

IMPACT OF RELATIONSHIP NETWORKS AND KNOWLEDGE SHARING ON TECHNOLOGY AND INNOVATION IN TOURISM ENTERPRISES: A RESEARCH ON TOURISM ENTERPRISES OF ANTALYA

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—Abstract —

Over the past two decades, there has been growing focus on the topic of innovation in tourism. Various categories of innovation – product, process, marketing and organizational – are addressed. Representation of knowledge is identified as a critical factor for both the occurrence and nature of innovations.

Aim of this paper is to determine how relationship networks and knowledge sharing effect innovation (a concept which is recently mentioned not only by the academicians but also by labour environment and the politicians' programme) and technology.

At the end of the study, it emerges that there is a statistical relationship between relationship network and knowledge sharing with technology and innovation. Also, according to statistical analysis, relationship among tourism enterprises is good in Antalya region.

Key Words: *Innovation, Relationship Networks, Knowledge Sharing*

JEL Classification: O30, L83

1. INTRODUCTION

Over the past two decades, the concept of ‘innovation’ has been used to describe the behavior of tourism destinations and tourism industry. Sundbo et al. (2007:88) argued that rigid innovation research has been applied to tourism to only a limited extend and empirical studies of the phenomenon have been modest. It is true that tourism researchers seem to be late starters in transferring the theory, concepts and methodologies already known and applied in other industries for years. Fortunately, increasing numbers of tourism researchers are addressing the wide palette of issues that fall within the innovation headline and expanding the methodological scope. Innovation research represents a meaningful and valuable way of understanding the economic dynamics of the industry and deeper insights will be helpful for the industry and policy makers alike.

The aim of this paper is to determine how relationship networks and knowledge sharing affect technology and innovation which is a concept that recently mentioned by academicians, labours environment and politicians.

The paper, which starts by definitions of innovation, is divided into the following sections: categories of innovation, knowledge transfer process, data and methodology, analysis and results, and conclusion.

2. DEFINITIONS OF INNOVATION

The concept of innovation is presented in Schumpeter’s (1934) innovation theory, wherein he indicates that the creation of new knowledge or new combinations of existing knowledge are transformed into innovations in the enterprise. Schumpeter (1934) differentiates between inventions and innovations. Inventions are connected with basic scientific or technological research, and the term is used to define genuine discoveries. On the other hand, innovations are further developments of inventions, or just bright ideas for making them into useful product. Hence, innovation is a rather pragmatic term that can also include minor adaptations of existent products and services (Hjalager, 2002:465).

Innovation is a visible result of the ability to create knowledge, and its utilization, combination, and synthesis for the introduction of products, processes, markets, or

new types of organizations or significantly improved ones (Camison and Monfort, 2012:777). The European Commission (1995:688) define innovation as ‘the renewal and enlargement of the range of products and services and the associated markets; the establishment of new methods of products, supply, and distribution; the introduction of changes in management, work organization, and the working conditions of the workforce’.

Kanter (1983:20) defines innovation as the process of bringing any new, problem solving idea into use. Ideas for reorganizing, decreasing cost, putting in new budgetary systems, improving communication or combining products in teams are also innovations according to Kanter (1983:20).

3. CATEGORIES OF INNOVATION

The Schumpeterian approach to the search for innovation categories has been applied to a degree in tourism research. Hall’s (2009) study follows with Organization for Economic Co-operation and Development’s (OECD) four categories innovation; Hjalager (1997) provides a basic categorization nearly Schumpeter’s original one. Product/service, process, organizational and marketing innovations constitute the main body of innovation categories. Innovations can take place in one or a combination of these four categories.

3.1. Product/Service Innovation

These types of innovations cover altered or completely new services/products. Product/service innovations refer to directly observed by the customer and seen as new; either in sense of never seen before, or new to the specific enterprise or destination (Hjalager, 2010:2). Examples of new tourism products developed are: loyalty programmes, environmentally sustainable accommodation facilities, etc.

3.2. Process Innovation

Process innovation tend to raise the performance of existing operations through new or improved technology, or through redesigns of the whole production line (Hjalager, 2002: 466). Information and Communication Technology has been the spine of numerous process innovations, and it has attracted a significant strand of

research interest with its own agendas and institutions (Buhalis and Law, 2008:611). Main process innovations in tourism are: computerized management and monitoring systems, robots for cleaning and maintenance, etc.

3.3. Organizational Innovation

Organizational innovations interested in new ways of organizing internal collaboration, directing and empowering staff, building careers and compensating work with pay and benefits (Ottenbacher and Gnoth, 2005:207). A major challenge for many tourism enterprises is to develop methods to keep staff, maintain flexibility and control costs. Organizational innovations can be aimed at improving working place satisfaction and increasing internal knowledge and competence assets (Hall and Williams, 2008:24).

3.4. Marketing Innovation

Marketing innovation is deal with improving the mix of target markets and how chosen markets are best served. There are two aim of marketing innovation. The first aim is to determine better or new potential markets and new or better ways to serve target markets. The second aim of marketing innovation is concerned with serving chosen markets better (Johne, 1999:7-8).

4. KNOWLEDGE TRANSFER PROCESS

The tourism industry has four special structural features that differentiate it from other services, and these features can deteriorate the process of knowledge transfer (Shaw and Williams, 2009:327).

The first characteristic is heterogeneity, which usually leads to standardized service. The relative lack of quality standards in the industry can damage innovation (Camison and Monfort, 2012:781). The second characteristic is the case of the fragmented nature of the industry, dominated by small enterprises. Of course, smaller enterprises could be highly innovative, but the reduced dimension can be a barrier to reaching an optimum rate of innovation (Pikkemaat ve Peters, 2006:91). A third important characteristic of the tourism industry is that limited numbers of enterprises create technology, they prefer to buy technologies from

outside the enterprises (Orfila-Sintes et al., 2005:854). A fourth characteristic is that, due to the weak disposition toward cooperation in innovation among tourism companies, collaboration among them is mostly intermediated by destination institutions that play a key role in the knowledge transfer process among enterprises (Novelli et al., 2006:1143). However, due to this intermediation, some of the positive effects of cooperation may be lost (Hjalager, 2002:472). Tourism industry need to knowledge transfer to make innovations.

According to Hjalager (2002:471) there are four different channels for knowledge transfer: the trade, the technological service, the infrastructural and the regulation systems.

In most countries the trade system consists of numerous trade associations, employers' organizations and unions, confederations, task forces, etc. (Selin, 1993:219). Some trade organizations with academic researchers carry out surveys and studies of various types, which are helped by easy access to the industry.

The tourist industry increasingly utilizes knowledge embodied in technology. When acquired in this form, the technology can fully or partly compensate for the lack of a capacity to screen the environment for innovation resources. In addition, technology reduces the need to rely upon human resources and competences (Hjalager, 2002:472).

Tourism is based on 'free good' such as natural resources, cultural attractions, townscapes, etc. According to Hjalager (2002:472) there have been many innovations in the infrastructural system. For instance, museums eagerly pursue new ideas, and they rely on research in their interpretation. Scientific discoveries can influence how natural parks are managed. However, the impact of infrastructural systems on innovation in tourism industry poorly understood (Hjalager, 2002:472).

The fourth knowledge transfer channel is regulation system. Regulation in the form of mandatory actions and punishments give clear behavioral signals to the industry. But usually regulations include an important bulk of knowledge, which is quickly diffused to potential users, whether they like it or not. For instance, an

industry response to raids by tax authorities against tax exemption could be the improving of financial management systems (Hjalager, 2002:473).

5. DATA AND METHODOLOGY

In this paper, the level of impacts of relationship networks and knowledge sharing on technology and innovation in tourism enterprises are observed. Questionnaire model and random sample are employed in this paper. The scope of the paper is composed of personnel of hotels, working Antalya Province center.

In order to measure impacts of relationship networks and knowledge sharing on technology and innovation in tourism enterprises questionnaire was developed, were conducted to personnel of hotels. Questionnaire consists of three parts. Aim of first part is to collect demographics data of respondents. In second part there are 6 statements (scale likert of 7) about technology and innovation. Final part is consists of 17 statements (scale likert of 7) about relationship networks and knowledge sharing. Primary data obtained from 395 questionnaires gathered from in main hotels in Antalya Province center. The stress inventory was found to be highly reliable (23 items; $\alpha=0.91$).

6. ANALYSIS AND RESULTS

The number of responses used for the analysis was 395. The resultant sample consisted of 59 percent male, and 41 percent women. Of these 40.5 percent were aged 21-24 and 73.4 percent had attained bachelor's degree. Most of the respondents are young because of the fact that the tourism industry willing to recruit young people. Also, the tourism industry like other economic industries needs qualified personnel so that industry recruits personnel which has bachelor's degree. Hence, most of the respondents have bachelor's degree.

First, a frequencies analysis is carried out in order to reveal respondents' perceptions on statements in the questionnaire. Results are summarized in Table 1. As seen in Table 1, 'when compared to the global tourism industry, level of technology use in the region is sufficient' statement had possessed the highest perception (4.87).

Table 1: Respondents' perceptions on statements

Statements	Mean	Std. Err.
When compared to the global tourism industry, level of technology use in the region is sufficient	4.87	1.49
When compared to the global tourism industry, products and services in the region are innovative	4.84	1.49
Companies can reach everything needed through relationships in the regions	4.80	1.49
.	.	.
.	.	.
.	.	.
Main actors of the region often share their knowledge and experiences with other tourism regions elsewhere	4.23	1.59
Actors of the tourism industry in the region significantly share their knowledge about products, services and technology	4.23	1.62
Knowledge-sharing networks are sufficient between actors of the tourism industry in the region	4.16	1.59
Actors of the tourism industry in the region often trust on each other.	4.02	1.64

If we look first three statements which had possessed the highest perception, we can conclude that within Antalya Province center tourism companies follow the technology and continuously improve their products and services. The statement of 'Actors of the tourism industry in the region often trust on each other' had the lowest perception. If we look last four statements which had the lowest perception, we can say that there is not sufficient knowledge sharing networks across tourism companies within the region. Also, level of the trust among tourism companies is very low in Antalya Province center.

After frequencies analysis, we carried out a factor analysis in order to obtain the aggregation of variables which used to develop a regression model. The Kaiser-Meyer-Olkin (KMO) test is estimated in order to obtain an accuracy measure of the patterns of collinearity among the variables. A value of KMO is calculated as 0.894. Four factors have been obtained explaining the 62.8 percent of the total variance. These four factors named as 'knowledge sharing', 'relationship', 'networking' and 'togetherness'. The Croanbach Alpha values are calculated for the internal consistency of the factors. The Croanbach Alpha values are between 0.737 and 0.807.

By using above factors and technology and innovation factor, we carried out a regression analysis to develop model and to understand impact of knowledge sharing and relationship networks on technology and innovation. The regression model is presented in Table 2.

Table 2. Impact of knowledge sharing and relationship networks on technology and innovation

Independent Variables	β	t	p
Knowledge Sharing	0.309	7.382	0.000*
Networking	0.314	7.480	0.000*
Relationship	0.208	4.951	0.000*
Togetherness	0.275	6.571	0.000*

R²: 0.30 F: 44.534

*p<0.01

Dependent Variable: Technology and Innovation

The generated regression model is meaningful. If we examine β coefficients, we can see impact of 'networking' on technology and innovation is high and impact of 'relationship' is low.

7. CONCLUSION

These paper presents analysis of impact of relationship networks and knowledge sharing on technology and innovation in tourism enterprises in the Antalya Province center. A specific designed questionnaire targeted to the employees of main hotels in Antalya Province center show some aspects of the innovation in tourism industry.

Most of the employees in the hotels in Antalya Province center are young because tourism industry wants to recruit young people. In addition, university students temporarily work in hotels during the summer season in Antalya Province center. Thus, labour turnover in tourism exceeds that in most other industries.

Main tourism actors of the Antalya Province center insufficiently share their knowledge and experiences with other tourism regions elsewhere. Likewise, knowledge-sharing networks are not sufficient between actors of tourism industry in the region. In addition, actors of tourism industry in the region do not trust on each other. It is important to have trusted knowledge sharing networks among actors of tourism in the region to increase innovation and compete with other

tourism destination. Also, main actors of tourism industry in the region should share their knowledge and technology with other tourism enterprises in the region to have a sustainable competitive advantage over their rival destinations.

BIBLIOGRAPHY

Buhalis, Dimitrios and Law Rob (2008) “Progress in Information Technology and Tourism Management: 20 Years on and 10 Years after the Internet – the State of the eTourism Research”, *Tourism Management*, Vol. 29, No. 4, pp. 609-623.

Camison, Cesar and Monfort-Mir Vicente M. (2012), “Measuring Innovation in Tourism from Schumpeterian and the Dynamic-Capabilities Perspective”, *Tourism Management*, Vol. 33, pp. 776-789.

European Commission (1995), COM (95) Green Paper on Innovation, Vol. 12, Luxembourg: Office for Official Publications of the European Communities.

Hall, Colin Michael (2009) “Innovation and Tourism Policy in Australia and New Zealand: Never the Twain Shall Meet?”, *Journal of Policy Research in Tourism, Leisure and Events*, Vol. 1, No. 1, pp. 2-18.

Hall, Colin Michael and Williams Allan M. (2008), *Tourism and Innovation*, London: Routledge.

Hjalager, Anna Mette (1997), “Innovation Patterns in Sustainable Tourism – An Analytical Typology”, *Tourism Management*, Vol. 18, No. 1, pp.35-41.

Hjalager, Anna Mette (2002), “Repairing Innovation Defectiveness in Tourism”, *Tourism Management*, Vol. 23, No. 5, pp.465-474.

Hjalager, Anna Mette (2010), “A Review of Innovation Research in Tourism”, *Tourism Management*, Vol. 31, pp.1-12.

Johne, Axel (1999) “Successful Market Innovation”, *European Journal of Innovation Management*, Vol. 2, No. 1, pp.6-11.

Kanter, Rosabeth Moss (1983), *The Change Masters*, London: Union

Novelli, Marina, Schmitz Birte and Spencer Trisha (2006), “Networks, Clusters and Innovation in Tourism: A UK Experience”, *Tourism Management*, Vol. 27, No. 6, pp.1141-1152.

Orfila-Sintes, Francina, Crespi-Cladera Rafel and Martinez-Ros Ester (2005), “Innovation and the Hotel Industry: Evidence form Balearic Islands”, *Tourism Management*, Vol. 26, No. 6, pp.851-865.

Ottenbacher, Michael and Gnoth Juergen (2005), “How to Develop Successful Hospitality Innovation”, *Cornell Hotels and Restaurant Administration Quarterly*, Vol. 46, No. 2, pp.205-222.

Pfeffer, Jeffrey (1994), *Competitive Advantage through People. Unleashing the Power of the Work Force*, Boston: Harvard Business School Press.

Pikkemaat, Birgit and Peters Mike (2006), “Towards the Measurement of Innovation: A Pilot Study in the Small and Medium-sized Hotel Industry”, *Journal of Quality Assurance in Hospitality and Tourism*, Vol. 6, No. 3-4, pp.89-112.

Schumpeter, Joseph Alois (1934), *The Theory of Economic Development*, Cambridge, MA: Harvard University Press.

Selin, Steve (1993), “Collaborative Alliances: New Interorganisational Forms in Tourism” (in: M. Yusal and R. F. Daniel-Ed., *Communication and Channel Systems in Tourism Marketing*,), New York: The Haworth Press, pp.217-228.

Shaw, Gareth and Williams Allan (2009) “Knowledge Transfer and Management in Tourism Organisations: An Emerging Research Agenda” *Tourism Management*, Vol. 30, No. 3, pp. 325-335.

Sundbo, Jon, Orfila-Sintes Francina and Sorensen Flemming (2005), “The Innovative Behaviour of Tourism Firms – Comparative Studies of Denmark and Spain”, *Research Policy*, Vol. 36, No. 1, pp.88-106.