

Business Model Innovation in the Context of Sustainable Tourism

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Abstract



In this study, the impact of business model innovation on the sustainability of tourism activities is discussed in detail. The methodology of the paper is literature review based on previous investigation in the domain of business model innovation and the critical evaluation of the findings. The manuscript starts with brief information regarding to previous findings in the existing literature, then the relationship between business model innovation and sustainability of tourism activities is investigated with a specific focus on rapidly changing dynamics of world and therefore the transformative aspects of business strategies are the main objective of the study. Next, the manuscript suggests a model where the effect of business model innovation is modeled in a mathematical form, pertaining to several variables including technological development, total revenues, and the degree of environmental degradation. Finally, the manuscript concludes that the innovation-based nature of tourism sector requires firms to constantly innovate their business models so that they can arrange themselves according to necessities of rapidly changing business environment, in order to preserve their competitiveness and maintain their business activities to keep making profits.

Keywords: Business model innovation, tourism, sustainability

Introduction

By definition, business model innovation (BMI) refers to a principle where companies innovate by leveraging their internal capabilities and resources, hence it is related to a number of innovation strategies such that knowledge management, exploration, cooperation and entrepreneurship (van Baardwijk & Reinmoeller, 2005; Amit & Zott, 2010; Carayannis et al., 2015). Other than improving the firm performance as a strategic asset, business model innovation ensures long term competitive advantages, as opposed to other strategies such as product or process

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innovations (Schaltegger et al., 2012). The long term effects are particularly important, given the increasing focus on environmental sustainability in business world, where sustainable business practices are considered as a part of business ethics (Crane & Matten, 2016).

As opposed to limited focus of traditional business models which have been dealing with value creation at firm level, the transformative and innovative business models yield to an extended elaboration through capturing the novelty in customer value proposition, along with logical reframing and structural reconfigurations of the firms (Spieth et al., 2014). For that reason, business model innovation requires both modification of existing models and development of new ones to the extent that environmental and social issues gain relevance in the strategy of the companies (Schaltegger et al., 2012). Regarding to the sustainability performances of the firms, the improvement of such performance essentially depends on the change of business model (Schaltegger et al., 2012). In other words, transforming entire business logic through innovative business models, which target to create value for many stakeholders while protecting the natural surroundings, is vital for companies to achieve sustainability (Abdelkafi & Täuscher, 2016).

On the other hand, sustainability is crucial for the development of economic activities, particularly those which are dependent on natural environment to a large extent, such as tourism (Saarinen, 2014). Studies showed that existing business model in a particular tourism company has a significant influence on the level of innovation (Souto, 2015). Therefore, business model innovation plays a key role in organizational sustainability, which in turn assures the environmental sustainability through business model innovation (Carayannis et al., 2015). Despite its growing importance, the literature relevant to business model investment is claimed as limited. For instance, the study of Foss and Saebi (2016) summarizes the fifteen years development of business model innovation literature, and they conclude that the existing literature still has a gap regarding to the impact of business model innovation in ever-changing world dynamics characterized by rapid development of technology and globalization. Moreover, Schaltegger et al. (2012) underline that business model innovation has been neglected both by academic field as well as practitioner-oriented literature on corporate sustainable and corporate sustainability management.

In order to fill this gap, the impact of business model innovation will be analyzed throughout this paper. The next section will provide a brief discussion on the role of business model innovation in sustainable tourism, and then a model will be suggested which would state the relationship of several variables with business model innovation, such as technological advancement, total revenues and environmental regeneration.

The role of business model innovation in sustainable tourism

Traditionally, the main goal of firms is assumed as to make profits for the stakeholders and therefore social and environmental issues are less valued than major business goal. In the age of globalization where consumers are more conscious about the goods and services that they want to buy, and the impact of their consumption on the environment. In her study on the perceptions of tourists for the value of environmentally responsible innovations, Andereck (2009) found that tourists acknowledge the importance of innovations, and therefore they expect tourism companies to structure their business models accordingly. However, from the part of tourism suppliers, the value of nature seems to be underestimated. Especially after 1970s, tourism renders pressure on natural environments along with social and cultural aspects (Mihalič et al., 2012). Although tourism activities rely heavily on environmental assets such as natural sights, clean water, and so forth, the activity itself is generally characterized by being addressed to satisfaction of consumer needs, increase of market share and competitiveness instead of reducing the burden on environment (Jacob et al., 2003). For instance, the study conducted by Mihalič et al. (2012) on the hotel sustainability business models in Slovenia documented that acknowledging the importance of environmental performance including environmental education, awareness building, biodiversity and establishment of partnerships with stakeholders in order to implement sustainable tourism development, account for the 28% of total respondents, whereas economic performance was monitored by 66% of participants and social performance regarding to human capital was considered by 42% of stakeholders in the hotel industry.

There is also a discrepancy among the segments of tourism in terms of the applicability of new business models. According to Hjalager (2010) some of the segments of tourism are more open for new business to easily enter the market whereas in many segments entrepreneurs may fail and instability of market might challenge long-term consolidation and achievements regarding to experience of their existing business models. For instance, Mair and Jago (2010) investigated the applicability of greening business models to business events tourism and they concluded that sustainable business models are currently neglected in business tourism despite lack of regulations in the context of business events as well as limits of time and resources.

Depending on the sustainability strategies, the degree of business model innovation may also vary. For example, the categorization by Mitchell and Coles (2003) suggest that defensive sustainable strategies targeting at easily obtainable cost and efficiency-oriented measures are more likely to consist of business model adjustment or business model adoption, whereas accommodative sustainable strategies referring to renewing production process, changing value

network partners or approaching new market segments are generally subject to business model improvement. Finally, proactive sustainability strategies challenging the core business logic of a company in a radical sense require business model redesign (Mitchell & Coles, 2003). In the context of tourism, tourism activities have been always associated with innovativeness (Hjalager, 2010), and therefore proactive sustainability strategies with innovative business model redesign would be a best fit not only for the organizational but also for the environmental sustainability of firms. As Schaltegger et al. (2012) claim, companies have a large influence on economy and society in today's world, therefore a sustainable development will not be achievable without the sustainable development of corporations through innovative business models. A systematic approach to business model innovation is beneficial for identifying new business models which would assure the sustainability for the use of products and services, and make it easier for new environment-friendly technologies to be adapted (Girotra & Netessine, 2013).

The next section will provide a model to represent the impact of business model innovation based on technological development, the increase in total revenues through innovative business models and the decrease in the level of environmental damage.

The model

The impact of business model innovation on sustainable tourism can be investigated regarding to three main variables, namely technological advancements, total revenue increase of businesses and the level of environmental regeneration. To begin with the effect of technological improvements, they account for an important portion of the change in business models. As Chesbrough (2010) indicates, technological developments cause change in the organizations, and therefore business models should be adapted according to the dynamics of the industry. On the other hand, technology transfer agents appear as an important factor for transforming the scientific knowledge into marketable products. Considering the case of tourism, the study conducted by Peeters et al. (2006) on the role of innovation in aviation sector for reducing the impact on environmental damage suggests that significant reductions on the level of environmental degradation had been achieved through technological improvements. This is particularly because outdated transportation methods are effectively replaced by environmental-friendly applications at considerable prices both for the firms and for the customers. The results of this study can be also generalized to all business models of firms operating in tourism sectors and technological advancements will facilitate the applicability of environmentally sustainable business models through innovation. The impact of technology will be considered as time-dependent which would develop over time in an exponential manner with an

acceleration for doubling itself, as famously stated by Gordon Moore (1965) in his works with integrated circuits, and the phenomenon is also known as Moore's Law.

Furthermore, total revenues appear as a significant indicator of business model innovation in a particular tourism destination. The success of innovation has been predominantly measured with respect to economic gains, such as market success (Hansen et al., 2009). This stems from expectations of stakeholders for financial returns as they engage in financial investments for the business. Therefore, sum total of economic revenues with respect to the change in a particular innovative business model can be considered as a variable while explaining the effect of business model innovation. The business model innovation of tourism firms eventually raises the competitiveness in the tourism market since they facilitate accommodation, transportation and other tourism-related services. In other words, ever-changing market structure requires firms to innovate their business models, which would lose their efficiency after a time and no longer become profitable. In order to stay in the competition and maintain their profitability, firms need to actively innovate in their business models according to the requirements in the market. For that reason, total revenues gained by firm, which undertake business model innovation, would signify the impact of business model innovation in tourism sector, as successful strategies keep bringing revenue to the destination while firms with outdated strategies lose their edge and hence would face a significant drop in their financial gains.

Finally, the evaluation of innovation pipeline regarding to environmental criteria has long been used by firms (Hansen et al., 2009). Replacing the burden on environment with innovative methods will be not only beneficial for increasing the quality of tourism activities at a given time, but it will also ensure the sustainability of tourism activities in future periods by protecting the environment in which tourism activities take place. Business model innovations aim to decrease the use of materials and resources which previously dominate the tourism service, and economize the natural resource consumption by relying on alternative sources and methods. As new innovative business models are being adopted by firms in the tourism market, there will be a possibility to provide services with less environmental damage, and tourism activity will be more environmentally sustainable. Therefore, the impact of business model can be measured through the degree of environmental regeneration with respect to the outcomes of business model innovation, which is subject to time. Furthermore, the degree of regeneration will be assumed as increasing exponentially over time, such that, enabling the regeneration of natural environment faster with a doubling acceleration, similar to the development of technology.

Hence, the model can be written as:

$$(1) \quad \text{BMI} = \beta_0 + \beta_1 \cdot (\text{TD})_t + \beta_2 \cdot \text{TR} + \beta_3 \cdot (\text{ER})_t + \varepsilon$$

and,

$$(2) \quad t \in \mathbb{N} \mid t = \{0, 1, 2, \dots\}$$

where,

BMI implies the *impact of Business Model Innovation*

TD implies *Technological Development*

TR implies *Total Revenues*

ER implies *Environmental Regeneration*

$\beta_0, \beta_1, \beta_2$ and β_3 imply coefficients,

t implies Time

ε implies residual (i.e. the impact of other variables).

Based on this model, the influence of business model innovation can be measured with respect to three main variables, such that technological development, total revenues and environmental regeneration. The two variables, namely technological development and environmental regeneration have been constructed regarding to time, since they are assumed as growing exponentially over the years. Besides that, the time frame enables more realistic comparison between two specific years, hence showing the impact of business model innovation in a more efficient manner. Besides that, there might be other variables that are capable of explaining the variance in the impact of business model innovation, which the suggested model fails to capture. For instance, the reflection of business model innovations on the life quality of tourists and local residents might be also considered as an important outcome, since innovative business models are likely to bring sustainable and efficient tourism development, which directly and indirectly affects all individuals in a touristic destination, regardless of their involvement in tourism. Therefore a residual is given in the model that indicates the variance which cannot be explained by the three main variables.

It should be also noted that, the model is appropriate for any kind of numerical data, as the objective of this model is to provide a tool for the analysis of business model innovation in a quantitatively measurable manner. However, numerical expression of these variables may change from one study to the other, depending on the focus of the studies. Instead of offering a suggestion regarding to numerical expression of aforementioned variables, the model allows future researchers to specify their own numerical calculations, and to investigate accordingly the

effect of business model innovation with these numerical data, through statistical analysis and modeling the main variables in a mathematical framework.

Concluding remarks

In conclusion, business model innovation plays a key role in terms of sustainability especially in the context of tourism. Engagement to business model innovation results in maximization of the use of full potential for business success and contributes to the sustainable development for all (Schaltegger et al. 2012). Considering the interrelation of economic sectors in global market, achievement of sustainable practices through innovating in the business models in a given sector, namely tourism, will eventually boost the development in other sectors, since the revenues received by tourism will be allocated in the community in a direct or indirect manner. Besides that, environmental sustainability increases the service quality provided for tourist as well as ensuring the maintenance of tourism activities for future generations.

In order to stress on the impact of business model innovation in sustainable tourism, this manuscript suggested a model where the development of technology, total revenues in a specific tourism destination and the degree of environmental regeneration was mathematically modeled. However, there might be some limitations regarding to the suggested model. For instance, the impact of technology and environmental regeneration were assumed to be subject to same degree of change at a given time. In reality, there might be practical differences with respect to advancement of technology based on existing technological developments and regeneration speed of nature, where one of these impacts are easily realized whereas the realization of other may take extra time. Moreover, the suggested model has not been tested by empirical results and assumptions regarding to capacity for variables to explain the variance in the effect of business model innovation may appear to be wrong. Nevertheless, the study provides an important basis for the future investigation of business model innovation and its impact on sustainable tourism practices. All in all, none of the business models have so far been capable of providing humanity another planet to live, therefore existing business models should be redefined by companies in order to ensure sustainability in tourism, as well as any other sectors.

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