



# Determinants of innovation in tourism evidence from Australia

Sarath Divisekera\*, Van K. Nguyen

College of Business, Victoria University, Melbourne 8001, Australia



## HIGHLIGHTS

- Explores the innovation process in tourism using a logistic regression model and longitudinal database.
- Relationships between innovation inputs and service and marketing innovation outputs are examined.
- Of the inputs, collaboration, human capital, foreign ownership, and firm size positively influence service innovation.
- Collaboration, firm size, information technology, funding and market competition positively influence marketing innovation.
- Increasing firm size and greater competition among tourism enterprises have a decisive impact on the propensity to innovate.

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## ABSTRACT

This study explores innovation processes in tourism within the context of Australian tourism enterprises. A coherent conceptual framework, drawing on the existing literature, is developed to analyse the innovation process. Using a longitudinal database and logistic regression model, the relationship between innovation inputs or determinants and two of the widely adopted innovation outputs in tourism—service and marketing innovation—are examined. Of the innovation inputs, the most important one is collaboration, followed by human capital, information technology, and funding. Among institutional factors, foreign ownership is a key driver, followed by market competition, firm size, and environment. The results provide new insights into the role and effects of the various inputs and related institutional factors that drive innovation efforts by tourism enterprises. Findings of this study should inform policy discussions and the development of strategies to enhance innovation capacity among tourism businesses.

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## 1. Introduction

Innovation, the 'creative destruction', proposed by Schumpeter (1934) in the 1930s has become the cornerstone of modern industry analysis. Innovation is seen as the solution to economic woes experienced by both developed and developing nations across various industry sectors. The need to be innovative has almost become a precondition for the survival, sustainability, and future growth of modern industries operating in a highly competitive global marketplace. Of the different sub-sectors of the global economy, tourism is among the most competitive; and its phenomenal growth over the last few decades has been accompanied by intense competition (Backman, Klaesson, & Oner, 2017;

Cirstea, 2014; Vodeb, 2012). It is unsurprising, therefore, that the adoption of innovation is suggested as the optimal coping mechanism to counter intense competition as well as an efficient response to ever-changing demands to achieve sustainable growth for tourism firms (OECD, 2008; Simonceska, 2012). The universal acceptance of this proposition is mirrored in the growing literature on tourism innovation over the last decade (Deegan, 2012; Dhar, 2016; Hjalager, 2010; Nieves & Diaz-Meneses, 2016; Razumova, Ibáñez, & Palmer, 2015; Tejada & Moreno, 2013).

Much of the existing literature on innovation in tourism focuses on conceptual and theoretical issues, including the need, drivers and obstacles of innovation (Birgit, Mike, & Chung-Shing, 2018; Najda-Janoszka & Kopera, 2014); determinants of innovation (Orfila-Sintes & Mattsson, 2009); the concept of innovation and its usefulness for tourism and tourism systems (Hall & Williams, 2008); integrative model for innovativeness in tourism (Omerzel, 2015) and internationalisation and innovation in tourism (Williams & Shaw,

\* Corresponding author.

E-mail addresses: [Sarath.Divisekera@vu.edu.au](mailto:Sarath.Divisekera@vu.edu.au) (S. Divisekera), [VanKhanh.Nguyen@vu.edu.au](mailto:VanKhanh.Nguyen@vu.edu.au) (V.K. Nguyen).

2011). These studies have contributed to the advancement of our understanding of unique features associated with innovation in tourism. The same, however, cannot be said about the empirical research on innovation in tourism. Compared to other economic sectors, there is a dearth of empirical knowledge on tourism innovation in general, and quantitative analysis, in particular (Alsos, Eide, & Madsen, 2014; Deegan, 2012; Hjalager, 2010; Sundbo, Orfila-Sintes, & Sørensen, 2007). While the last decade evidenced the emergence of an increasing volume of empirical studies on innovation in the tourism sector, their scope is limited in particular aspects. As Hjalager (1994, p. 9) noted, tourism innovation has mainly been examined in 'a piecemeal, case-by-case manner'.

Of the available empirical studies, several have studied the effect of involving employees and visitors in the innovation process (López-Fernández, Serrano-Bedia, & Gómez-López, 2011; Orfila-Sintes & Mattsson, 2009; Ottenbacher & Gnoth, 2005). Another area of focus has been the role of information and communication technology (ICT) for innovation generation (Aldebert, Dang, & Longhi, 2011; Buhalis & Law, 2008; Jolly & Dimanche, 2009). Martínez-Román, Tamayo, Gamero, and Romero (2015) and Lee, Hallak, and Sardeshmukh (2016) examine a related issue—the relationship between innovation and business performance. The former explores the impact of product and process innovation on the profitability of SMEs in the Andalusian hospitality industry (in Spain), and the latter examines the relationship between innovation, entrepreneurship, and restaurant performance in Australia. Other studies focusing on various aspects of innovation and related issues in the hotel sector include Razumova et al. (2015) who explore determinants of environmental innovations and Backman et al. (2017) who investigate determinants of innovation in the hospitality industry; Dhar (2016) who examines the effect of ethical leadership on service innovative behaviour; and Nieves and Diaz-Meneses (2016) who analyse the influence of knowledge on marketing innovation and the effect of marketing innovation on the financial performance of hotels.

Most studies on tourism innovation are descriptive and (or) analytical, and the need for more empirical research and quantitative evidence has widely been emphasised. Many advocates that there is an obvious quest for better empirical evidence about innovation in tourism and, further, that such quantification is essential (Clausen & Madsen, 2014; Hall & Williams, 2008; Hjalager, 2010). The limited empirical knowledge of the innovation process and its determinants in the tourism sector is a major obstacle to the development of appropriate strategies and policies that facilitate innovation. The issue is critical in ensuring the long-term growth and competitiveness of national tourism sectors. This study is carried out with the aim of bridging this information gap, by analysing and quantifying determinants of innovation in tourism in the Australian context. This is achieved by developing and estimating a model of the innovation process in tourism. The model is fitted to two of the widely adopted innovation outputs in tourism: service and marketing innovation. The study adopts a logistic regression approach to quantify the relationships and use a longitudinal database as the key source of data. The study provides quantitative evidence on the various determinants and institutional factors that drive innovative activities among tourism firms.

The remainder of this paper is organised as follows. Section 2 reviews the existing literature and elaborates the conceptual model used. Section 3 describes available data, research methodology, and modelling strategy. Section 4 presents empirical results. In Section 5, we place our work in context with the previous work in this area and discuss broad policy implications from the research. The final section summarises major findings, highlights contributions of the study and draws conclusions.

## 2. Review of the literature and conceptual framework

The concept of 'innovation' needs to be distinguished from the term 'invention', as often these terms are used interchangeably (Fagerberg, 2004). From an economics point of view, an invention is a new idea that may or may not be economically useful, whereas an innovation is an application and implementation of a new idea or a new application of an existing idea that results either in a new kind of product, or a new and better process for producing an existing product (Schumpeter, 1934). Joseph Schumpeter (1934), the father of the economic theory of innovation, refers to innovation as the critical dimension of economic change and 'a creative destruction'. Creative destruction refers to the incessant product and process innovation mechanism by which new production units replace outdated ones. The mechanism refers to the introduction of new products, new methods of production, the opening of new markets, development of new sources of the supply of inputs, and the creation of new market structures in an industry (Schumpeter, 1934). The version of the concept that we employ here, as defined in the Oslo Manual (OECD & Eurostat, 2005, p. 46), refers to innovation as 'the implementation of a new or significantly improved product (good or service), process, a new marketing method, or a new organisational method in business practice, workplace organisation or external relations'. This modified version of the Schumpeterian definition of innovation has important implications—the concept can be adapted to the service industries, including tourism (Carvalho & Costa, 2011; OECD, 2013). Innovation in the tourism sector has general characteristics like those in any other economic sector, as well as the tourism-specific ones. Service and marketing are the two main categories of innovation in tourism (Deegan, 2012).

In the absence of an established conceptual framework within which to study the innovative behaviour of tourism firms, the model due to Crépon, Duguet, and Mairesse (1998)—known as CDM—is used as the foundation for developing the conceptual framework of the study. This model—widely used in modelling the innovative behaviour of firms in various industries (mainly manufacturing)—is the standard for such work (Deegan, 2012). It provides the link between a firm's decision to innovate, innovative activities and outputs, and economic performance. Once the decision to innovate is made, the next stage involves identifying the factors that drive innovation or the determinants of innovation activities, which is the focus of this study. The literature offers various explanations that drive innovative activities among tourism firms.<sup>1</sup> They include (i) collaboration (Carlsen, Liburd, & Edwards, 2010; Gokovali & Avci, 2012; Wang & Fesenmaier, 2007), (ii) human capital (Grissemann, Pikkemaat, & Weger, 2013; Orfila-Sintes & Mattsson, 2009; López-fernandez et al., 2011), (iii) information technology (Buhalis & Law, 2008; Deegan, 2012; Sevrani & Elmazi, 2008), (iv) funding (Hall & Williams, 2008), and (v) factors specific to firms, and market characteristics—institutional factors.

It is argued that 'innovation rarely occurs in isolation' (OECD, 2011, p. 27). Having a new idea will not yield results by itself; collaboration or networks are necessary for the development, implementation, diffusion, and on-going success of innovation (Carlsen et al., 2010). Martínez-Fernández (2004) suggests that collaboration is a decisive factor in collective learning and innovation. Collaboration facilitates the use of local knowledge, together with partners' knowledge, to create well-informed decisions and

<sup>1</sup> Business research and development (R&D) expenditures for a long time were supposed to be the crucial and direct determinant of a firm's innovation activity in general, and its ability to absorb external knowledge. However, R&D expenditures have little significance in analysing innovation activities among tourism firms, as such firms hardly invest in R&D (Flikkema, Jansen, & Van, 2007; Miles, 2008).

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