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The impact of localized innovations on the stock returns of tourism companies

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Abstract

The aim of this study was to determine the role of source of innovation, its degree of novelty, and their interaction in shaping tourism companies' stock returns in different geographical contexts. The research employed the buy-and-hold method. It included 378 innovation announcements released in the years 2011–2016 for 111 tourism companies operating in European Union countries. Findings suggest that abnormal returns for the companies listed in the innovation leading countries were significantly smaller than those for the moderate innovators group. The study proposes a novel, geographical perspective to the analysis of the effects of innovation on stock returns in tourism.

KEYWORDS

innovation, stock returns, tourism

1 | INTRODUCTION

Innovation appears to be a key factor in building a company's competitive edge. It involves combining resources in a novel manner, and this finds its application in business practice (Schumpeter, 1939). The more competitive the business environment, the more indispensable innovation is. In the contemporary tourism sector, the intensification of competition forces companies to increase their innovation efforts and exploit all possible sources of innovation. In academic discourse, the vital role of innovation is reflected in numerous studies conducted within the sector (Hjalager, 2010).

Existing evidence indicates the positive role of geographical proximity in encouraging innovation. Hjalager (2010) found that location is one of the driving forces of current tourism industry innovation. She explained that tourism innovation clusters or systems are geographically embedded into institutional, economic, and social networks, as well as on geographical proximity. Moreover, Booyens and Rogerson (2016) argued that networking (both formal and informal) by tourism companies is crucial for knowledge creation and the learning process needed for innovation. However, they agreed that geographical research into innovation in tourism should include an analysis of their spatial distribution by tourism enterprises and tourism innovation networks. Moreover, the role of geographical proximity in determining the effects of the solutions developed remains vague.

In the general context, Schöler, Skiera, and Tellis (2014) argued that the relation between innovativeness and stock returns is positive. At the same time, another characteristic feature of innovation in services is that most of the developments are incremental in nature (Berry, Shankar, Parish, Cadwallader, & Dotzel, 2006). Nicolau and Santa-María (2013b) found that innovation has a generally positive effect on the market value of tourism companies. In a sector such as tourism, nevertheless, breakthrough innovation seems both rare but effective in generating competitive advantage. However, the proper estimation of the effects of radical innovation may be open to doubt, and the possibilities of referring to similar solutions available on the market are limited (Homburg, Bornemann, & Totzek, 2009). The small number of referential innovations leads to investor uncertainty, which in turn reduces their confidence and decreases the calculation of future benefits. Thus, tourism companies that aim to benefit from innovation need to convince the market of their ability to successfully develop and implement it. Such an ability to convince seems to be one of the current topics in academic debate.

Contemporary tourism companies, operating in a highly competitive market, exploit all available sources of innovation. Such a tactic seems efficient, as it guarantees a relatively stable inflow of new ideas. Relying on internal development increases the chances of benefiting from first-mover advantage. Collaborative development, on the other hand, is a cost-efficient method, as companies involved in it share

the full development cost (Ofek & Turut, 2008). Moreover, collaboration allows firms to learn from the mistakes of others (Lieberman & Asaba, 2006) and react to the changes in their competitors' offerings (Shenkar, 2010). Taking this into account, filling the research gap on the effects of innovation derived from different sources seems especially pressing. It seems that as collaborative development decreases, development risk increases. However, the role of collaboration in supporting companies' claims of their ability to develop and benefit from a breakthrough innovation requires to be studied in detail.

From a theoretical point of view, this study argues that an innovation source complements its degree of novelty by clarifying its relationship with abnormal returns. Specifically, collaborative development seems to decrease the risk of failure and validate a company's claim to successfully develop a breakthrough innovation. In this regard, the purpose of this study is to determine the role of an innovation source and its degree of novelty and their interaction in shaping company stock returns.

The subject of the research is the abnormal returns resulting from innovation announcements. The time frame encompassed the period from January 2011 to December 2016 (inclusive). Under investigation were 111 tourism companies listed on European stock exchanges from whom 378 innovation announcements were gathered. The study indicated that collaborative development is perceived positively by innovation leaders, whereas for moderate innovators, it suggested in-house development was beneficial. Moreover, the analyses performed demonstrated that radical innovation produced a stronger market reaction than "new-to-the-company" in the innovation leader and strong innovator groups, whereas in the moderate innovator group it suggested the opposite, but the result was statistically insignificant. Thus, the effects depended on the group analysed. Finally, research showed that in the innovation leader group, a radical innovation (high degree of novelty) increased stock returns more when innovation was developed in collaboration.

The paper is structured as follows: first, the contribution to theory is presented, and the hypotheses are stated; second, methods used in the empirical research and the sources of data are presented; third, the results are analysed in detail; and finally there are discussion and conclusions.

2 | THEORY AND HYPOTHESES

Regarding the goal of this paper, the theoretical framework focuses on the concepts of innovation and its announcement; abnormal stock returns resulting from such announcements; and the determinants of these abnormal returns, including the source of innovation, its degree of novelty, and the geographical context. Five categories of innovation have been introduced in the literature: product, process, management, logistics, and institution. Moreover, any innovation could occur in any category or in a combination of the categories listed above (Alsos, Eide, & Madsen, 2014; Fagerberg, 2013; Hjalager, 2002). Fagerberg (2013) and Hjalager (2002) upheld the Schumpeterian distinction between inventions and innovations. They emphasized that inventions result from basic scientific or technological research, whereas innovations are understood as applications developed from inventions. Compared with manufacturing, innovations in services are driven by practical experience rather than by research and development (R&D) activities. Thus, employees, customers, suppliers, and other stakeholders are more involved in the development process. The significance of collaborative learning and networking in services must be emphasized; moreover, innovations in services are incremental rather than radical (Mattsson, Sundbo, & Fussing-Jensen, 2005).

Szutowski (2018a) made a clear distinction between the concepts of announcement and preannouncement: "Announcements are made close to product introduction; pre-announcements may be made well ahead" (Szutowski, 2018a, p.4). Regarding the definition formulated by Sood and Tellis (2009), an announcement is "the availability of information about an event either from the firm directly or through other sources" (Sood & Tellis, 2009, p.444). From the authors' perspective, announcements include the whole spectrum of communication: initiation (new projects, contracts, or alliances); development (working prototypes, patents); and commercialization (new product launches). Sorescu, Shankar, and Kushwaha (2007) investigated the impact of new product preannouncements on short- and long-term abnormal returns. Results of this enquiry confirmed the positive influence of preannouncements on short-term abnormal returns only when the information content was very specific. When preannouncements formed part of a general announcement strategy for updating the progress of new products, positive long-term effects occurred. Moreover, if preannouncements proved to be reliable, both short- and long-term abnormal returns were strengthened.

The proposal for this study is the result of suggestions and research niches diagnosed by various researchers. Nicolau and Santa-María (2013b) suggested replicating their research on the impact of innovation announcements on the stock returns of tourism companies following their approach. Above all, they suggest the use of a larger sample of enterprises to be investigated. Regarding the methodology, a larger number of observations allows a larger number of determinants to be considered. Moreover, a distinction between radical and incremental (also called induced) innovations was proposed. Analysis of abnormal stock market returns was found to be more reliable in examining the effectiveness of innovation than other performance measures, such as sales, profits, or market share. These are influenced by various market factors and events other than innovations, making it impossible to clearly isolate the impact of particular determinants (Sood & Tellis, 2009). Finally, Hjalager (2010) suggested a detailed study of the impact of innovation in tourism enterprises based on their economic performance. She found two determinants of economic performance insufficiently investigated in the tourism industry: the types of innovation initiated by tourism companies and the types of tourism company introducing innovations. She also indicated the lack of tourism research on issues of innovation policy.

The impact of the source of innovation (collaborative, in-house, or copied), and the degree of novelty (radical or incremental) on abnormal stock market returns of tourism companies differ across European countries (see Figure 1). The geography of both the source of innovation and the degree of novelty constitute the theoretical framework for this enquiry into tourism enterprises. Three hypotheses are presented in the following sections.

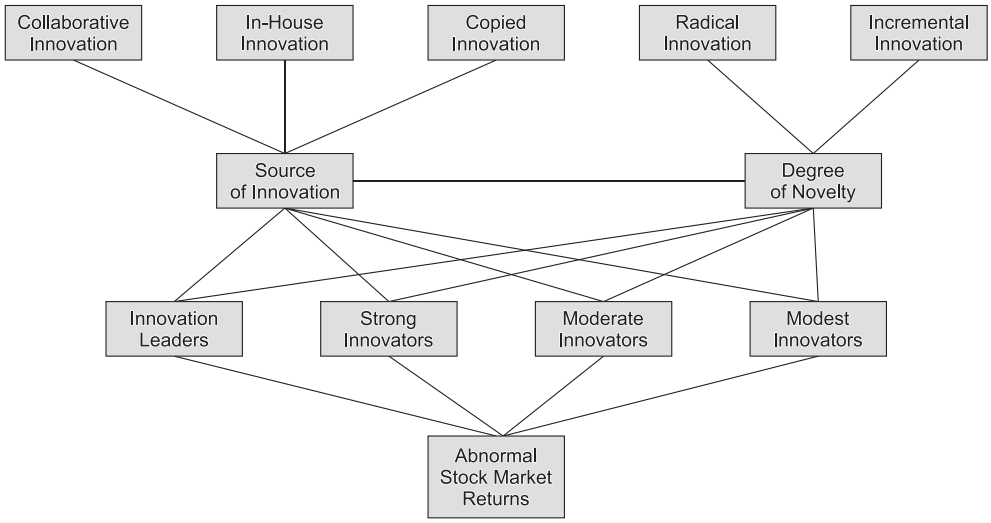

FIGURE 1 Theoretical framework of the research on localized innovations impact on abnormal stock market returns of tourism companies
Source: authors.

2.1 | Source of innovation in tourism companies

In order to remain competitive, companies need to exploit as many sources of innovation as possible. Although internal development may enable the achievement of first-mover advantage, it entails substantial costs and requires taking considerable risk. At the same time, existing evidence shows that companies may profit from adapting innovations from other sources (Roper, Love, & Bonner, 2017). Szutowski (2018b) found that the short-term impact of innovation announcements on abnormal stock market returns is positive, and events connected with in-house innovations are more influential than those linked to collaborative development. On the other hand, in the long-term perspective, the market effectiveness of imitation and collective learning is stronger. Kallmuenzer (2018) emphasized that the development of the tourism industry requires the cooperative innovation activities of different enterprises, not only of multinational companies, but also of small family businesses.

Nowadays, it appears to be a common practice for companies to cooperate with other organizations. Such partnerships allow them to fully exploit the internal and external inflows and outflows of knowledge (West, Vanhaverbeke, & Chesbrough, 2006). Empirical evidence suggests that the market positively perceives decreasing the risk through participating in open innovation structures (Noh, 2015; Szutowski, 2018c). There are three main benefits to collaborative development. First of all, companies do not bear the full cost of development and resources normally spent on research, and development activities may be saved and spent in a more rewarding manner (Ofek & Turut, 2008). Second, cooperating with other companies operating in the sector allows enterprises to react quickly to changes in their competitors' offerings (Shenkar, 2010). Third, a company increases its chances for success as it may learn from the mistakes of others (Lieberman & Asaba, 2006).

Kallmuenzer (2018) discussed the two main drivers of innovation in tourism companies: (a) a willingness of managers and owners to collaborate with other innovation actors, including customers, managers, and owners of other companies, and destination managers, and (b) an understanding that innovation enables both company and destination growth. Thus, a focus on so-called coopetition, understood as "intensive simultaneous process of competition and cooperation" (Della Corte & Aria, 2016, p.524), needs to be emphasized. This process was widely investigated at regional and destination levels of tourism industry growth (Della Corte & Aria, 2016) and related to both networking (Chim-Miki & Batista-Canino, 2017; Czernek & Czakon, 2016) and agglomeration (Kylänen & Rusko, 2011) theories.

Based on these arguments, it is assumed that shareholders attribute higher value to announcements on collaborative development. Thus, the hypothesis is stated as follows:

> **H1.** *The effect of collaborative development on the abnormal stock returns of tourism companies resulting from innovation announcements is greater than that of innovation developed in-house or copied.*

2.2 | Degree of novelty in tourism enterprises

Numerous previous studies have indicated a positive market reaction to innovation. Once brought to the market, the new products and services boost company cash flows, which translates to an increase in market value (Lee & O'Connor, 2003; Sood & Tellis, 2009). However, the role of the degree of novelty of the newly implemented solutions remains uncertain as previous research has produced inconclusive results. On the one hand, Schöler et al. (2014) indicated a positive relation between innovativeness and stock returns. On the other, Sorescu et al. (2007) showed no direct relationship. The perception of risk and the perception of profit were found to be negatively correlated. Expectations about future profit inversely affect risk judgement. However, the distance between risk and benefit assessments depends on favourable (weak negative correlation) or unfavourable attitudes (strong negative correlation) (Alhakami & Slovic, 1994).

Importantly, the degree of novelty is inseparable from risk. Small improvements usually entail little risk, whereas the successful implementation of breakthrough innovation may be hazardous. Both impact

on cash flows, and uncertainty are high in the case of radical innovation (Homburg et al., 2009). As high uncertainty has a negative influence on the investors' judgement concerning potential stock returns (Connolly, Stivers, & Sun, 2005), companies need to convince the market of their ability to develop and commercialize innovation in order to benefit from radical solutions. Splitting the risk between several parties involved in the innovation process may constitute an appropriate tactic. From the investors' point of view, proper calculation of the effects of radical solutions is problematic, yet opportunities to refer to similar solutions available on the market are limited (Homburg et al., 2009). The lack of referential innovation increases uncertainty and reduces investors' confidence.

Lieberman and Asaba (2006) found that theories of business imitation generally emphasized two contexts: (a) information-based, where follower companies target the superior information of leading enterprises and (b) rivalry-based, where imitating companies focus on limiting rivalry between enterprises. Information-based theories arose from the theory of social learning, whereas the results of research on business strategy and multimarket contact were the basis for rivalry-based theories. The application of both types of theory depends on the similarity between the leading and follower companies as well as on market uncertainty. High levels of similarity and risk make rivalry-based theories more applicable (Lieberman & Asaba, 2006).

When investigating the financial market, Schöler et al. (2014) defined specific drivers of innovation: complexity (consumer effort required to understand the innovation), riskiness (defined in the financial context as possible loss of benefits), and radicalness (degree of novelty). These authors found that both riskiness and radicalness increase abnormal stock market returns. The effect of complexity is exactly the opposite. However, it is worth mentioning that the more complex the innovation, the better and more intensive an announcement strategy is expected (Poole, Van de Ven, Dooley, & Holmes, 2000). Homburg et al. (2009) examined the influence of preannouncements of different new product types (pioneering and follower) on product success. The authors found that preannouncements might have a different focus: on risk reduction (significant mainly for the success of pioneers), or on relative advantage (crucial for followers).

Imitation as a valuable form of innovation (with a positive impact on a company's financial performance) might occur when the firm is characterized by a significant knowledge absorption capacity. This means that an enterprise is able to find, buy (if necessary), assimilate, transform, and use knowledge available from external sources (Thomas & Wood, 2014). Shenkar (2010) argued that so-called "creative imitating" is usually more profitable than radical innovation. He defined creative imitating as an active search for existing ideas worth improving, developing, and copying. Imitation brings innovation much closer to the market, as it enables its effective use. The choice between innovation and imitation is potentially affected by the following determinants: (a) estimated eagerness to become an innovator, rather than an imitator, when imitation is usually assessed as easier to achieve than innovation; (b) estimated reaction of incumbent innovators operating on the market, faced with innovation or imitation (e.g., of their products); and (c) estimated profit of innovation or imitation as a result of a comparison of sales returns relative to development costs (Ofek & Turut, 2008).

Lee and O'Connor (2003) suggested the rejection of the simple correlation between the degree of novelty of an introduced product and its market performance. They argued that customers are focused on buying improved benefits rather than technologies. Furthermore, they confirmed the necessity of joint R&D and marketing activities. The more innovative a product is, the more intensive marketing activities the company should undertake in order to reduce both market risk, including harsh price competition (preannouncement strategy) and customer uncertainty (educational advertisement strategy) (Lee & O'Connor, 2003; Ofek & Turut, 2008).

Aldebert, Dang, and Longhi (2011) defined the frame of the tourism sector system of innovation and its sources based on knowledge, actors, and tourist demand. Knowledge creation usually takes place outside the tourism sector, as novelty tends to come from other industries rather than in-house. Actors in the tourism sector system of innovation are very heterogeneous, delivering complex tourist products. Thus, the innovation activity of one actor has a significant impact on the others regarding the synchronization of this complexity (both in time and space). Finally, the development of new information and communication technologies allows tourists to be more responsible and engaged in the process of innovation (Aldebert et al., 2011).

Therefore, as the degree of novelty of an innovation increases, the collaborative development decreases the risk of failure and validates a company's claim to successfully develop and commercialize a new solution. The hypothesis is stated as follows.

> **H2.** *The source of innovation in publicly-traded tourism companies moderates the relationship between the innovation's degree of novelty and abnormal returns. A high degree of novelty increases stock returns more when innovation is developed in collaboration.*

2.3 | Geography of innovation in tourism companies

It must be emphasized that the stock exchanges investigated operate mainly on a national level. Thus, this research focuses on national context. However, regional aspects of innovation in the tourism industry are significant and widely discussed in the geographical literature. Thus, the following literature review needs to consider national and regional contexts as well.

Maskell and Malmberg (1999), Rodríguez, Williams, and Hall (2014), Roper et al. (2017), Weidenfeld, Butler, and Williams (2011), and Weidenfeld and Hall (2014) found that geographical proximity of companies and institutions has a positive impact on collective learning, also called collaborative learning (Asheim & Gertler, 2013), learning through interaction (Lazonick, 2013) or interactive learning (Roper et al., 2017). Therefore, geographical proximity enables innovation much more than other determinants of knowledge creation. Thus, the agglomerative effect of spillovers from innovation companies and institutions was confirmed. It is worth mentioning that induced innovations very often have a greater multiplier effect than radical ones. Hence, the economic significance of collaborative learning and

geographical clustering of innovation companies and institutions must be emphasized (Cantwell, 2013). However, the difference between collective learning, creative imitating (Shenkar, 2010), and copying knowledge (Roper et al., 2017) needs to be understood. The geographical agglomeration of companies increases their ability to learn collaboratively and gain access to the place-based, semipublic knowledge that is crucial for innovation (García-Villaverde, Elche, Martínez-Pérez, & Ruiz-Hortega, 2017).

The most significant factor determining the spatial volatility of innovations is access to tacit knowledge. Asheim and Gertler (2013) argued that tacit knowledge is place embedded and cannot be diffused over long distances. This is due to the fact that the development of tacit knowledge occurs in a particular social (collaborative learning), cultural (same language, cultural codes, and communication standards), and institutional context. Thus, innovations are mainly developed in the network environment of regional (largely metropolitan), national, or international innovation systems (Asheim & Gertler, 2013; Mulligan, Reid, & Lehnert, 2017). Both systemic and spatial concepts of innovation diffusion are employed (Weidenfeld & Hall, 2014). Academic research is found to be significant for the creation of knowledge useful in the business sector. Institutional and informal relations between academia and enterprises might influence the character, structure, and volume of innovations (Hjalager, 2002). However, it seems that the specifics of these relations are geographically differentiated: diverse cultural, social, and political traditions, differences in the willingness to develop such relations, various barriers, and challenges to their establishment.

Geographical studies on tourism innovation have been conducted on local or regional scales (e.g., Booyens & Rogerson, 2016; Brouder, 2012; Mulligan et al., 2017; Sørensen, 2007), rather than on national or international ones. This is in line with the general tendency of economic geography research on innovation (Oinas & Malecki, 2002) and with the overall tendency of tourism innovation studies (Weidenfeld & Hall, 2014). The lack of social, cultural, environmental, and spatial contexts in tourism innovation studies can be observed (Milne & Ateljevic, 2001). However, some positive examples of sectoral innovation research should be emphasized (e.g., Mattsson et al., 2005; Sundbo, Orfila-Sintes, & Sørensen, 2007). Moreover, investigating the national level is crucial for understanding complex political relations, both stimulating innovation and removing barriers to it (Rodríguez et al., 2014). Thus, filling this gap in the "geographical sciences" is one of the focal points of our research. Moreover, the international context is crucial for understating the phenomenon of geographically differentiated access to global resources of knowledge (Asheim & Gertler, 2013; Květoň & Kadlec, 2018).

Tourism destinations are seen as potentially innovative natural clusters in the tourism sector. When a tourism destination is highly networked and related companies and institutions located in such a destination are collaboration oriented, innovations might easily be developed (Zach & Hill, 2017). Moreover, imitating the location of a competitor was recognized as a significant form of business imitation, mainly in the tourism industry (Lieberman & Asaba, 2006). It was confirmed that the main tourism regions seem to be more innovative than peripheral areas. This corresponds with the finding that more urbanized places are often where larger (and thus more innovative) companies are located (Booyens & Rogerson, 2016). This is in line with the effects of agglomeration on urban economies (Booyens & Rogerson, 2016; Cooke & de Propris, 2011). However, the tourism industry in rural areas often has significant impact on innovative local development (Brouder, 2012).

Mulligan et al. (2017) and Oinas and Malecki (2002) emphasized that the innovativeness of an economy depends on the quality of its institutions, above all (a) organizations, including universities and government laboratories, and (b) rules and regulations, including transparency, intellectual property rights, social inclusion, education, and training systems, as well as fiscal, monetary, and trade policies. However, the impact of institutions on the development of innovations in particular industries might be different (Nelson & Rosenberg, 1993). Geographical resources (also called localized capabilities) are significant for innovation development: (a) infrastructure and built environment, (b) natural resources, (c) institutional environment, and (d) knowledge and skills embedded in geographical space (Maskell & Malmberg, 1999). Sundbo et al. (2007) found that the embeddedness of tourism companies in both local and global networks was a significant factor positively influencing innovativeness in the firms investigated. However, Fuglsang, Sundbo, and Sörensen (2011) explained that innovation might be developed elsewhere than in R&D departments. If we agree that innovation might occur in delivering an experience to the customers, creating innovations seems to be a much more inclusive process than recognized before. From a geographical point of view, looking for experience innovation is concentrated at a local context rather than a global one.

Most events or anomalies influencing the economic performance of any establishment are unstable either across time or space (Pojezny, 2006). Nicolau and Santa-María (2013b) conducted the most significant study on the effects of innovations on the value of tourism companies. They investigated the impact of innovation announcements of two hotel companies trading on the Spanish Stock Market on their stock returns between 1996 and 2008. However, the authors did not consider the geographical context of innovation. It must be emphasized here that policy, governance, culture, and institutions are geographically differentiated, mainly at a national level (Oinas & Malecki, 2002). Furthermore, innovation development and commercialization are expected in the most developed markets. Thus, the aim of this study is to fill the geographical research gap and to verify the following hypothesis:

> **H3.** *Abnormal returns for innovation should be significantly smaller in innovation-leading countries than in moderately innovating economies.*

3 | METHODS AND DATA SOURCES

3.1 | Collection of announcement data

The scope of the research studied the abnormal returns resulting from innovation announcements. These announcements under investigation included articles in newspapers, magazines, and journals, television and radio services, conference speeches, and publications on

websites. The data were collected during the period from January 2011 to December 2016 (inclusive). In the investigation, a total of 378 innovation announcements released by 111 tourism companies listed on the most important European stock exchanges (part of the World Federation of Exchanges) or the Federation of European Securities Exchanges (Federation of European Securities Exchanges, 2016; World Federation of Exchanges, 2016) were gathered.

The set of companies covered all those representing accommodation for visitors, food- and beverage-serving companies, passenger transportation, travel agencies and other reservation enterprises, cultural enterprises, sports and recreational companies, and retailers of country-specific tourism-related goods (UN World Tourism Organization, 2010). Whereas some of the companies operated nationally (e.g., Interferie) or regionally (e.g., Tatry Mountain Resort), others were transnational (e.g., Flybe). In order to follow an investors' perspective, all companies were assigned to specific countries based on their principal country of listing. To collect data on innovation announcements, Faciva by Dow Jones & Company, Eikon by Thomson Reuters, Amadeus by Bureau van Dijk, and ProQuest databases were employed. For the calculation of abnormal returns, publicly available information was extracted from stock exchange databases.

3.2 | Classification of European Union member states based on the European Innovation Scoreboard in 2016

The investigated groups of European Union (EU) countries are based on values given in the Summary Innovation Index announced in the European Innovation Scoreboard in 2016 (Hollanders, Es-Sadki, & Kanerva, 2016). This index comparatively assesses the performance, strengths, and weaknesses of research and innovation in EU member states. The Summary Innovation Index distinguishes three main groups of drivers of innovation: (a) enablers, indicators of innovation performance external to the companies; 2) firm activities, indicators of enterprises' efforts to innovate; and 3) outputs, indicators of the effects of companies' innovation activities. All of these indicators are calculated on the basis of statistics from Eurostat, Organisation for Economic Co-operation and Development, and the United Nations. For indicators whose value distributions are significantly skewed, a square root transformation was used with the values of all indicators being normalized. The Summary Innovation Index was calculated as the unweighted average of the normalized values of all indicators (Hollanders et al., 2016).

Hollanders et al. (2016) used the Summary Innovation Index to provide a classification of EU member states. Regarding both innovation performance and the strengths and weaknesses of research and innovation in the investigated countries, they divided EU member states into innovation leaders, strong innovators, moderate innovators, and modest innovators (see Figure 2 and Table 1). All diagnosed innovation announcements from public tourism companies from 2011 to 2016 were classified according to the country of origin of their stock market. As only two announcements were diagnosed for modest innovators, this group of EU countries (including Bulgaria and Romania) was removed from further enquiry.

3.3 | Calculation of abnormal returns

Khotari and Warner (2006) defined an abnormal (or unexpected) return of an event as the difference between observed and predicted returns for a specified time period relative to the event. Thus, an abnormal return allows us to directly measure the change in shareholder wealth influenced by the event. Regarding the arguments of Khotari and Warner (2006) and Mitchell and Stafford (2000), we decided to employ the buy-and-hold abnormal returns (*BHAR*) approach to estimate the postevent, risk-adjusted abnormal stock returns of investigated tourism companies. The *BHAR* approach allowed us to face the skewness problem, better represent the investors' actual investment experience, and avoid some biases occurring when stock returns are measured with frequent rebalancing. This measure represents the strategy for investing in all firms that carry out an event (e.g., announce an innovation) and selling at the end of a prespecified holding period in comparison with the portfolio of reference (Mitchell & Stafford, 2000). For each event firm, 6-month *BHAR*s were calculated against the main stock index of the stock exchange of their listing. Such long-term perspectives resulted from previous research indicating that the power to detect abnormal returns is higher in periods shorter than 12 months (Khotari & Warner, 2006). The following formula was employed (Khotari & Warner, 2006):

$$BHAR_{i(t;T)} = \Pi\left(1 + R_{i,t}\right) - \Pi\left(1 + R_{B,t}\right),$$

where

- $BHAR_{i(t;T)}$ is the abnormal return in the 6-month period between months t and T for firm i,
- $R_{i,t}$ is the return of firm i in month t,
- $R_{B,t}$ is the return of the matched index i in month t.

Next, the *BHAR*s were averaged, and the statistical significance of the results was tested. However, due to the positively skewed distribution of *BHAR*s, the traditional t-test could not be used (Pojezny, 2006) as it leads to negatively biased test statistics (Lyon, Tsai, & Barber, 1999). Cowan and Sergeant (2001) discussed the problem of bias in investigating abnormal, long-term stock returns. They depicted the following types:

1. the overlapping horizons bias (when there are overlapping time periods in long-term studies on abnormal, long-term stock returns, positive effect of stock events might appear);
2. the winsorization of abnormal returns, also known as the skewness bias (when single, extreme observations significantly affect the skewness of abnormal returns);
3. the new listing bias (when long-term stock returns refer to new stock events rather than investigated previous ones); and finally
4. the rebalancing bias (when using a rebalanced reference portfolio while looking at returns of investigated companies without rebalancing).

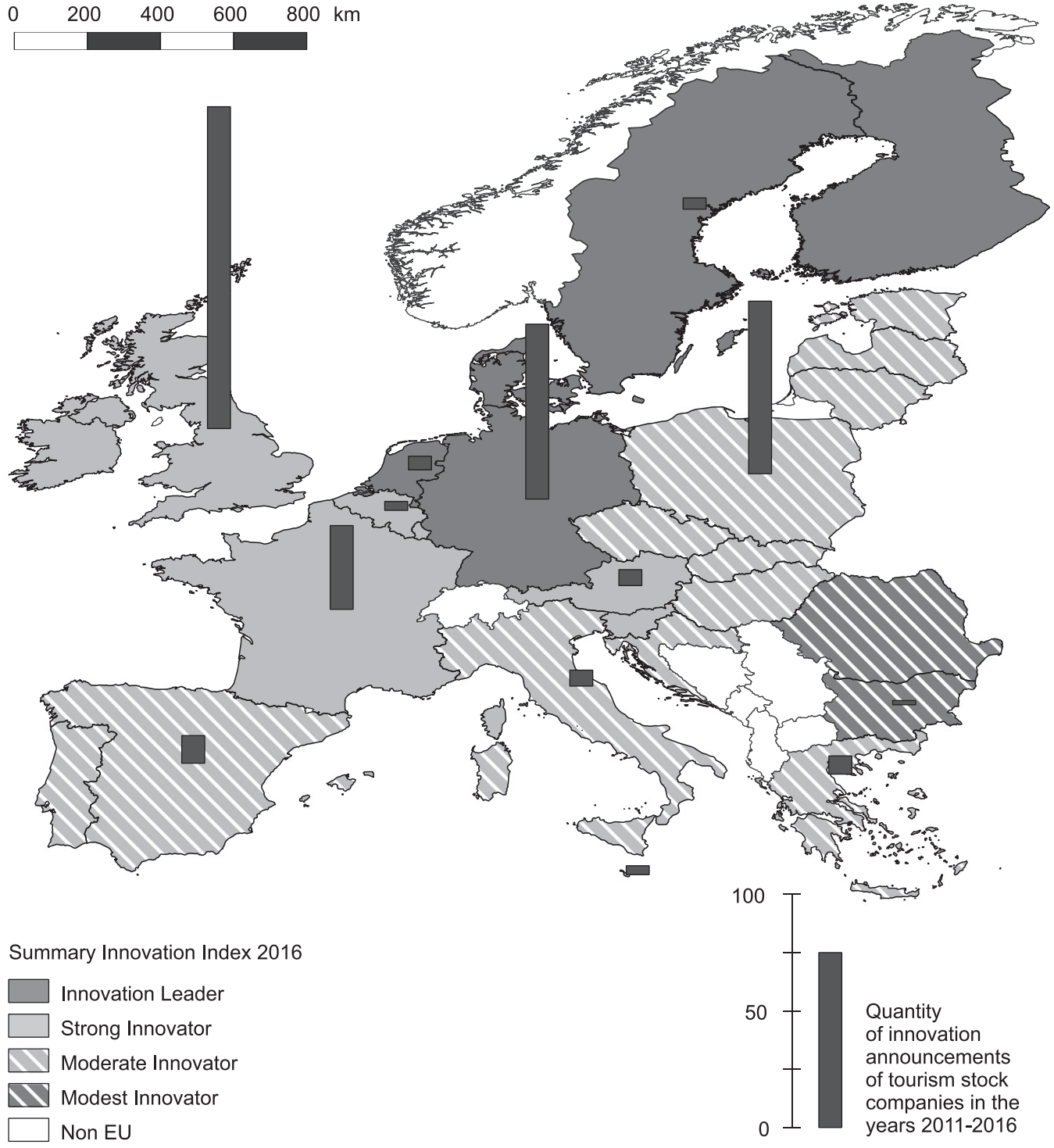

FIGURE 2 European Union countries based on the Summary Innovation Index values for 2016 and the number of innovation announcements in tourism stock companies
Source: authors, based on Hollanders et al. (2016).

As proposed by Cowan and Sergeant (2001) the "two groups difference of means test" was employed and the test statistic was formulated as follows:

$$t = \frac{ABHAR}{\left(\frac{\sigma_i^2}{n} + \frac{\sigma_{benchmark}^2}{n}\right)^{0.5}},$$

where

- *ABHAR* is the averaged buy-and-hold abnormal returns,
- $\sigma^2{}_i$ is the variance of security *i*,
- $\sigma^2{}_{benchmark}$ is the variance of the matched index.

The test indicated that releasing innovation announcements indeed produces statistically significant abnormal returns (*p* value less than 0.05). After testing the statistical significance of the 6-month

TABLE 1 European Union (EU) countries based on the Summary Innovation Index values for 2016 and the number of innovation announcements in publicly traded tourism companies

Category of country based on Summary Innovation Index values in 2016	Countries	Number of innovation announcements in publicly traded tourism companies
Innovation leader	Denmark, Finland, Germany, Netherlands, Sweden	86
Strong innovator	Austria, Belgium, France, Ireland, Luxembourg, Slovenia, United Kingdom	185
Moderate innovator	Croatia, Czech Republic, Estonia, Greece, Hungary, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Slovakia, Spain	105
Modest innovator	Bulgaria, Romania	2
Total	EU member states	378

Source. Authors, based on Hollanders et al. (2016).

averaged buy-and-hold abnormal returns in the three groups of EU countries based on the enquiry by Hollanders et al. (2016), the *BHAR*s were used as the dependent variable in the regression analysis. The multiple hierarchical regression formula was as follows:

$$\begin{aligned} BHAR_{i(t;T)} = {} & \beta_0 + \beta_1 \mathrm{SIZE}_i + \beta_2 \mathrm{VOL}_i + \beta_3 \mathrm{RD}_i + \beta_4 \mathrm{TCD}_i \\ & + \beta_5 \mathrm{TURNOVER}_i + \beta_6 \mathrm{LEVERAGE}_i + \beta_7 \mathrm{ROE}_i \\ & + \beta_8 \mathrm{GROWTH}_i + \beta_9 \mathrm{DNI\_INC} + \beta_{10} \mathrm{DNI\_NTTC} \\ & + \beta_{11} \mathrm{SRC\_INH} + \beta_{12} \mathrm{SRC\_CPD} + \beta_{13} \mathrm{INC\_INH} \\ & + \beta_{14} \mathrm{INC\_CPD} + \beta_{15} \mathrm{NTTC\_INH} + \beta_{16} \mathrm{NTTC\_CPD}. \end{aligned}$$

The description of the variables used is presented in Table 2. In order to test the research hypotheses, the data on 11 different variables were gathered for each observation. The study included eight control variables and two main-effect ones. Moreover, it covered the interaction between the main-effect variables.

The coding procedure of the main-effect variables was performed by two independent researchers who specialize in the field of innovation, based on the information contained in the announcements. The rare differences between their works were analysed to come up with a single code. They assessed novelty so that incremental innovation covered the minor upgrades (e.g., Accor introducing PLAY system in Novotel—multimedia tables placed in lobbies and offering a wide range of entertainment), the new-to-the-company category included the novelties that could have been already implemented in other companies (e.g., Flybe introducing "One Stop to the World" search engine), and radical innovation referred to the first-ever implementation of a

TABLE 2 Specification of the investigated independent variables influencing 6-month buy-and-hold abnormal returns of European Union tourism companies in the years 2011–2016

Name	Notation	Type	Description	Related studies
Control variables				
Ln (size)	SIZE	Continuous	Natural logarithm of company sales	Ehie and Olibe (2010)
Ln (volume)	VOL	Continuous	Natural logarithm of the number of shares traded in a security during the quarter preceding the innovation announcement	Meng, Zhang, and Wei (2015)
Research and development (R&D) expenditure	RD	Continuous	Company R&D expenditure in the year preceding the announcement as it reflects better innovation capabilities than R&D intensity	Khansa and Liginlal (2009)
Ln (total cash dividend)	TCD	Continuous	Natural logarithm of cash dividend in the year preceding the announcement	Islam and Dooty (2015)
Asset turnover	TURNOVER	Continuous	Net sales revenue to average total assets	Meng et al. (2015)
Leverage	LEVERAGE	Continuous	The debt-to-equity ratio	Meng et al. (2015)
Return on equity	ROE	Continuous	ROE ratio	Szutowski (2016)
Growth	GROWTH	Continuous	The average 3-year growth in total revenue	Nicolau and Santa-María (2013a)
Main-effect variables				
Degree of novelty	DNI	Multi-category	Radical innovation is the category of reference. The remaining categories: incremental innovation (INC) and new-to-the-company (NTTC)	—
Source of innovation	SRC	Multi-category	Collaborative development is the category of reference. The remaining categories: in-house development (INH) and copying (CPD)	—
Interaction effects				
Interaction between degree of novelty and source of innovation	INC_INH INC_CPD NTTC_INH NTTC_CPD	Binary	Each binary variable represents a cross combination of the categories of the main effect variables	—

Source. Authors, based on Szutowski (2016).

new solution (e.g., EasyJet using drones and augmented reality for aircraft inspection). Interaction effects were calculated by multiplying the values attributed to each observation in the categories of the main-effect variables. A set of control variables was adopted from the systematic literature study aiming at their selection (Szutowski, 2016).

4 | RESULTS

The study indicated that the companies listed in countries that lagged behind in innovation benefitted the most from implementing them. The average 6-month abnormal return resulting from implementing innovation is presented in Figure 3.

It appears that the market expects innovation activity from potential innovation leaders and discounts the expectations in company value. For moderate innovators, however, such activity is not evident, so innovation results in strong abnormal returns. Thus, hypothesis H3 seems to be supported. It is worth mentioning that the geographical contexts considered in hypothesis H3 also occurred in the process of testing hypotheses H1 and H2 (see the last two paragraphs of this part of the article). Moreover, the study indicated that for innovation leaders, approximately 22% of all innovation may be classified as breakthrough, whereas for strong and moderate innovators, the percentages are 12.40% and 6.50%, respectively. Furthermore, collaborative development seems to be the domain of innovation leaders (20.93%) and strong innovators (22.70%) rather than moderate innovators (9.35%). Copying innovative solutions developed entirely outside of the company seems to be the domain of moderate innovators (12.15%) rather than innovation leaders (2.33%). The description of the announcements analysed with respect to main-effect variables is presented in Table 3.

In order to test the research hypotheses, three independent regression models were calculated. The first one contained all the announcements released by potential innovation leaders. The second included the announcements of tourism companies listed in strong innovators countries. The third focused on potential moderate innovators. No regression model was calculated for modest innovators, as the number of observations in this group was insufficient. Summaries of these models are presented in Table 4.

The predictive power of the models varied. The predictors used explained 26.4% of the variability of abnormal returns in the innovation leader group. For the strong innovators, the percentage of variability explained by the models slightly exceeded 21%, and for the moderate ones, it was 24.4%. Moreover, in all the models specified, there were statistically significant differences between groups as determined by one-way analysis of variance (see Table 5). Hence, it laid the foundation for further regression analysis.

The regression run for the three specified models (separate for tourism companies in innovation leading countries, strong innovators, and moderate innovators) allowed us to test all of the hypotheses. The data on individual predictors is presented in Table 6.

The results suggest that the market differentiated innovation by its source. In all of the models specified, the coefficients for copying were negative. For innovation leaders (−0.022) and strong innovators (−0.026), the results were significant at a *p*-level of 0.05. As far as in-house development is concerned, the study provided important insights into the previous inconclusive findings. Szutowski (2018b) showed that collaborative development in relation to in-house development is negatively perceived by the market in the short term and positively in the long run. However, the above results provide further explanation. For innovation leaders, collaborative development was perceived positively (the coefficient for in-house development equalled −0.019 and was significant at a *p*-level of 0.05). In the strong-innovators group, the same perception was suggested: the coefficient for in-house development was −0.036 and that for copying was −0.026 (the second one was statistically significant *p*-level of 0.05). The opposite was observed for moderate innovators (coefficient for in-house development equalled 0.147 and was suggested

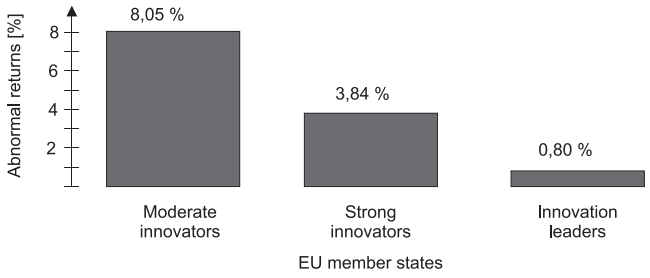

FIGURE 3 6-month buy-and-hold abnormal returns of tourism stock companies in EU member states
Source: authors.

TABLE 4 Summaries of models explaining the impact of innovation announcements on 6-month buy-and-hold abnormal returns of European Union (EU) publicly traded tourism companies for 2011–2016

Models for particular groups of EU member countries	R^2	Adjusted R^2	Standard error of the estimate
Innovation leaders	0.264	0.138	0.02514
Strong innovators	0.215	0.099	0.25090
Moderate innovators	0.244	0.108	0.24774

Source. Authors.

TABLE 3 Innovation announcements of European Union (EU) publicly traded tourism companies for 2011–2016

	Degree of novelty			Source of innovation		
	Incremental	New-to-the-company	Radical	Collaboration	In-house	Copied
EU member states	Number and percentage of innovation announcements			Number and percentage of innovation announcements		
Innovation leaders	14 (16.28%)	53 (61.63%)	19 (22.09%)	18 (20.93%)	66 (76.74%)	2 (2.33%)
Strong innovators	43 (23.24%)	119 (64.32%)	23 (12.43%)	42 (22.70%)	131 (70.81%)	12 (6.49%)
Moderate innovators	25 (23.36%)	75 (70.09%)	7 (6.54%)	10 (9.35%)	84 (78.50%)	13 (12.15%)

Source. Authors.

TABLE 5 One-way analysis of variance for the specified models explaining the impact of innovation announcements on 6-month buy-and-hold abnormal returns for European Union (EU) publicly traded tourism companies for 2011–2016

Models for particular groups of EU member countries		Sum of squares	df	Mean square	F	Significance
Innovation leaders	Regression	0.020	16	0.001	1.988	0.023
	Residual	0.055	69	0.001	—	—
	Total	0.075	85	—	—	—
Strong innovators	Regression	0.875	16	0.055	2.116	0.010
	Residual	4.340	168	0.026	—	—
	Total	5.214	184	—	—	—
Moderate innovators	Regression	1.760	16	0.110	1.796	0.044
	Residual	5.450	90	0.061	—	—
	Total	7.210	106	—	—	—

Source. Authors.

TABLE 6 Specification of models explaining the impact of innovation announcements on 6-month buy-and-hold abnormal returns of European Union (EU) publicly traded tourism companies in the years 2011–2016

Variables		Coefficients of models for particular groups of EU member countries		
Name	Notation	Innovator leaders	Strong innovators	Moderate innovators
(Constant)	(Constant)	0.005	*** 0.109	0.056
Ln (size)	SIZE	−0.025	* 0.000	* 0.000
Ln (volume)	VOL	−0.041	0.000	0.000
Research and development (R&D) expenditure	RD	** 0.137	−0.001	−0.001
Ln (total cash dividend)	TCD	−0.163	−0.000	0.709
Asset turnover	TURNOVER	0.624	−0.866	0.000
Leverage	LEVERAGE	0.000	0.010	0.008
Return on equity	ROE	−0.003	*** 0.690	*** 0.646
Growth	GROWTH	** 0.008	*** −0.170	*** −0.161
Degree of novelty: Incremental innovation	DNI_INC	−0.001	0.027	0.070
Degree of Novelty: new-to-the-company	DNI_NTTC	* −0.009	*** −0.011	0.046
Source of innovation: in-house development	SRC_INH	** −0.019	−0.036	* 0.147
Source of innovation: copying	SRC_CPD	** −0.022	** −0.026	−0.246
Interaction between incremental and in-house innovation	INC_INH	* −0.040	0.053	0.270
Interaction between incremental and copying innovation	INC_CPD	−0.035	0.025	** −0.053
Interaction between new-to-the-company and in-house innovation	NTTC_INH	** −0.024	0.027	0.061
Interaction between new-to-the-company and copying innovation	NTTC_CPD	** −0.029	−0.059	** −0.052

Source. Authors.
***$p < 0.01$; **$p < 0.05$; *$p < 0.1$.

significant at a *p*-level of 0.1). The results provide further explanation for the previous finding, indicating that decreasing the risk of development through collaboration is positively perceived by the market (Noh, 2015). H1 was firmly supported by innovation-leading countries and partially supported in the strong-innovators group, whereas among the moderate innovators, in-house development was suggested as beneficial. It appears that the effect of collaboration is not homogeneous and depends on the geographical group analysed.

Furthermore, the results suggest that new-to-the-company innovation produces a negative market reaction in relation to radical innovation. In two of the models, the coefficients were negative. Among the strong innovators (−0.011), the result was statistically significant at a *p*-level of 0.01, and among the innovation leaders (−0.009), it was suggested at a *p*-level of 0.1. For moderate innovators, the coefficient was positive but statistically insignificant. It appears that radical innovation was perceived as able to generate a competitive edge, whereas as new-to-the-company innovation does not entail any improvement in competitive positioning, no significant reaction follows. Against this background, radical innovation caused a stronger positive market reaction. Thus, the results support previous findings, indicating a positive relation between the degree of novelty and stock returns (Schöler et al., 2014). In relation to hypothesis H2 stating that the source of innovation moderates the relation between the innovation's degree of novelty and abnormal returns, the research produced significant results. In the innovation leaders group, it was found that a high degree of novelty (radical innovation) increases stock returns

more when innovation is developed in collaboration. It is reflected in the negative coefficients for incremental (INC_INH = −0.040 suggested at the *p*-level of 0.1, INC_CPD = −0.035) and new-to-the-company (NTTC_INH = −0.024, NTTC_CPD = −0.029, both significant at the *p*-level of 0.05) innovation. In the moderate innovator group, INC_CPD (−0.053) and NTTC_CPD (−0.052) results were also negative and significant at the *p*-level of 0.05. Against this background, a positive moderation effect of collaborative development in the relationship between the innovation's degree of novelty and abnormal returns was shown. Among the strong innovators, the results were statistically insignificant.

5 | DISCUSSION AND CONCLUSIONS

The tourism industry has become increasingly extensive. Two characteristics of this sector's development should be underlined: general market growth and the transition of the sector into a more experience-based model. The increasing innovativeness of the tourism industry significantly influences both of these factors (Alsos et al., 2014). Moreover, Kallmuenzer and Peters (2018) found that the financial performance of tourism companies is influenced mainly by innovativeness, whereas financial performance of enterprises representing other industries is affected by both innovativeness and control mechanisms. Thus, studies on the impact of innovations on tourism sector performance were found to be extremely relevant.

Szutowski (2018a) clarified the positive relationship between innovation announcements and abnormal market value changes. He argued that every innovation announcement enables investors to assess a firm's willingness to initiate, develop, and introduce a new product, technology, management or distribution tool, or institutional context. Hence, information asymmetry between managers and investors is reduced, and a positive market response is significantly stimulated. Lee and O'Connor (2003) and Ofek and Turut (2008) discussed the problem of consumers' fear of innovation and the resulting resistance to adopt innovative products: the high costs of switching from one product to a new one, the high perceived risk of a new product compared with consumer valuation of a new benefit, and the vast estimated amount of time to learn how to use the new product. Lee and O'Connor (2003) explored two dimensions for every innovation in an enterprise (product newness and market newness) and two dimensions to the customer (product superiority and the adoption difficulty). Multinational publicly traded tourism companies using their trusted brands might easily face the problem of innovation risk perceived by their customers (Williams & Shaw, 2011).

Rønningen (2010) emphasized the role of large companies in the dissemination of innovation and development processes (enabling access to new, mainly international markets, new technologies, knowledge, and competences) to small and medium tourism enterprises. Hence, investigating the innovativeness of large companies should be recognized as crucial for understanding the innovativeness of the whole tourism sector. In our research, we confirmed that the size of a tourism enterprise is a crucial determinant for such a company's innovativeness as well as its performance, which is in line with the findings from an earlier enquiry by Sundbo et al. (2007). Moreover, it should be explained that this process of internationalization can be understood as a necessary form of innovation in the tourism industry, as knowledge transfer enabled by operating on international markets is a significant factor in tourism innovation. On the other hand, internationalization is also strongly influenced by innovation (Williams & Shaw, 2011). Regardless of the above, it must be emphasized that this study focuses only on the largest tourism companies; the tourism industry is mainly composed of small and medium enterprises not listed on a stock exchange. This needs to be mentioned as the main limitation of this research.

Investigating the impact of collaborative knowledge on innovations and then the performance of tourism companies is not only a research problem for economics or finance but also for economic geography. It was found that the development of tourism companies includes spatial spreading. New markets, new cultures, new environments, and new countries are explored, and then new services in different locations are introduced. Hence, geography-based knowledge needs to be transferred between international tourism firms (García-Almeida & Yu, 2015). When discussing geographic context, the issue of proximity between companies in the framework of collaborative learning and innovation needs to be considered. Not only geographic (being colocated), but also cognitive, organizational, social, and institutional proximity (Boschma, 2005) or strategic and customer proximity (Darr & Kurtzberg, 2000) influence interactive learning and innovation. Moreover, geographic proximity might only strengthen other dimensions. However, colocation is neither a necessary nor sufficient condition for investigated collaborative learning and innovation (Boschma, 2005; Broekel & Boschma, 2012). As the hypothesis of the impact of collaborative knowledge on abnormal returns was positively verified, tourism companies from leading innovation countries should have benefitted the most.

Recent EU sustainable development policy emphasizes the balance between the various types of innovations introduced: developed and adopted, radical and incremental, and soft and hard (Cooke & de Propris, 2011). Regarding the results from the enquiry by García-Villaverde et al. (2017), radical innovations in the tourism industry are influenced by spatially embedded relational and cognitive social capital. Thus, the geographic context of our hypothesis concerning the relations between the degree of novelty and abnormal returns should be emphasized.

Květoň and Kadlec (2018) found that the innovation process is significantly influenced by a well-developed institutional framework more common in Western European countries; for example, prestigious universities, headquarters locations, and the R&D departments of multinational companies. On the other hand, the transforming economies in Central and Eastern Europe are characterized by an insufficient level of trust among actors in the innovation process (Květoň & Kadlec, 2018) and a lack of capability to transfer knowledge between these actors (Olszewski, 2015). It must be emphasized that the problem of ineffective mechanisms of knowledge transfer in the tourism sector seems to be more serious than in other industries (Olszewski & Bednarska, 2016). It was said that collaborative development resulting, among other factors, from the agglomeration effects of colocated companies is typical for innovation leaders rather than for other countries. However, abnormal returns resulting from

collaborative development are more significant when introduced in less innovative economies (mainly Central and Eastern Europe).

It is worth mentioning that abnormal returns are one of the possible measures of tourism company performance. In our enquiry, the positive impact of innovation on abnormal returns was confirmed. However, other researchers found different measures of tourism company performance reliable and significantly influenced by innovation: prices (de la Peña, Núñez-Serrano, Turrión, & Velázquez, 2016), customer retention (Grissemann, Plank, & Brunner-Sperdin, 2013), and guest satisfaction (Tavitiyaman, Zhang, Wei, & Saiprasert, 2018). As a separate issue, the challenge of measuring the short- and long-term effectiveness of innovation in small, one-person or family-owned tourism enterprises should be emphasized. Moreover, the shareholder approach to performance measures is much less complex than the stakeholder approach integrating various aspects, including not only owners and management, but also customers, employees, suppliers, and competitors. Furthermore, as far as the problem of data collection is concerned, objective financial measures should be juxtaposed with subjective measures meant for assessing a company's market position and its dynamics (Haber & Reichel, 2005).

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REFERENCES

Aldebert, B., Dang, R. J., & Longhi, C. (2011). Innovation in the tourism industry: The case of Tourism@. *Tourism Management*, *32*(5), 1204–1213. https://doi.org/10.1016/j.tourman.2010.08.010

Alhakami, A. S., & Slovic, P. (1994). A psychological study of the inverse relationship between perceived risk and perceived benefit. *Risk Analysis*, *14*(6), 1085–1096. https://doi.org/10.1111/j.1539-6924.1994.tb00080.x

Alsos, G. A., Eide, D., & Madsen, E. L. (2014). Introduction: Innovation in tourism industries. In G. A. Alsos, D. Eide, & E. L. Madsen (Eds.), *Handbook of research on innovation in tourism industries* (pp. 1–24). Cheltenham - Northampton: Edward Elgar.

Asheim, B. T., & Gertler, M. S. (2013). The geography of innovation: Regional innovation systems. In J. Fagerberg, D. C. Mowery, & R. R. Nelson (Eds.), *The Oxford handbook of innovation* (pp. 291–317). Oxford: Oxford University Press.

Berry, L., Shankar, V., Parish, J. T., Cadwallader, S., & Dotzel, T. (2006). Creating new markets through service innovation. *MIT Sloan Management Review*, *47*(2), 56–63.

Booyens, I., & Rogerson, C. M. (2016). Unpacking the geography of tourism innovation in Western Cape Province, South Africa. *Bulletin of Geography. Socio-Economic Serieseconomic Series*, *31*, 19–36. https://doi.org/10.1515/bog-2016-0002

Boschma, R. (2005). Proximity and innovation: A critical assessment. *Regional Studies*, *39*(1), 61–74. https://doi.org/10.1080/0034340052000320887

Broekel, T., & Boschma, R. (2012). Knowledge networks in the Dutch aviation industry: The proximity paradox. *Journal of Economic Geography*, *12*(2), 409–433. https://doi.org/10.1093/jeg/lbr010

Brouder, P. (2012). Creative outposts: Tourism's place in rural innovation. *Tourism Planning and Development*, *9*(4), 383–396. https://doi.org/10.1080/21568316.2012.726254

Cantwell, J. (2013). Innovation and competitiveness. In J. Fagerberg, D. C. Mowery, & R. R. Nelson (Eds.), *The Oxford handbook of innovation* (pp. 543–567). Oxford: Oxford University Press.

Chim-Miki, A. F., & Batista-Canino, R. M. (2017). The coopetition perspective applied to tourism destinations: A literature review. *Anatolia*, *28*(3), 381–393. https://doi.org/10.1080/13032917.2017.1322524

Connolly, R., Stivers, C., & Sun, L. (2005). Stock market uncertainty and the stock-bond return relation. *The Journal of Financial and Quantitative Analysis*, *40*(1), 161–194. https://doi.org/10.1017/S0022109000001782

Cooke, P., & de Propris, L. (2011). A policy agenda for EU smart growth: The role of creative and cultural industries. *Policy Studies*, *32*(4), 365–375. https://doi.org/10.1080/01442872.2011.571852

Cowan, A. R., & Sergeant, A. M. A. (2001). Interacting biases, non-normal return distributions and the performance of tests for long-horizon event studies. *Journal of Banking and Finance*, *25*(4), 741–765. https://doi.org/10.1016/S0378-4266(00)00094-7

Czernek, K., & Czakon, W. (2016). Trust-building processes in tourist coopetition: The case of a Polish region. *Tourism Management*, *52*, 380–394. https://doi.org/10.1016/j.tourman.2015.07.009

Darr, E. D., & Kurtzberg, T. R. (2000). An investigation of partner similarity dimensions on knowledge transfer. *Organizational Behavior and Human Decision Processes*, *82*(1), 28–44. https://doi.org/10.1006/obhd.2000.2885

Della Corte, V., & Aria, M. (2016). Coopetition and sustainable competitive advantage. The case of tourist destinations. *Tourism Management*, *54*, 524–540. https://doi.org/10.1016/j.tourman.2015.12.009

Ehie, I. C., & Olibe, K. (2010). The effect of R&D investment on firm value: An examination of US manufacturing and service industries. *International Journal of Production Economics*, *128*(1), 127–135. https://doi.org/10.1016/j.ijpe.2010.06.005

Fagerberg, J. (2013). Innovation: A guide to the literature. In J. Fagerberg, D. C. Mowery, & R. R. Nelson (Eds.), *The Oxford handbook of innovation* (pp. 1–26). Oxford: Oxford University Press.

Federation of European Securities Exchanges (2016). Full members. Retrieved 15 January 2017, from http://www.fese.eu/about-us/full-members

Fuglsang, L., Sundbo, J., & Sörensen, F. (2011). Dynamics of experience service innovation: Innovation as a guided activity—Results from a Danish survey. *The Service Industries Journal*, *31*(5), 661–677. https://doi.org/10.1080/02642060902822109

García-Almeida, D. J., & Yu, L. (2015). Knowledge transfer in hotel firms: Determinants of success in international expansion. *International Journal of Hospitality and Tourism Administration*, *16*(1), 16–39. https://doi.org/10.1080/15256480.2015.991986

García-Villaverde, P. M., Elche, D., Martínez-Pérez, Á., & Ruiz-Hortega, M. J. (2017). Determinants of radical innovation in clustered firms of the hospitality and tourism industry. *International Journal of Hospitality Management*, *61*, 45–58. https://doi.org/10.1016/j.ijhm.2016.11.002

Grissemann, U., Plank, A., & Brunner-Sperdin, A. (2013). Enhancing business performance of hotels: The role of innovation and customer orientation. *International Journal of Hospitality Management*, *33*, 347–356. https://doi.org/10.1016/j.ijhm.2012.10.005

Haber, S., & Reichel, A. (2005). Identifying performance measures of small ventures—The case of the tourism industry. *Journal of Small Business Management*, *43*(3), 257–286. https://doi.org/10.1111/j.1540-627X.2005.00137.x

Hjalager, A.-M. (2002). Repairing innovation defectiveness in tourism. *Tourism Management*, *23*(5), 465–474. https://doi.org/10.1016/S0261-5177(02)00013-4

Hjalager, A.-M. (2010). A review of innovation research in tourism. *Tourism Management*, *31*(1), 1–12. https://doi.org/10.1016/j.tourman.2009.08.012

Hollanders, H., Es-Sadki, N., & Kanerva, M. (2016). European Innovation Scoreboard 2016. https://doi.org/10.2873/84537

Homburg, C., Bornemann, T., & Totzek, D. (2009). Preannouncing pioneering versus follower products: What should the message be?

Journal of the Academy of Marketing Science, *37*(3), 310–327. https://doi.org/10.1007/s11747-009-0134-4

Islam, M. S., & Dooty, E. N. (2015). Determinants of stock price movements: Evidence from Chittagong Stock Exchange, Bangladesh. *Journal of Economics and Business Research*, *21*(2), 117–133.

Kallmuenzer, A. (2018). Exploring drivers of innovation in hospitality family firms. *International Journal of Contemporary Hospitality Management*, *30*(3), 1978–1995. https://doi.org/10.1108/IJCHM-04-2017-0242

Kallmuenzer, A., & Peters, M. (2018). Innovativeness and control mechanisms in tourism and hospitality family firms: A comparative study. *International Journal of Hospitality Management*, *70*, 66–74. https://doi.org/10.1016/j.ijhm.2017.10.022

Khansa, L., & Liginlal, D. (2009). Has decreasing innovation hurt the stock price of information security firms? A time series analysis. In K. E. Kendall & U. Varshney (Eds.), *Americas Conference on Information Systems*, *AMCIS 2009 Proceedings* (pp. 1–8). AIS electronic library. Retrieved from http://aisel.aisnet.org/amcis2009/784/

Khotari, S. P., & Warner, J. B. (2006). Econometrics of event studies. In B. E. Eckbo (Ed.), *Handbook of corporate finance: Empirical corporate finance* (pp. 3–36). Amsterdam: North-Holland. https://doi.org/10.1016/S1873-1503(06)01001-4

Květoň, V., & Kadlec, V. (2018). Evolution of knowledge bases in European regions: Searching for spatial regularities and links with innovation performance. *European Planning Studies*, *26*, 1–23. https://doi.org/10.1080/09654313.2018.1464128.

Kylänen, M., & Rusko, R. (2011). Unintentional coopetition in the service industries: The case of Pyhä-Luosto tourism destination in the Finnish Lapland. *European Management Journal*, *29*(3), 193–205. https://doi.org/10.1016/j.emj.2010.10.006

de la Peña, M. R., Núñez-Serrano, J. A., Turrión, J., & Velázquez, F. J. (2016). Are innovations relevant for consumers in the hospitality industry? A hedonic approach for Cuban hotels. *Tourism Management*, *55*, 184–196. https://doi.org/10.1016/j.tourman.2016.02.009

Lazonick, W. (2013). The innovative firm. In J. Fagerberg, D. C. Mowery, & R. R. Nelson (Eds.), *The Oxford handbook of innovation* (pp. 29–55). Oxford: Oxford University Press.

Lee, Y., & O'Connor, G. C. (2003). The impact of communication strategy on launching new products: The moderating role of product innovativeness. *Journal of Product Innovation Management*, *20*(1), 4–21. https://doi.org/10.1111/1540-5885.t01-1-201002

Lieberman, M. B., & Asaba, S. (2006). Why do firms imitate each other? *The Academy of Management Review*, *31*(2), 366–385. https://doi.org/10.5465/amr.2006.20208686

Lyon, J. D., Tsai, C.-L., & Barber, B. M. (1999). Improved methods for tests of long-run abnormal stock returns. *The Journal of Finance*, *54*(1), 165–201. https://doi.org/10.1111/0022-1082.00101

Maskell, P., & Malmberg, A. (1999). Localised learning and industrial competitiveness. *Cambridge Journal of Economics*, *23*(2), 167–185. https://doi.org/10.1093/cje/23.2.167

Mattsson, J., Sundbo, J., & Fussing-Jensen, C. (2005). Innovation systems in tourism: The roles of attractors and scene-takers. *Industry and Innovation*, *12*(3), 357–381. https://doi.org/10.1080/13662710500195967

Meng, X., Zhang, Y., & Wei, X. (2015). Market value of innovation: An empirical analysis on China's stock market. *Procedia Computer Science*, *55*, 1275–1284. https://doi.org/10.1016/j.procs.2015.07.138

Milne, S., & Ateljevic, I. (2001). Tourism, economic development and the global-local nexus: Theory embracing complexity. *Tourism Geographies*, *3*(4), 369–393. https://doi.org/10.1080/146166800110070478

Mitchell, M. L., & Stafford, E. (2000). Managerial decisions and long-term stock price performance. *The Journal of Business*, *73*(3), 287–329. https://doi.org/10.1086/209645

Mulligan, G., Reid, N., & Lehnert, M. (2017). Metropolitan innovation in the New Economy. *Urban Science*, *1*(18), 1–22. https://doi.org/10.3390/urbansci1020018

Nelson, R. R., & Rosenberg, N. (1993). Technical innovation and national systems. In R. R. Nelson (Ed.), *National innovation systems: A comparative analysis* (pp. 3–21). New York: Oxford University Press.

Nicolau, J. L., & Santa-María, M. J. (2013a). Communicating excellence in innovation. *Economics Letters*, *118*, 87–90. https://doi.org/10.1016/j.econlet.2012.09.025

Nicolau, J. L., & Santa-María, M. J. (2013b). The effect of innovation on hotel market value. *International Journal of Hospitality Management*, *32*(1), 71–79. https://doi.org/10.1016/j.ijhm.2012.04.005

Noh, Y. (2015). Financial effects of open innovation in the manufacturing industry. *Management Decision*, *53*(7), 1527–1544. https://doi.org/10.1108/MD-12-2014-0681

Ofek, E., & Turut, O. (2008). To innovate or imitate? Entry strategy and the role of market research. *Journal of Marketing Research*, *45*(5), 575–592. https://doi.org/10.1509/jmkr.45.5.575

Oinas, P., & Malecki, E. J. (2002). The evolution of technologies in time and space: From national and regional to spatial innovation systems. *International Regional Science Review*, *25*(1), 102–131. https://doi.org/10.1177/016001702762039402

Olszewski, M. (2015). The determinants of knowledge transfer from universities to tourism companies—A conceptual model and research propositions. *Szczecin University Scientific Journal*, *Service Management*, *16*(2), 111–118. https://doi.org/10.18276/smt.2015.16-11

Olszewski, M., & Bednarska, M. A. (2016). Why don't tourism firms use academic knowledge for innovation? A conceptual framework. In *A pathway for the new generation of tourism research—Proceedings of the EATSA conference 2016*, pp. 53–61. Lisbon, Peniche & Coimbra. Retrieved from http://eatsa2016.ipleiria.pt/

Pojezny, N. (2006). *Value creation in European equity carve-outs*. Wiesbaden: Deutscher Universitäts-Verlag.

Poole, M. S., Van de Ven, A. H., Dooley, K., & Holmes, M. E. (2000). *Organizational change and innovation processes: Theory and methods for research*. Oxford: Oxford University Press.

Rodríguez, I., Williams, A. M., & Hall, C. M. (2014). Tourism innovation policy: Implementation and outcomes. *Annals of Tourism Research*, *49*, 76–93. https://doi.org/10.1016/j.annals.2014.08.004

Rønningen, M. (2010). Innovative processes in a nature-based tourism case: The role of a tour-operator as the driver of innovation. *Scandinavian Journal of Hospitality and Tourism*, *10*(3), 190–206. https://doi.org/10.1080/15022250.2010.491255

Roper, S., Love, J. H., & Bonner, K. (2017). Firms' knowledge search and local knowledge externalities in innovation performance. *Research Policy*, *46*(1), 43–56. https://doi.org/10.1016/j.respol.2016.10.004

Schöler, L., Skiera, B., & Tellis, G. J. (2014). Stock market returns to financial innovations before and during the financial crisis in US and Europe. *Journal of Product Innovation Management*, *31*(5), 973–986. https://doi.org/10.1111/jpim.12138

Schumpeter, J. A. (1939). *Business cycles: A theoretical, historical, and statistical analysis of the capitalist process*. New York - Toronto - London: McGraw-Hill Book Company.

Shenkar, O. (2010). Defend your research: Imitation is more valuable than innovation. Harvard Business Review. Retrieved from https://hbr.org/2010/04/defend-your-research-imitation-is-more-valuable-than-innovation

Sood, A., & Tellis, G. J. (2009). Do innovations really pay off? Total stock market returns to innovation. *Marketing Science*, *28*(3), 442–456. https://doi.org/10.1287/mksc.1080.0407

Sørensen, F. (2007). The geographies of social networks and innovation in tourism. *Tourism Geographies*, *9*(1), 22–48. https://doi.org/10.1080/14616680601092857

Sorescu, A. B., Shankar, V., & Kushwaha, T. (2007). New product preannouncements and shareholder value: Don't make promises you can't keep. *Journal of Marketing Research*, *44*(3), 468–489. https://doi.org/10.1509/jmkr.44.3.468

Sundbo, J., Orfila-Sintes, F., & Sørensen, F. (2007). The innovative behaviour of tourism firms—Comparative studies of Denmark and Spain. *Research Policy*, *36*(1), 88–106. https://doi.org/10.1016/j.respol.2006.08.004

Szutowski, D. (2016). *Innovation and market value: The case of tourism enterprises*. Warsaw: Difin.

Szutowski, D. (2018a). Abnormal market valuation and new product announcements: The role of advancement stage and innovativeness. *Innovation: Management, Policy and Practice*, *20*, 1–17. https://doi.org/10.1080/14479338.2018.1428104.

Szutowski, D. (2018b). Innovation source, advancement stage and company stock returns. *The Service Industries Journal*, 1–18. https://doi.org/10.1080/02642069.2018.1450869

Szutowski, D. (2018c). Market reaction to open innovation announcements. *European Journal of Innovation Management*, *21*(1), 142–156. https://doi.org/10.1108/EJIM-04-2017-0048

Tavitiyaman, P., Zhang, H. Q., Wei, J., & Saiprasert, W. (2018). Moderating effect of hotel markets on differentiation strategies and performance. *Anatolia*, 1–14. https://doi.org/10.1080/13032917.2018.1428903

Thomas, R., & Wood, E. (2014). Innovation in tourism: Re-conceptualising and measuring the absorptive capacity of the hotel sector. *Tourism Management*, *45*, 39–48. https://doi.org/10.1016/j.tourman.2014.03.012

UN World Tourism Organization (2010). *International recommendations for tourism statistics 2008*. *Studies in Methods* (Vol. 83). New York. Retrieved from https://unstats.un.org/unsd/publication/seriesm/seriesm_83rev1e.pdf

Weidenfeld, A., Butler, R., & Williams, A. W. (2011). The role of clustering, cooperation and complementarities in the visitor attraction sector. *Current Issues in Tourism*, *14*(7), 595–629. https://doi.org/10.1080/13683500.2010.517312

Weidenfeld, A., & Hall, C. M. (2014). Tourism in the development of regional and sectoral innovation systems. In A. A. Lew, C. M. Hall, & A. M. Williams (Eds.), *The Wiley Blackwell companion to tourism*. Chichester: John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118474648.ch46

West, J., Vanhaverbeke, W., & Chesbrough, H. (2006). Open Innovation: A Research Agenda. In H. Chesbrough, W. Vanhaverbeke, & J. West (Eds.), *Open innovation: Researching a new paradigm* (pp. 285–308). Oxford: Oxford University Press.

Williams, A. M., & Shaw, G. (2011). Internationalization and innovation in tourism. *Annals of Tourism Research*, *38*(1), 27–51. https://doi.org/10.1016/j.annals.2010.09.006

World Federation of Exchanges (2016). WFE members. Retrieved 15 January 2017, from https://www.world-exchanges.org/home/index.php/members/wfe-members

Zach, F. J., & Hill, T. L. (2017). Network, knowledge and relationship impacts on innovation in tourism destinations. *Tourism Management*, *62*, 196–207. https://doi.org/10.1016/j.tourman.2017.04.001

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