibility to rent bikes or other sports equipment (47.3 percent). A restaurant was the main service provided by 179 of the 224 respondents. As shown in Table IV, for 18.8 percent of the accommodation, a restaurant was the only amenity offered to clients, and 6.7 percent did not provide any amenities in addition to the room. It is also worth noting that the majority of the accommodation consisted of family businesses (51.8 percent).

The accommodation sector in Sardinia includes various business entities, both privately owned firms and public limited companies. The questionnaire was sent to the accommodation companies with a request that it should be filled in by a decision maker at the company (i.e. we made no distinction between owners and managers)[3].

Table V provides some information about the profile of the respondents. Out of the 224 respondents, 128 (57.1 percent) were males and 96 (42.9 percent) females. The majority were between 41 and 50 years old (33.9 percent), and the second largest age group was between 31 and 40 years old (29.9 percent). A total of 64.7 percent had more than six years of experience in the tourism business. With regard to education, 6.3 percent of the respondents had a minimum compulsory education and 38.8 percent had a university degree or a higher educational level. Many of them had attended courses in tourism or hospitality (40.6 percent) and management or business (31.7 percent).

Measures and econometrical strategy

Performance. The hospitality industry mainly comprises small and medium-sized firms (Getz and Petersen, 2005). This makes it difficult to obtain objective performance data, due to the reluctance to externally communicate such data and the fact that there are no publicly available financial reports of such firms (Covin and Slevin, 1989; Murphy *et al.*, 1996). This has led us to consider subjective performance measures. Performance has often been measured using self-assessment by owners/managers in business research (Dess and Robinson, 1984; Runyan *et al.*, 2008) and also in EO-performance investigation (Rauch *et al.*, 2009; Gupta and Wales, 2017). This has proven to be a reliable procedure to assess firm performance (Dess and Robinson, 1984; Wall *et al.*, 2004) and to analyze the relationship between EO and firm performance (Rauch *et al.*, 2009).

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	Frequency	Relative frequency (%)
30	<i>Gender</i>	
	Male	128
	Female	96
	<i>Age</i>	
	< 30	26
	31-40	67
	41-50	76
	51-60	40
	> 60	15
	<i>Experience</i>	
	< 5	79
	6-10	48
	11-20	46
	21-30	28
	> 30	23
	<i>Education level</i>	
	Compulsory education	14
	High school degree	123
	University degree	64
	Master degree or higher	23
	<i>Educational background</i>	
	Management/business	71
	Tourism/hospitality	91
	Law	6
	Engineering	2
	Computer science	1
	Other	53
Note: <i>n</i> = 224		

Table V.
Respondent profile

A possible problem related to the use of self-reported measures that adopt a common measurement method is the well-known “common method bias,” that is, the correlation between two self-reported variables may be inflated when they are measured by the same method. Therefore, given that our study uses self-reported measures, all the subsequent correlation analyses could be in principle affected by upward bias. A recent study carried out by Conway and Lance (2010) offers a discussion of this statistical bias concluding that in many cases the attenuation bias due to the measurement error typical of self-reported variables is generally able to compensate the upward bias coming from the common method. Furthermore, Rauch *et al.* (2009) argue that “It appears that the potential problem of common method variance, memory decay, or social desirability associated with self-reporting of performance does not generally pose a serious threat to the validity of the EO-performance relationship. The use of archival performance data produced relationships of similar magnitude” (p. 780).

Self-reported firm performance was measured by using two questions similar to those used in previous studies (Jogarathnam and Tse, 2006; Hallak *et al.*, 2012): respondents were asked to express their level of satisfaction with the sales and profits of their firms over the last three years. The respondents were asked to answer on a seven-point scale ranging from highly dissatisfied (1) to highly satisfied (7). The choice of only two indicators of business performance – sales and profit – was in accordance with the suggestions of the hotel owners in the pre-test to use standard and well-known indicators. The sales indicator had a mean of 3.50 and a standard deviation of 1.61. The profit indicator had a mean of 3.38 and a standard

deviation of 1.61. The specific wording of the two questions was as follows: “How satisfied are you with the sales of your firm during the last three years (2009-2011)?” and “How satisfied are you with the profit of your firm during the last three years (2009-2011)?”

EO. To measure EO, a 15-item instrument was used (see Table AI). Each item was measured on a seven-point scale. The instrument was derived from previous studies and was composed of three metrics for each one of the five EO dimensions. The original nine-item instrument from Covin and Slevin (1989) was used for innovativeness, risk-taking and proactiveness. This instrument has been used in many empirical studies on EO (Rauch *et al.*, 2009; George and Marino, 2011). The other two dimensions – competitiveness and autonomy – were mainly derived from a study by George *et al.* (2001). In particular, three items for autonomy and two items for competitiveness were used (items no. 11 and 12 in Table V). A third item (item no. 10) for competitiveness was borrowed from Lumpkin and Dess (1996). Academic colleagues were then asked by the researcher to translate the EO items from English to Italian. A back-translation to English was then performed by a professional proofreader to ensure correctness. The Italian items translation is presented in Table VI.

The multidimensional EO constructs were adopted in this empirical analysis.

The reliability of each dimension was estimated by Cronbach’s α test. Cronbach’s α values were 0.68 for innovativeness, 0.58 for proactiveness, 0.79 for risk-taking, 0.64 for competitiveness and 0.89 for autonomy. Apart from proactiveness, which was close to 0.60, all dimensions exceeded the acceptable level of 0.60 (Nunnally, 1967). As shown in Table VI, including the third item in the proactiveness subscale reduces reliability, we therefore removed item no. 6[4]. Then, Cronbach’s α coefficient for proactiveness was raised to the acceptable level of 0.69. Table VI shows Cronbach’s α coefficients for the five EO dimensions and also their variations when single items were deleted.

In the analyzed Sardinian sample, activities related to all five EO dimensions were performed in various degrees. The sampled tourism firms focused most on proactiveness and least on autonomy, the full order being as follows (mean value in brackets): proactiveness (4.79), competitiveness (4.28), risk-taking (3.32), innovativeness (3.07) and autonomy (2.96) as shown in Table VII.

The objective of this study is to test the impact of EO dimensions on tourism firm performance. Hence, in the statistical analyses, firm performance was regressed based on the EO measures. A bivariate analysis (Pearson correlation) was first carried out to assess the existence of a statistically significant relationship between these variables. The results are reported in Table VII.

All the considered variables seem to be positively correlated with a high level of statistical significance. These results suggest that at least the direction of the relationship between these variables and performance is, as expected, positive.

A multivariate test was then performed by means of ordered logit regressions, since the dependent variable is measured on an ordinal scale (Wooldridge, 2002, Chapter 15). This second examination aimed at investigating the contribution of each EO dimension to explain performance, after controlling for the effect of the others. As shown in Table VII, the EO dimensions all correlated with each other, so excluding one of the variables from the analysis may lead to wrong statistical inference. For instance, assume that autonomy is the true determinant of profit satisfaction but we leave this variable out of the analysis, then the other dimensions included as regressors will certainly be correlated with the error term of the model, thus inducing bias in the estimates for the violation of the exogeneity assumptions on which the model is built.

However, using similar arguments as those presented above, one may also maintain that the model presented in Table VIII, column 1, confounds the effects of EO dimensions with other characteristics of the decision makers (e.g. one may presume that those who have more

Table VI.
Items, Italian
translation and
reliability coefficients
(Cronbach's
coefficient α)

Items, reliability coefficients (Cronbach's α)	α if the item is deleted
<i>Innovativeness (No. of items = 3); $\alpha = 0.68$</i>	
1 – emphasis on the marketing of products and services or R&D	0.729
<i>Enfasi nella commercializzazione di prodotti e servizi o nella ricerca e sviluppo</i>	
2 – number of new lines of products or services marketed	0.535
<i>Numero di nuovi prodotti e servizi offerti</i>	
3 – the impact of changes in product and services	0.483
<i>Cambiamenti nei prodotti e servizi esistenti</i>	
<i>Proactiveness (No. of items = 3); $\alpha = 0.58$</i>	
4 – reactive or proactive compared to competitors	0.396
<i>Atteggiamento reattivo/proattivo nei confronti dei concorrenti</i>	
5 – reactive or proactive at introducing new products	0.253
<i>Atteggiamento reattivo/proattivo nell'introdurre nuovi prodotti e servizi</i>	
6 – competitor attitude	0.693
<i>Confronto con i concorrenti</i>	
<i>Risk-taking (No. of items = 3); $\alpha = 0.79$</i>	
7 – favorability of low-risk or high-risk projects	0.708
<i>Propensione all'intraprendere progetti a basso/alto rischio</i>	
8 – environment exploitation	0.736
<i>Sfruttamento delle opportunità (nel contesto esterno)</i>	
9 – reaction to decision-making situations involving uncertainty	0.702
<i>Reazione alle decisioni da prendere in situazioni altamente aleatorie</i>	
<i>Competitiveness (No. of items = 3); $\alpha = 0.64$</i>	
10 – attitude to monitor the actions of the competitors	0.427
<i>Attitudine al monitorare le azioni dei concorrenti</i>	
11 – competitor's strategies	0.349
<i>Reattività alle strategie dei concorrenti</i>	
12 – conventional or unconventional methods of competing	0.784
<i>Metodi di concorrenza (convenzionali o non)</i>	
<i>Autonomy (No. of items = 3); $\alpha = 0.89$</i>	
13 – discourages or encourages the employees to act independently	0.848
<i>Inc-scoraggiare le risorse umane (subordinati) ad agire autonomamente</i>	
14 – discourages or encourages the employees to make key strategic decisions	0.84
<i>Inc-scoraggiare le risorse umane (subordinati) a prendere decisioni rilevanti</i>	
15 – discourages or encourages the employees to implement key programs	0.843
<i>Inc-scoraggiare le risorse umane (subordinati) ad implementare importanti</i>	
Note: All items were scored from 1 to 7	

Table VII.
Pearson correlations
between variables and
descriptive statistics

	Variables	<i>n</i>	Mean	SD	1	2	3	4	5	6	7
1	Innovativeness	224	3.07	1.30	1						
2	Proactiveness	224	4.79	1.40	0.328**	1					
3	Risk-taking	224	3.32	1.37	0.357**	0.427**	1				
4	Competitiveness	224	4.28	1.30	0.323**	0.237**	0.343**	1			
5	Autonomy	224	2.96	1.54	0.265**	0.144*	0.338**	0.262**	1		
6	Sales	224	3.50	1.61	0.310**	0.281**	0.226**	0.244**	0.182**	1	
7	Profit	224	3.38	1.61	0.314**	0.311**	0.272**	0.280**	0.263**	0.866**	1

Notes: * $p < 0.05$; ** $p < 0.01$

experience in the business may also be those who are more entrepreneurially oriented) or with the characteristics of the structure (e.g. suppose that more entrepreneurially oriented managers work for bigger structures and that the dimension of the structure is the real determinant of profits and sales). Therefore, in the multivariate analyses reported in columns 2-4, a number of control variables related to some businesses' characteristics and human capital measures and other demographic characteristics of the decision maker were included.

Results

Tables VIII and IX present the results of the above depicted regression analyses. The results of the regression of satisfaction for sales as a dependent variable are shown in Table VIII where in column 1 all EO dimensions are considered together as independent variables.

In the multivariate analyses reported in column 2 of Table VIII, a number of control variables related to some businesses' characteristics were included. Due to the different types of accommodation included in the sample, accommodation size was quantified by the number of employees, instead of the number of rooms and beds. Having camping accommodation in the sample led us to not adopt the number of rooms or beds. Facilities offered by the accommodation were included by using dummy variables for restaurant, swimming pool and practice sports (i.e. whether the guests can practice sports in the accommodation or not). Furthermore, the variable family business was included, asking whether or not the firm was a

	Model (1)	Model (2)	Model (3)	Model (4)
<i>Independent variables</i>				
Entrepreneurial orientation dimensions				
Innovativeness	0.268** (0.104)	0.275*** (0.105)	0.306*** (0.108)	0.307*** (0.111)
Proactiveness	0.266*** (0.100)	0.298*** (0.104)	0.330*** (0.106)	0.371*** (0.108)
Risk-taking	0.006 (0.102)	-0.032 (0.105)	-0.053 (0.107)	-0.050 (0.107)
Competitiveness	0.169 (0.104)	0.128 (0.109)	0.115 (0.111)	0.036 (0.111)
Autonomy	0.087 (0.083)	0.094 (0.084)	0.093 (0.086)	0.108 (0.085)
<i>Accommodation characteristics</i>				
Size		0.016** (0.007)	0.017** (0.007)	0.014** (0.007)
Restaurant		-0.483 (0.318)	-0.374 (0.327)	-0.325 (0.329)
Swimming		0.215 (0.270)	0.235 (0.281)	0.196 (0.275)
Practice sports		-0.109 (0.275)	-0.183 (0.286)	-0.128 (0.278)
Family business		0.188 (0.252)	0.238 (0.256)	0.275 (0.258)
<i>Decision maker profile</i>				
Female			-0.531** (0.262)	-0.555** (0.261)
<i>Educational status</i>				
University degree			-0.037 (0.282)	
Master's degree or higher			0.114 (0.431)	
Compulsory education			0.497 (0.527)	
High school			REF.	
Age			-0.024* (0.014)	-0.021 (0.014)
Exp ²			0.000 (0.000)	0.000* (0.000)
Exp			-0.017 (0.013)	-0.021* (0.013)
<i>Educational background</i>				
Management				1.134*** (0.331)
Tourism				0.847*** (0.308)
Other				REF.
<i>n</i>	224	224	224	224
χ^2	35.930 (0.000)	45.562 (0.000)	57.408 (0.000)	69.479 (0.000)

Notes: Standard errors in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Table VIII.
Ordered logit
models for sales

Table IX.
Ordered logit
models for profit

	Model (1)	Model (2)	Model (3)	Model (4)
<i>Independent variables</i>				
Entrepreneurial orientation dimensions				
Innovativeness	0.222** (0.103)	0.216** (0.104)	0.239** (0.107)	0.232** (0.109)
Proactiveness	0.278*** (0.099)	0.303*** (0.102)	0.347*** (0.105)	0.370*** (0.105)
Risk-taking	0.020 (0.101)	-0.015 (0.104)	-0.041 (0.107)	-0.035 (0.107)
Competitiveness	0.227** (0.106)	0.181* (0.108)	0.183 (0.112)	0.094 (0.112)
Autonomy	0.175** (0.084)	0.195** (0.085)	0.199** (0.087)	0.225*** (0.087)
<i>Accommodation characteristics</i>				
Size		0.018*** (0.007)	0.019*** (0.007)	0.017** (0.007)
Restaurant		-0.301 (0.324)	-0.205 (0.335)	-0.172 (0.334)
Swimming		0.253 (0.273)	0.241 (0.282)	0.279 (0.279)
Practice sports		-0.168 (0.278)	-0.181 (0.288)	-0.193 (0.282)
Family business		0.291 (0.251)	0.345 (0.256)	0.353 (0.258)
<i>Decision maker profile</i>				
Female			-0.680** (0.269)	-0.676** (0.266)
<i>Educational status</i>				
University degree			-0.021 (0.287)	
Master's degree or higher			-0.080 (0.439)	
Compulsory education			0.471 (0.536)	
High school			REF.	
Age			-0.028** (0.014)	-0.024* (0.014)
Exp ²			0.000 (0.000)	0.000 (0.000)
Exp			-0.015 (0.013)	-0.018 (0.013)
<i>Educational background</i>				
Management				0.913*** (0.329)
Tourism				0.885*** (0.314)
Other				REF.
<i>n</i>	224	224	224	224
χ^2	44.558 (0.000)	56.298 (0.000)	69.591 (0.000)	78.911 (0.000)
Notes: Standard errors in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$				

family business (the associated dummy is equal to one when the firm is a family business). In model 3 of Table VIII, human capital measures and other demographic characteristics of the decision maker are included[5]. These individual-level controls are as follows: age, years of experience, gender and educational level. This last characteristic is measured by the inclusion of a dummy variable for each possible level (the high school level of education is used as the category of reference). Since previous studies suggest that the relationship between experience and performance may not be linear, the square of experience was also included in the model (Evans and Leighton, 1989; Hamilton, 2000). To avoid collinearity, the variable “years of experience” was demeaned, and the square of this demeaned variable was calculated; then, the demeaned variable and its square were included in the model. Finally, in model 4 of Table VIII, the educational background was included. In particular, a dummy was created equal to one if the respondent had managerial or tourism education. In Table IX, the same types of analyses are replicated but using profit as the dependent variable instead of sales.

The use of sales as the dependent variable yields a positive and highly statistically significant relationship with proactiveness and innovativeness (1 percent level). A positive effect is found also for competitiveness, but this result is only weakly statistically significant at the 10 percent level (column 1 in Table VIII). When businesses’ characteristics are included in the regression as control variables (column 2, Table VIII), innovativeness and proactiveness are still highly statistically significant ($p < 0.01$), while the weak statistical significance of competitiveness does not survive the inclusion of these control variables.

It is worth noting that accommodation size exhibits a positive statistically significant relationship with sales at the 5 percent level. So, the larger the size of the business, the higher the satisfaction with sales performance. Innovativeness and proactiveness also continue to exert a positive statistical influence on sales when controls for the human capital of the managers are included (column 3, Table VIII). It is observed that being female (1 percent level of statistical significance) and having a higher age (5 percent level of statistical significance) are both negatively related to perceived sales satisfaction. These latter observations mean that female and/or older managers are less satisfied with revenue growth during the three years. Finally, when the controls for the managerial and tourism educational background are inserted, innovativeness and proactiveness continue to be positively related to sales satisfaction, and these relations are still highly statistically significant ($p < 0.1$). Education in management and tourism shows a significant positive relationship with perceived sales at the 1 percent significance level. In other words, respondents with a specific education in managerial and tourism disciplines seem more satisfied with the obtained revenues. Furthermore, the non-linear relationship between experience and performance seems to be confirmed by the empirical results (even if the relationship is significant only at the 10 percent level). In particular, the results suggest that satisfaction about sales grows as the years of experience increase. Finally, looking at the magnitude of the coefficients for those EO dimensions that are statistically significant, it is observed that the largest coefficient is that associated with proactiveness, followed by that associated with innovativeness.

When profit is the dependent variable, all the EO dimensions with the exception of risk-taking are positively and statistically significantly related to performance (see Table IX, column 1). After the inclusion of businesses' characteristics in the econometric model, presented in column 2 in Table IX, the relationship between EO dimensions and performance remains highly statistically significant for three variables (innovativeness, autonomy, proactiveness) while competitiveness becomes only weakly significant (10 percent level). As in the case of sales, the accommodation size exerts a positive statistically significant effect on profit ($p < 0.01$). The other controls for objective characteristics of the firm turn out not to be significant predictors of perceived performance.

This analysis adopted subjective performance assessed by the mean of business managers' satisfaction with sales and profit, and several studies have supported the reliability of such measures (Dess and Robinson, 1984; Wall *et al.*, 2004; Rauch *et al.*, 2009). In particular, Fadda (2014) used data from a similar context to show that subjective and objective measures of performance are strongly positively related.

In model 3 of Table IX, human capital variables are added and the significance of EO dimensions survives this inclusion. Looking at the results associated with these control variables, also in this case, being a female and being older exhibit a negative impact on profits. It seems that female and/or older managers are more demanding about business economic outcomes, leading to their becoming more unsatisfied. Finally, in column 4 in Table IX, all the results associated with EO dimensions are confirmed. As in Table VIII, having a managerial and tourism education positively influences perceived profit ($p < 0.01$).

Looking at the magnitude of the coefficients for those EO dimensions that exhibit a significant relationship with profits, it turns out that the largest coefficient is that associated with proactiveness, followed by those associated with innovativeness and autonomy, respectively. With respect to the results obtained for sales, it seems that satisfaction with profit is more reactive to EO dimensions. This evidence could be interpreted in favor of the idea that EO impacts not only on the ability of a firm "to sell" its products, but more generally to the ability to generate value. In other words, more entrepreneurially oriented firms may be more able to put into practice more efficient management solutions that enlarge profits (and the associated satisfaction), and not only to ideate strategy to reach new clients.

Conclusion and further research

The aim of this research was to study the impact of each EO dimension on tourism firm performance. As noted by Miller (2011), single EO dimensions may be practiced to different extents within firms depending on the type of company and the sector in which they operate. Each sector has its own features and is characterized by different forces in which entrepreneurship should heterogeneously emerge and differently produces successful results. Keeping this in mind, this paper has tried to establish which EO dimension exerts the strongest impact on the performance of tourism firms in the Sardinian accommodation sector. To this end, a survey was carried out in the accommodation sector in Sardinia in 2012.

Entrepreneurial attitudes among the accommodation sector are differently presented. Proactiveness and competitiveness are higher than risk-taking, innovativeness and autonomy. Proactiveness and innovativeness were found to be positively related to both performance measures considered in this work (i.e. sales and profit). Autonomy seems to exert a significant positive effect only on profit. Therefore, a proactive firm in the accommodation sector, i.e. a firm that adopts an active orientation toward the outside environment (e.g. advancing customers' needs and tastes, introducing new products or services and initiating actions that competitors will follow), will achieve a better performance with regard to sales and profit. The results associated with innovativeness indicate that changing products and services as well as introducing new ones has an impact on potential customers and on their consumption, and this ultimately produces a positive effect on firms' sales as well as on profit. Moreover, the autonomy dimension was found to be positively related to profit. This suggests that supporting the initiative of employees to implement new ideas and to act independently could lead to the development of procedures or activities that seem to improve firm performance. Another interesting result is that the risk-taking dimension, characterized by implementing risky investments and business initiatives whose results are highly uncertain, was not found to play a significant role in determining firms' performance. This result is however not surprising. Several empirical works (Blanchflower and Oswald, 1998; Blanchflower, 2000; Blanchflower *et al.*, 2001) have shown that entrepreneurial activity is characterized by high failure rates and low average returns, but at the same time by high job satisfaction. One explanation proposed by Benz and Frey (2003) is that individuals attach value to some non-pecuniary characteristic of entrepreneurship. Therefore, it is possible that the love of risk may represent a non-pecuniary benefit which induces entrepreneurs to be relatively more willing to forgo income and to bear costs included through increased risk levels, in order to engage in business ventures.

Similarly, competitiveness did not turn out to significantly influence either sales or profit. Thus, imitating and monitoring competitors' activities will not repay tourism businesses in terms of better performance. This may depend on the peculiar characteristics of the sector under investigation, which could, in principle, make this type of strategy difficult. Every accommodation has its own peculiarities (e.g. geographical position, amenities, size, etc.), so even if a manager tries, for instance, to adapt a firm's prices to those of a competitor, this strategy may not impact sales, as people may continue to choose the accommodation because it is located in a more enjoyable location.

The study advances entrepreneurial knowledge in the tourism sector and in particular the accommodation industry, suggesting educational and managerial implications for managers of the sector. In fact, being entrepreneurial could refer to different meanings and activities, which could vary from context to context. The analysis shows the most widespread entrepreneurial attitudes in the accommodation sector of a renowned touristic destination as well as their impacts on added value. According to these results, entrepreneurs in the tourism sector (at least those operating in the Sardinian accommodation sector) should be encouraged to adopt an innovative, autonomous and proactive approach in managing their firms. Therefore, the overall recommendation of this paper is that accommodation firms should

focus more on implementing entrepreneurial activities characterized by introducing innovative products and services, on anticipating market trends, and on the development of an organizational environment capable of encouraging new ideas. A further implication of this study is that managers of accommodation should carefully consider risk-taking decisions as well as monitoring activities toward competitors that may not add value.

Furthermore, having studied management and tourism disciplines within accommodation, a managerial background turns out to be a relevant factor influencing satisfaction with sales and profit. Thus, education in tourism and businesses should be encouraged among current managers in the accommodation sector.

Another finding in this paper is that being a family business seems to be irrelevant in terms of achieving better performance. Being a family business was included as a control variable in the regression analyses, as previous studies have argued that family businesses perform better than non-family ones (Dyer, 2006; Martinez *et al.*, 2007). The results obtained in the Sardinian accommodation sector do not confirm this evidence. However, Hallak *et al.* (2012) were not able to confirm the family business effect either, on the basis of a study carried out on a sample of small and medium-sized tourism firms in Southern Australia. A possible explanation of this study's results may depend on the composition of the sample. Thus, given that family-owned accommodation are on average smaller than the non-family ones, the fact that being a family business does not influence performance may be likely associated with the possibly lower managerial skills in the smaller firms in this particular sector.

Finally, considering that EO research has been overlooked in the country of Italy, this study's contribution is also providing evidence from an area that has received minimal attention to date.

This research presents some limitations that must be considered. First, it was conducted in the Sardinian accommodation sector and therefore results are limited to this context. Second, self-reported data were used to measure firm performance. In future research, this study could be replicated using objective firm performance, e.g. incorporating firms whose financial documents are publicly available. Furthermore, self-reported performance was measured by interviewer satisfaction about sales and profit achieved during the three years 2009-2011. The period analyzed was characterized by a huge decrease in tourist arrivals in Sardinia.

Given that family businesses are widespread in the tourism and hospitality industry, future research could investigate this characteristic in relation to the theme of EO and its dimensions.

Due to contextual limitations, a future line of research would be a replication of the same analysis in similar touristic destinations. Furthermore, this survey could also be replicated incorporating other industries in the tourism sector and other countries. It would also be interesting to use a longitudinal study design or other statistical methods.

Notes

1. It is worth considering that one of the first tourism initiatives was the development of Costa Smeralda on the northeast coast, undertaken by foreign entrepreneurs totally disconnected from Sardinian traditions and culture.
2. Although changed items were found to be sufficient, the questionnaire was then re-tested to ensure its reliability.
3. It can be argued that the difference between an entrepreneur and a manager is substantial. However, this study aims to analyze the relationship between how much a firm is managed in accordance with the EO dimensions and its performance. Therefore, the underlying assumption is that the person identified as the decision maker in a company is also the one who effectively determines its managerial orientation.
4. From a theoretical point of view, item no. 6 seems to express the competitor attitude instead of the proactiveness one (see Table AI). This impression is then confirmed by the Cronbach coefficient

that suggests deleting item no. 6 with the aim to increase the consistency of proactiveness measurements used.

5. These variables have been included in the regression to avoid a possible confounding effect. Indeed, if human capital is able to influence firm performance and at the same time it is correlated with entrepreneurial orientation, its exclusion may cause a bias in the estimation coefficients tied to the EO dimensions.

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Further reading

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In general, my firm favors [...]

1. A strong emphasis on the marketing of tried and true products or services 1 2 3 4 5 6 7 A strong emphasis on R&D technological leadership, and innovations

How many new lines of products or services has your firm marketed in the past 3 years?

2. No new lines of products or services 1 2 3 4 5 6 7 Very many new lines of products or services
3. Changes in product or service lines have been mostly of a minor nature 1 2 3 4 5 6 7 Changes in product or service lines have usually been quite dramatic

In dealing with its competitors, my firm [...]

4. Typically responds to actions which competitors initiate 1 2 3 4 5 6 7 Typically initiates actions to which competitors then respond to
5. Is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc. 1 2 3 4 5 6 7 Is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.
6. Typically seeks to avoid competitive clashes, preferring a "live-and-let-live" posture 1 2 3 4 5 6 7 Typically adopts a very competitive, "undo-the-competitors" posture

In general, my firm has [...]

7. A strong proclivity for low-risk projects (with normal and certain rates of return) 1 2 3 4 5 6 7 A strong proclivity for high-risk projects (with chances of very high return)

In general, my firm believes that [...]

8. Owing to the nature of the environment, it is best to explore gradually via timid, incremental behavior 1 2 3 4 5 6 7 Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives

When confronted with decision-making situations involving uncertainty, my firm [...]

9. Typically adopts a cautious, "wait and see" posture in order to minimize the probability of making costly decisions 1 2 3 4 5 6 7 Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities

In dealing with competitors, my firm [...]

10. Does not monitor the actions of the competitors at all 1 2 3 4 5 6 7 Intensively monitors the actions of the competitors very closely
11. Is not highly responsive to competitors' strategies 1 2 3 4 5 6 7 Typically adopts a head-to-head confrontational strategy
12. Typically uses conventional methods of competing 1 2 3 4 5 6 7 Is willing to adopt unconventional methods of competing

When confronted with decision making under uncertainty, my firm [...]

13. Discourages the employees from acting independently without previously consulting the owners 1 2 3 4 5 6 7 Typically encourages the employees to act independently without previously consulting the owners
14. Discourages the employees from making key strategic decisions without previously consulting the owners 1 2 3 4 5 6 7 Typically encourages the employees to make key strategic decisions without previously consulting the owners
15. Discourages the employees from implementing key programs without previously consulting the owners 1 2 3 4 5 6 7 Typically encourages the employees to implement key programs without previously consulting the owners

Notes: There are five EO dimensions: innovativeness (items 1-3), proactiveness (items 4-6), risk-taking (items 7-9), competitiveness (items 10-12) and autonomy (items 13-15)

Sources: Items 1-9: see Covin and Slevin (1989). Item 10: generated from statements in Lumpkin and Dess (1996). Items 11-15: see George *et al.* (2001)

Table AI.
The 15 questionnaire
items measuring
entrepreneurial
orientation

About the author

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