

The Supply Dimension in light of the Innovation Radar: a study on the performance of travel agencies in Recife-PE from 2012 to 2016

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Abstract

Diagnosing a company's innovation degree is a necessity for improving organizational performance. However, this practice is still little developed in micro and small-sized travel companies and it lacks investigation in the academia. Thus, this work aims to analyze the performance regarding the innovation degree of travel companies in Recife, focusing on the supply dimension in light of a tool called Innovation Radar (IR). The data were collected from August 2012 to June 2016. This research is exploratory and descriptive, counting with data treatment and analysis under quantitative and qualitative approaches. Considering the classification made by Bachmann and Destefani in 2008, it was verified that most of the surveyed companies presented an increase in the scores, going from "little or not innovative" to "occasional or systemic innovative" ones, based on the results from the global innovation degree, as well as on the supply dimension scores. It was observed that, despite the advancements, there still are barriers limiting these agencies innovative capacity.

Keywords: Supply; Innovation Radar; Travel Agencies.

Resumo

A Dimensão Oferta à Luz do Radar da Inovação: um estudo sobre o desempenho de agências de turismo do Recife-PE no período de 2012 a 2016

Diagnosticar o grau de inovação empresarial se mostra uma necessidade para a melhoria do desempenho organizacional. No entanto, essa prática ainda é pouco desenvolvida em micro e pequenas empresas de turismo e carece de investigações no campo acadêmico. Assim, este artigo busca analisar o desempenho quanto ao grau de inovação de agências de turismo do Recife com foco na dimensão oferta à luz de uma ferramenta chamada Radar da Inovação (RI). Os dados foram coletados no período de agosto de 2012 a junho de 2016. A pesquisa se caracteriza como exploratória e descritiva, contando com tratamento e análise de dados sob abordagens quantitativa e qualitativa. Considerando a classificação feita por Bachmann e Destefani em 2008, verificou-se que a maioria das empresas investigadas apresentou aumento nos escores, passando da condição de "pouco ou nada inovadoras" para "inovadoras ocasionais ou sistêmicas", tanto com base nos resultados do grau de inovação global quanto nos escores da dimensão oferta. Constatou-se que, apesar dos avanços, ainda persistem barreiras que limitam a capacidade inovadora dessas agências.

Palavras-chave: Oferta; Radar da Inovação; Agências de turismo.

Resumen

La Dimensión Oferta a la Luz del Radar de la Innovación: un estudio sobre el desempeño de las agencias de turismo de Recife-PE, en el período 2012-2016

Diagnosticar el grado de innovación empresarial se traduce en una necesidad de mejorar el desempeño organizativo. Sin embargo, esta práctica es todavía poco desarrollada en

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micro y pequeñas empresas de turismo y necesita investigación en el campo académico. Por lo tanto, este artículo busca analizar el desempeño y el grado de innovación de las agencias de turismo de Recife, enfocando en la dimensión oferta a la luz de una herramienta llamada *Radar da Inovação* (RI). Los datos fueron recolectados en el periodo de agosto de 2012 hasta junio de 2016. La investigación se caracteriza como exploratoria y descriptiva, con el procesamiento y el análisis de datos realizados bajo abordajes cuantitativos y cualitativos. Teniendo en cuenta la clasificación de Bachmann y Destefani (2008), se verificó que la mayoría de las empresas encuestadas presentó un aumento en las puntuaciones, pasando de la condición de “poco o nada innovadora” a la de “innovadoras ocasionales o sistémicas”, tanto basado en los resultados de grado de innovación global, como en las puntuaciones de la dimensión oferta. Se encontró que, a pesar de los avances, todavía existen barreras que limitan la capacidad de innovación de estas empresas.

Palabras clave: Oferta; *Radar da Inovação*; Agencias de turismo.

INTRODUCTION

Tourism, as one of the main economic segments, presents growth tendencies even in a time of global crisis. In Brazil, this segment is mostly comprised by micro and small-sized companies (97%) and it stands out due to job and income generation, in rates above the official predictions (Costa & Hoffman, 2014).

The work of travel agencies¹ is essential for the area's constant economic prosperity. It is a promising segment, composed by a contingent of micro and small-sized companies, which mobilizes over R\$ 60 billion per year in the country and constitutes a link in the lengthy production chain that cover a series of companies – hotels, airline companies, car rental companies, tourist transporters, cruise ships, event and congress organizing companies, and restaurants –, representing a total of 52 economic segments (Agência Sebrae de Notícias, 2013).

The competitiveness of tourism agencies, similar to other economic segments, is a means of survival and is conditioned to its managers' capability in innovating and continuously improving innovation (Machado, Dreher & Gorni, 2009; Salvado, 2009). Being aware of the need for measuring this performance, Sawhney, Wolcott and Arroniz (2006) have created the Innovation Radar (IR) diagnosis, a tool that was later on adapted to the reality of micro and small-sized companies by Bachmann and Destefani (2008), who contributed to diagnosing the innovation degree in thirteen dimensions of small-sized companies from August 2012 to June 2016. Among them, there are 12 travel agencies located in Recife, where this segment's expansion is considered one of the most significant in the country.

Thus, this article aims to show the performance (in relation to the innovation degree) presented by those travel agencies, focusing on the “supply” dimension, which covers aspects such as: operation in new markets, launching new products, removing unsuccessful products from the market, changing services'

1. By travel agencies we characterize the legal entity that exerts the economic activity of payed intermediation between suppliers and consumers of touristic services or provides them directly. Services considered are: travel operation; excursions and touristic tours; and the organization, hiring and execution of programs, routes, itineraries, as well as the reception, transference and assistance to tourists. For further information, see Law no. 11.771, from September 17th, 2008 (Brazil, 2008).

characteristics due to environmental reasons, changing products' design significantly, and adopting technological innovations.

Measuring and assessing the innovation in different dimensions is necessary for improving organizational performance and, however, these strategies are little developed in micro and small-sized companies. Therefore, the scarce tools that play such role need to be given special attention (Hjalager, 2010; Carvalho, Silva, Póvoa and Carvalho, 2015).

Moreover, in the scope of researches developed around this proposed theme, it can be noticed a deficit of works effectively approaching the measurement of innovation and its performance in the travel agencies market (Machado et al, 2009). Thus, the study will enable gathering data that will contribute to a better understanding of this segment's reality and tendencies. This research's results may also base the creation of new strategies and politics in the private and public scope for travel agencies.

Accordingly, considering the IR² validity as a tool capable of measuring the general innovative capacity and through specify corporate dimensions, this study is based on the following problem-question: regarding the innovation degree, what is the performance presented by travel agencies in Recife, specially when concerning the supply dimension?

Next, the theme's theoretical contextualization will be presented, covering the particularities of the innovation in the tourism segment, the tools for measuring innovation, the Innovation Radar and the "supply" dimension; the research's methodology; result analysis and discussion, so to cross-check them with the reviewed theory; concluding remarks, showing the study's main contributions and limitations and suggestions for future researches; acknowledgements; and, lastly, references.

Innovation in the tourism segment

As explained by Brandão and Costa (2014), there are different innovation concepts, which vary according to the approach, scientific area, and application domain. Generally, they are based on the Schumpeterian approach, as well as on the Organization for Economic Co-operation and Development (OECD), which made an essential contribution to the uniformization and application of this definition also in the services segment through the *Oslo Manual*, in which the innovation "is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organisation or external relations" (Organization for Economic Co-operation and Development, 2015, p. 46).

For Gomezelj (2016), all these definitions can be applied to the manufacturer industry and are being adapted to the tourism and services segments generally over the last decades. However, the former is a key segment to be assessed, given

2. This tool was applied based on the context of the Agentes Locais de Inovação (ALI – Local Innovation Agents) Program, a nation-wide program by the Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (Sebrae – Brazilian Service for Supporting Micro and Small-Sized Companies). The application was performed in four phases, as will be detailed in the methodology.

that tourism companies have specific problems, characteristics and processes in each activity (Camisón & Monfort-Mir, 2012).

Hjalager (2010) has observed that tourism has key characteristics to develop new innovation definitions and typologies. He then proposed five different innovation types in the area:

- a) Product or service innovations (changes that can be observed directly by tourists and other clients, with a “new” meaning, never seen before or merely new for the company or destination; these products and services are beneficial for the tourists so that they may decide to purchase it just because it is new).
- b) Process innovations (usually backstage initiatives destined to improve efficiency and productivity; technological investments are the main factors for such innovations).
- c) Managing innovations (new ways of organizing business processes, staff capacitation, compensation for exemplary work with financial or non-financial benefits and enhancing satisfaction in the workplace; methods for employee retention are extremely valuable in the tourism segment).
- d) Marketing innovations (including new field concepts, as loyalty programs and brand co-production).
- e) Institutional innovations (new ways of collaborative/organizational structure, such as clusters, networks and alliances).

Essentially, these are the innovation dimensions used or rearranged in many studies. However, it is difficult to distinguish the five categories clearly (product, process, management, marketing and institutional innovations), since there is a close connection among them (Gomezelj, 2016).

Peters and Pikkemaat (2006) highlight that, in the tourism segment, incremental innovations – which comprise significant changes and improvements – are more significant, since radical innovations (more visible ones) are rare when compared to it. Corroborating to this thinking, Fayet (2010) considers that more successful innovations are based on the cumulative effect from such incremental changes or on the creative combination of techniques, ideas or existing methods.

In their turn, Pinto and Cruz (2011) affirm that the creation and offer of new products and services in the tourism chain are not frequent and usually arise from the suppliers, clients and even competitors’ pressure. For these authors, many companies insist on maintaining a reactive behavior. Additionally, Sundbo, Orfila-Sintes and Sorensen (2007) and Weidenfeld, Williams and Butler (2010) highlight that innovations in the tourism segment are easily mimicked, given that they are highly visible and their technological content is usually little sophisticated, that is, they do not involve significant technological advances and rarely can be patented.

Hauser, Tellis and Griffin (2006) show that the innovative capacity is conditioned to the capacity in learning, creating and absorbing knowledge. The authors also indicate the need for many articulations in order to absorb the tacit

knowledge in the environment. In this sense, Brandão and Costa (2014) affirm that in tourism micro and small-sized companies the largest part of human resources presents low levels of education or is capacitated in other areas (not connected to tourism), which can lead to the lack of ability in creating and using the knowledge for developing innovation.

Generally, the results related to innovation implementation in the micro and small-sized companies are unsatisfactory, even in Brazil (Machado et al., 2009). Supposedly, it seems appropriate to present a justification for that, based on a notion by Bes and Kotler (2011): for a large share of the entrepreneurs (company directors), there remains a thinking that innovation does not necessarily need to be something completely unprecedented and involving high technology and investments.

Bittar, Siqueira, Luz and Chacon (2014) consider that there are obstacles that prevent most Brazilian entrepreneurs from taking on effective compromises to innovation. They do not have the knowledge enough to encourage them to innovate and still do not consider innovation as crucial to the company. Indeed, there are some pro-innovation constitutive elements, lacking or deficient in the country, namely: risk aversion, State dependency, little or no investment in research and development (R&D), lack of pro-innovation culture (protected market, technology purchase options, etc.) and little approximation or lack of a more pragmatic interlocution between university and companies (Bittar et al., 2014).

THE INNOVATION RADAR AND ITS DIMENSIONS

Measuring the corporate innovation degree is no easy task, since there is no consensus on the most appropriate model for application (Cavalcanti, Cavalcanti Filho & Oliveira, 2012). In Bautzer's view (2009), a good diagnosis must, through a structured formal process, identify elements such as flexibility, competitiveness, level of vulnerability, and capacity in implementing new strategies.

In a perspective favorable to this need, Sawhney et al. (2006), have proposed a tool called Innovation Radar, which relates the dimensions through which a company can look for paths for innovation. This tool united, initially, four macro-strategic dimensions called business anchors: the offers created for the consuming market; the clients attended and their views on this process; the processes employed, as the productive, selling and management ones; and, lastly, the points where the corporate/commercialization structure is located (Sawhney et al., 2006). These dimensions comprise the 3W1H technique (What?, what will be done – action, phases, description; Where?, where will it be done – place; Who?, by who will it be done – responsibility by the action; and How?, how will it be done – methods, processes). In the context of the 12 travel agencies in Recife surveyed in this research, the application of this technique and of the Innovation Radar have coincided. At each phase, the action plans were attached to the reports with the corporate diagnosis, concerning the innovation degree and its respective directors.

Sawhney et al. (2006) have decided to add eight more dimensions: 1) platform; 2) brand; 3) solutions; 4) customer experience; 5) value capture; 6) organization; 7) supply chain; and 8) networking. In their turn, Bachmann and Destefani (2008) have added to Sawhney et al.'s 12 dimensions (2006) the concept of environment favorable to innovation or innovative medium. This contribution's significance can

be seen and justified, among other aspects, by the influence of human resources input for companies, contributing significantly to a formation that promotes the process of incorporating and implementing the innovation culture.

In Chart 1, the innovation dimensions proposed by Sawhney et al. (2006) and complemented by Bachmann and Destefani (2008) are presented, as well as a short definition of each one of them. A radar graph is used in order to make the presentation easily understood and to highlight the most significant results when compared the added value in many dimensions.

Chart 1 – Definition of the Innovation Radar dimensions

Dimension	Definition
Offerings	Development of products with innovative characteristics
Processes	Redesign of productive processes to allow addition of operation efficiency
Customers	Identification of clients' needs or new market niches
Presence	Identification of new commercialization and/or distribution means
Platform	Relationship with production system adaptability in face of the diversity of demanded products
Brand	The way which companies transmit their values to clients
Solutions	Systems of mechanisms to ease clients' difficulties
Customer Experience	Relationship between client experience and the company
Value Capture	Improvement in the way of capturing the products' value perceived by the client and suppliers
Organization	Improvements in the company's structure
Supply Chain	Incrementation of logistics with suppliers and clients, internal or external ones
Networking	Communication between the supply chain links
Innovative medium	Relationship with the professionals who comprise the company and contribute to innovation culture

Source – Sawhney et al. (2006) and Bachmann and Destefani (2008)

According to Ketokivi and Ali-Yrkkö (2010), innovation actions affect multiple dimensions in the radar, but in different ways for each company. Independent of the innovation's origin – be it in launching a new product, in a selling strategy or other measures –, there will be impacts on the other dimensions. These authors consider the IR as a measure of maturity of the corporate innovation process, specially in micro and small-sized companies, based on these companies' specific processes, in the results and the importance conferred to knowledge as a essential tool for innovation and which, consequently, aims at competitiveness.

Oliveira, Cavalcanti and Paiva Junior (2013, p. 15) point out a disadvantage of this tool: the innovation radar, specially the innovation degree, has a problem, which is not approaching companies considering the heterogeneity of the segments which they belong to. The authors signal the care and attention one must have when adapting the radar questions to the industry, commerce and services segments. Accordingly, Ketokivi and Ali-Yrkkö (2010) add that the impact and influence that innovation actions of a certain radar dimension exert over others varies depending on the segment.

As discussed by Bachman and Destefani (2008), the IR determination is a structured method that can offer the following advantages: quantitative measuring, low subjectivity, references for improvements, and the possibility of sectorial, regional and historic assessment. It is an assessment of the innovation degree supported by three pillars: 1) what to assess (innovation dimensions); 2) how to measure it (scale used); and 3) which period to consider.

Specially concerning the subjectivity, it is highlighted that the application of the IR is conditioned to the interviewee's notions, appreciation and interpretation. Regarding the quantitative measurement, as it will be shown further on in the results, a fragility has been pointed out and may serve even as a possible contribution for the designing of more effective measuring tools: the scale used of the IR is subjected to clarification. For each degree from 1 to 5, a classification should be attributed. However, only the scores 1, 3 and 5 are covered so.

On the other hand, it is clear that using this tool enable the analysis and demonstration of innovations performed by the company in the last three years, at the same time it explains its capacity of being (or not being) competitive. It may be used in different moments according to the company's needs. The global innovation degree (GID) develops (or not) according to the behavior in the scores of each of the thirteen dimensions (Bachman & Destefani, 2008).

For Carvalho et al. (2015), the IR can effectively be used as a tool that enables advantages for companies, given that it allows them to view how they are placing themselves while conducting business and to identify where are their obstacles and improvements (little explored dimensions), thus establishing action that will favor the improvement of their performance and their competitive capacity.

METHODOLOGY

This study consists on an exploratory and descriptive research. Data analysis has covered the quantitative and qualitative approaches. The study was theoretic-empirical, using primary data, obtained through questionnaires applied in person to the directors of said agencies³ from August 2012 to June 2016. Besides that, excerpts from the entrepreneurs' speeches were used (which were recorded with their due authorization) in order to complement the quantitative data. Empirical data were cross-checked with the main discussed theories.

Sebrae, in a partnership with the National Council for Scientific and Technological Development (CNPq – *Conselho Nacional de Desenvolvimento Científico e Tecnológico*), developed the Local Innovation Agents Program (ALI – *Programa Agentes Locais de Inovação*)⁴, having national coverage, with the intention of promoting the practice of innovation in micro and small-sized companies and making the entrepreneurs aware of the importance of innovation as a competitiveness factor (Sebrae-PR, 2017). For Carvalho et al. (2015), raising

3. We tried, during all phases, to make contact to the interviewees in person, each performing the job of director or legal representative of its respective company. It is also important to add that, besides the contact in person, the communication with some entrepreneurs happened through e-mail and telephone.

4. The companies surveyed in this research were picked from the context of the second edition of the ALI Program in the state of Pernambuco. The local innovation agents (CNPq scholarship holders)

awareness and promoting innovation practice through such initiatives is seen as also successful and favorable to entrepreneurs for enhancing company profit through increasing its services' quality and productivity for clients.

The companies' monitoring covered the following phases: first of all, it was deemed necessary to investigate if the companies has planning tools and if they had a proper structure with the minimum in order to adopt and maintain the innovation actions that would be proposed. Thus, after the admission, an initial diagnosis of the company was made through the IR (R_0 phase) and the entrepreneurs answered a inquiry, in which answers should be demonstrated. Then, a report named as feedback, containing an action plan with suggestions of innovative actions (to be implemented under the entrepreneur's responsibility) and the indication of possible solution providers was given to the entrepreneur.

In a second phase, a new diagnosis cycle (R_1 phase) was performed to verify if there was evolution (or not) inside the company and, thus, new actions were proposed. The end of a cycle happened when at least three actions were implemented. This happened so that the moment of giving the final feedback (R_3 phase) revealed the evolution (or not) of the company's performance in relation to the innovation degree and the main results achieved. It is important to highlight that the application of the IR considered the same issues throughout the aforementioned phases.

Although the program reached a bigger number of travel agencies and even of small-sized companies working on other economic segments in Brazil and in the state of Pernambuco, the choice for the 12 (twelve) travel agencies in this investigation (all registered in Recife) happened due to the fact that they were the only ones to receive the researchers. Thus, it may be said that nonprobability sampling was used, through accessing, which, as asserted by Mattar (2005), is the one in which the selection of the population elements to comprise the sample depends, at least, on the researcher or interviewer's judgement on field. Therefore, the data collected in twelve micro and small-sized companies of the travel agency segment were validated.

Data gathering was performed by the application of IR with the intention of measuring the innovation degree in the companies generated by the Radar in the 13 presented dimensions through objective questions (multiple choice) directed specifically to the company's owners and stakeholders, in which the answers for each question had scores that enabled the estimation of the GID, which is the score that reveals the result or overall innovation level in the company.

The process for measuring the innovation degree in the companies was based on the classification by Bachmann & Destefani (2008), in which only three situations are used, although the IR tool has a widened scale from 1 to 5, which are: (1) little or not innovative organization; (3) occasionally innovative organization; and (5) systemically innovative organization. It was established that if the score obtained by the company (be it in a specific or global dimension) ranged between 1.0 and 3.0, it would mean that it is a little or not innovative organization; while

who followed the participant companies received a previous training and capacitation on innovation by Sebrae. Moreover, this institution's senior researchers and advisers have guided the agents' work during the program.

it the score ranged from 3.0 to 5.0, it would indicate the company innovates occasionally or systematically (Bachmann & Destefani, 2008).

A critical view over this tool allows us to identify a gap, which can from now serve as a contribution or suggestion for the creation or enhancement of tools aimed at measuring corporate innovation. Specifically, the IR makes the classification incomplete and somehow confuse when not attributing situations for the 2 and 4 scores, which may end up disregarding the influence of some company-led actions on the innovation degree.

The data gathered from the companies were analyzed and processed by a Excel spreadsheet. Reports were elaborated and given to the entrepreneurs participating in the research, so to show the management performance, the evolution (through graphs and tables), and the justifications of the global innovation degree and of each dimension for their companies during the phases (named in this study as R_0 , R_1 , R_2 , and R_3). The recommendations by Bautzer (2009) were taken into account, according to which a good diagnosis must, through a formal structured process, identify elements such as flexibility, competitiveness, level of vulnerability, and capacity to implement new strategies.

Although the efforts enabled gathering results for the thirteen dimensions, the emphasis given to the supply dimension among the other ones happened due to the perception and the need of revealing that most of the actions implemented by the surveyed companies covered aspects as the action in new markets, launch of new products, removal of unsuccessful products from the market, changes in the services' characteristics due to environmental reasons, significant changes in the products' design, and the adoption of technological innovations that cover said dimension.

OUTCOMES

Companies and its directors' profile

Regarding the gender, it was identified the significant masculine prevalence in the surveyed business' management, a percentage equal to 75% of the sample. In many cases, travel agencies, being family agencies, are legally represented by the family breadwinner person (including both men and women) but are also managed by spouses and/or their children, who are often partners. However, for clarification, the presented percentage considers only the legal representatives. Such information was supported by the consultation of each company's social contracts and their data in the Register of Travel Services Providers (Cadastur – *Cadastro de Prestadores de Serviços Turísticos*).

Half of the interviewees declared having finished at least one undergraduate course (in Administration or Tourism), followed by post-graduate interviewees (25%) and the ones who only finished high-school (17%). Only one manager regretted not having finished a undergraduate course (8%). It was deemed necessary to investigate if the companies had planning tools and a proper structure having the minimum necessary to adopt and maintain the innovation actions. Thus, before applying the R_0 (initial phase), the entrepreneurs answered to an inquiry. In all cases, the interviewees' discourse and the evidence observed *in loco* point out that directors were acting intuitively, only based on their own daily experiences.

In relation to the age group, it was identified the predominance of adults aging from 30 to 49 years-old among the interviewees (50%). Adults aging from 50 to 60 years-old correspond to 33% of the sample and the others (17%) age from 20 to 29 years-old. Curiously, a strong resistance, specially by the public aging 50 to 60 years-old, to joining the program was perceived. In effect, the awareness-raising and follow-up moments were opportune, especially for demystifying the concept of innovation present in these entrepreneurs' perception, as predicted by Bes and Kotler (2011). The demystification of these ideas considered the notion by Bautzer (2009).

Based on the understanding that the capacity of innovating must be common and is a *sine qua non* condition for (without which there is no) competitiveness and survival for all companies (Machado et al., 2009; Salvado, 2009), regardless of their size and time in the market, it is disclosed that, concerning the size, only 25% of the surveyed companies declared themselves as small-sized, being the majority (75%) comprised by micro-companies. This information was confirmed by the observation of the minimum and maximum number of hired employees in all agencies (varying from 2 to 5 employees). Besides that, a consultation to each company's situation was performed through its National Register of Legal Entity (CNPJ – *Cadastro Nacional de Pessoa Jurídica*). While the time in the market item was divided into three groups: between 1 and 5 years (50%), between 6 and 9 years (25%) and 10 or more years (25%). The data showed that not always are the small-sized companies more inclined to or more innovative than micro ones. The same observation can be made regarding the time in the market: there were cases in which companies with less acting time had higher scores in the GID throughout phases than older ones.

Regarding the operational functions of travel agencies, it is important to highlight that, according to the Law no. 12.974, from 15 of May 2014 (Brazil, 2014), two categories were identified among the 12 surveyed companies: two travel and tourism agencies (TTA), also called tourism operators, developing functions as the advisory, planning and organization of activities associated to the performance of touristic travels and excursions or of programs, services, tours and itineraries of individual or group travels; and ten travel agencies (TA), which had as their main activity commissioned selling or paid intermediation in the commercialization of tickets, tours, travels, and excursions in the air, waterborne, land, railway or combined models.

Although the acting in foreign and inbound tourism happens simultaneously in all travel agencies, in four of them a special attention is given to inbound services, so to explore local tours (trips/tours for beaches in the southern coast of Pernambuco were cited as high demand products in these cases). It was also verified that all 12 travel agencies had effective Cadastur and were affiliated to the Brazilian Association of Travel Agencies (Abav – *Associação Brasileira das Agências de Viagens*), to the Union of Travel Companies of the State of Pernambuco (Sindetur/PE – *Sindicato da Empresas de Turismo do Estado de Pernambuco*) or to the International Air Transport Association (IATA).

The global innovation degree of travel agencies

As aforementioned, the IR diagnosis was applied four times (R_0 , R_1 , R_2 and R_3) for all agencies participating in the program. For each one of the 13 diagnosis dimensions scores were generated, providing the GID result, as shown in Table 1.

Table 1 – Global innovation degree (GID) of travel agencies

Companies	Global Innovation Degree (GID)			
	GID (R_0)	GID (R_1)	GID (R_2)	GID (R_3)
A	2.9	3.2	3.8	4.3
B	2.5	2.8	3.5	3.8
C	3.4	3.8	4.3	4.5
D	3.4	3.6	3.9	4.2
E	2.5	2.9	3.6	4.3
F	2.8	3.4	3.9	4.2
G	3.0	3.4	4.0	4.6
H	2.8	3.6	4.2	4.8
I	2.7	3.1	3.9	4.1
J	2.3	2.6	3.2	3.6
K	2.9	3.2	3.6	3.8
L	3.1	3.6	4.3	4.5

Source – Designed by the author

Based on these results, it is possible to affirm that there was an increase in the GID in all surveyed companies. Unanimous advancements from the R_0 to the R_1 phase, as well as from the R_1 to the R_2 phase and from the R_2 to the R_3 ones demonstrate the fulfillment of improvement actions by the entrepreneurs. It is important to clarify that, in this research, the same steps described in the theoretical references and bibliography were followed, although it has been verified (since the application) the need for making some adaptations in the inquiry questions (IR) for properly framing the context of the surveyed companies. Such observation corroborates what was predicted by Oliveira et al. (2013): the IR does not approach companies considering the heterogeneity of the segments they belong to. In this case, it was perceived that the questions considered more properly the industry segment.

It was also verified that in all travel agencies the number of incremental innovation actions' implementations, specially concerning the improvements in products or services, through the creation of new versions, was very significant, as will be shown later on. Such finding corroborated the conception, by Peters and Pikkemaat (2006), that in the touristic services segment, including in travel agencies, this kind of innovation occurs much more frequently and has an increased significance.

Considering the classification by Bachmann and Destefani (2008), it can be said that most of the companies was diagnosed with a score of little or not innovative and have reached the R_3 phase at a level that classified them as occasionally or systemically innovative, although a gap concerning the scale and score classification used in the IR was identified (only 1, 2 and 3). Thus, one of the contributions of this research is to suggest that, for each degree from 1 to 5, a situation should be attributed and, therefore, besides enriching the classification (making it less confuse), reduce or eliminate the probability of invalidating the impact of some innovation actions.

The strategy of given to the entrepreneur, through the IR, an analysis of the corporate situation, identifying elements as flexibility, competitiveness, level of vulnerability and capacity for implementing innovative actions, appropriate, successful and effective, according to Bautzer's view (2009). Its importance was also explained in the speech by one of the entrepreneurs: *"Diagnosing the company and the forces that interfere in its operation was essential to define the most important actions to be developed"*.⁵

This statement also covers the supposition by Carvalho et al. (2015), according to which raising awareness and diagnosing the innovation degree constitute a initiative that is favorable and successful for entrepreneurs.

During the diagnoses, it could be seen the interviewees concern in investing in expressive sustainable innovation practices, specially in gradual improvements in products or services, organization, marketing or even companies' processes, which partially covers the innovation typology of travel agencies presented by Hjalager (2010). Innovations in products or services (changes that can be seen directly be tourists and other clients, with "new" meanings, never seen or that are merely new for the company); in processes, destined to improve efficiency and productivity; and in marketing (including new marketing concepts, as loyalty programs and brand co-production) were the most common type seen in the context of the analyzed companies.

Scores obtained in the supply dimension

The scores related to the supply dimension, as well as to the GID, have showed significant growth throughout the R_0 , R_1 , R_2 and R_3 phases. Table 2 shows the evolution in this dimension's scores.

Table 2 – Evolution of the scores obtained in the supply dimension

Companies	Comparison among scores obtained in the Supply Dimension			
	Supply (R_0)	Supply (R_1)	Supply (R_2)	Supply (R_3)
A	2.0	2.5	3.5	3.8
B	1.0	1.5	2.0	2.5
C	1.5	2.5	3.0	3.5
D	3.5	3.5	4.0	4.0
E	1.0	2.5	3.0	3.5
F	2.0	2.5	3.5	3.5
G	3.5	4.0	4.0	4.5
H	1.0	2.0	2.5	3.5
I	2.0	2.5	3.5	3.5
J	1.5	2.0	2.5	3.0
K	2.0	2.0	2.5	3.5
L	2.0	2.5	4.0	4.0

Source: Designed by the author

5. Interview given by A. S. Lins on January 9th, 2014.

As shown in Table 2, none of the surveyed companies reached phase R_3 with the same score obtained in the initial phase. In 92% of the surveyed companies, the increase in performance for that dimension happened both from the R_0 to the R_1 phase and from the R_1 to the R_2 phase. While from the R_2 to the R_3 phase only four companies (33%) kept their scores, even though they evolved for a better condition compared to the initial phase. The data also show that, according to the IR, the improvement in the companies' scores were little significant in only three of them (25%), given that in said dimension they have remained as little or not innovative, although they have implemented significant actions. The other companies have become occasionally or systemically innovative, based on the classification by Bachmann and Destefani (2008). Many incremental innovative actions, besides contributing to increase the scores in the supply dimension, have positively affected other radar dimensions, as observed by Ketokivi and Ali-Yrkkö (2010). Indeed, these results have been showing that there is a close relation among the innovative actions' dimensions (Gomezelj, 2016).

Supply dimension variables and implemented actions

The presentation of the results of the variables composing the "supply" dimension was divided as it follows: 1) new products; 2) daring; 3) response to the environment; 4) design; and 5) technological innovation. In the R_0 phase, the IR questions investigated the changes performed in the company, considering the last three years after the diagnosis was applied. Throughout the phases, this time lapse would continuously reduce, according to the phases' situation. Based on the concept that a innovative company has a significant share of its revenue related to the creation of new products or services, the assessment of the innovation degree included the question: "did the company successfully launch any new products or services in the market during the last months?". The large majority (more than 80%) alleged having launched new services during the intervals from R_0 to R_1 , from R_1 to R_2 , and from R_2 to R_3 .

Another influencing factor observed in this item is related to the changes in the entrepreneurs' notions regarding innovation and its importance. The speech by an entrepreneur whose company obtained an initial score of 2.0, reaching 2.5 in the following phase and 4.0 in the R_2 and R_3 phases, reaffirms this influence, while it justifies the process: *"From 2012 until now, you can see there were more than five services created: there was the express shipping, home delivery, VTM card, credit card with the company's brand, and the offer of personalized packages, exploring new destinations"*.⁶

The express shipping and the Visa Travel Money (VTM) card were novelties also mentioned by other entrepreneurs. It is a product that aims to send resources (money) from Brazil abroad, upon the client's payment confirmation. In its turn, the VTM card is an international prepaid card, rechargeable in foreign currency, which allows the client to buy in the Visa network and to withdrawal from Visa Plus ATMs, always on the local currency of the chosen destination. The following excerpt evinces this innovation's impact for the company G.:

6. Interview given by A. S. Lins on January 9th, 2014.

“Yes, the creation of the VTM card and the express shipping were very successful products [...] they helped to increase our income in more than 20% last year in relation to 2012”⁷

It is important to highlight that many of these implementations, as the VTM card example, are not understood as a service or product created by the company, although they can be new ones for them and the consumers and common for the market in which it acts. As foreseen by Hjalager (2010), product or service innovations as the mentioned ones can be directly seen by the clients, with a “new” meaning, never before seen or merely new for the company. They are, thus, beneficial for the tourists, so that they can decide to buy them only because they are new (Hjalager, 2010).

The imitation and little sophisticated characteristic eases the replication of actions seen as innovative in the tourism segment and, more specifically, in the studied market (Sundbo et al., 2007; Weidenfeld et al., 2010). By the application of diagnoses, interviews and the observations during the monitoring of the companies’ performance, it was also verified that they have taken on a reactive behavior, offering services according to the pressure of clients and suppliers, as it was affirmed by Pinto and Cruz (2011).

Despite the increase in scores and based on Hauser et al. (2006), it can be affirmed that most of the surveyed companies’ innovative capacity was partially compromised, since the entrepreneurs declared and have acted intuitively, only based on experience. It is worth recalling the strong influence the capacity in learning, creating and absorbing knowledge exerts on the capacity for innovating. Diverse coordination for absorbing tacit knowledge in companies are also essential (Hauser et al., 2006). However, these needs are incipient practices or non-existent ones in the analyzed agencies. The lack of qualified and internally trained collaborators (as predicted by Brandão & Costa, 2014) and the lack of inter-company partnerships and between organizations and universities (foreseen by Bittar et al., 2014) were some of the most frequent complaints by most of the entrepreneurs. Institutional innovations (new manners of collaborative/organizational structure, as clusters, networks and alliances) and managerial ones, highlighted as one of the main kinds of innovation of travel agencies, were not, in this case, as significant as the innovations in product and marketing, according to the typology by Hjalager (2010).

Regarding the daring item, that is, the willingness to take risks, the radar evaluation included the following question: “has the company, in the last few months, removed from the market any unsuccessful product or service?” The answer given by the entrepreneur C comprises the reality for other four entrepreneurs: *“Yes, we had to remove the home delivery service, because it brought us a lot of distress and unnecessary costs [...] we had the misfortune of finding dishonest delivery men and, in many cases, our clients were distressed. We are always ready to please our clients”⁸*

The creation of new services is equally susceptible to failure and success, but it is essential for the entrepreneur to be sensible of perceiving it and removing from the market products or services that do not please its customers nor meet

7. Interview given by P. T. Gomes on January 22nd, 2014.

8. Interview given by R. L. Canejo on February 20th, 2014.

their needs and expectations. This agrees to the notion by Pinto and Cruz (2011), according to which clients exert strong influence on products and services innovations.

With the quick evolution of consumer behavior changes, which are increasingly more demanding, specially concerning the sustainability, the IR questionnaire has also included the question: “has the company changed, in the last years or months, any of its products or services’ characteristics due to environmental (ecological) reasons?” Only three entrepreneurs alleged having done that, citing as examples the adoption of strategies as the use of recyclable materials for the elaboration of promotion materials and for the manufacturing of gifts with the company’s logo; document digitalization; adoption of digital marketing; and the sustainability support stamp.

The fourth and last dimension item is related to the technological innovations the companies have adopted from 2012 to 2016. Considering that the communication is increasingly more necessary in order to reach the target audience, within it is the design – not only of the package but of the product itself. In order to assess this item, the following question was used: “were there significant changes in the aesthetics, looks, or subjective changes in more than one product or service?” It was more significant the number of companies which made significant subjective changes in their products or services, in the aesthetics and in design. Among the examples, it was mentioned redesigning or (re)creating and registering the brand, personalizing and distributing promotion gifts with the company’s brand to customers, (re)decorating the environment, making infrastructure renovations, expanding the physical area – by acquiring new head offices –, opening new branches, equipment and resources to better assist the clients.

In the following report, other examples of subjective and aesthetic innovative actions made in one of the companies are mentioned: “*The display monitor, showing travel photos and commentary from our clients was a successful strategy [...] they found the brand’s new design better, which we also made sure was visible in the website, business cards and in the documents in the company’s letterhead*”⁹. These actions also consolidate and cover marketing innovation as being frequent and characteristic in tourism companies, in the example of travel agencies, accordingly with what was supposed by Hjalager (2010).

The imitative characteristic of the innovations, its content’s little sophistication (little involvement by the company with more advanced technology) and the disinterest for registering brands and patents were perceived in almost all companies (only one of them had gathered efforts to register its brand). All these perceptions cover the foreseen considerations by Sundbo et al. (2007) and Weidenfeld et al. (2010).

None of the surveyed companies declared having invested on R&D, even though it is a practice more common to companies with technological bases, as considered by Ketokivi and Ali-Yrkkö (2010). Obstacles that prevent bigger advancements in innovation, pointed out by Bittar et al. (2014), have revealed themselves in agreement with the results shown. Technological investment, usually represented by backstage initiatives destined to improve efficiency and

9. Interview given by F. M. Ishoa on January 24th, 2014.

productivity (process innovations, according to the typology by Hjalager, 2010), have also not been frequently and commonly applied in the surveyed companies.

CONCLUDING REMARKS

This article has fulfilled the objective of assessing the innovation degree, focused on the “supply” dimension, in the light of the IR in 12 travel agencies in Recife. The literature was reviewed bringing up relevant notions and dialogue among some of the main authors who deal with the innovation phenomenon in the corporate and tourism context. Later on, those discussion were cross-checked with empirical data.

Once they were aware of their companies’ diagnosis, through the IR, the interviewed entrepreneurs implemented innovations or developed strategies that caused a significant improvement in the results initially presented, although in a few cases the increase in the scores has not enabled achieving a higher level on the classification by Bachmann and Destefani (2008). Based on that, it can be affirmed that most companies have presented initial scores that classified them as little or not innovative and have reached the R_3 phase at a condition that qualified them as occasionally or systemically innovative, based on the GID results as well as on the scores of the “supply” dimension.

Based on the results and in agreement to the theoretical discussion, it can be concluded that, despite the efforts having caused significant contributions to these companies, there still are barriers (related to the management of internal and external knowledge, creation of networks and interorganizational partnerships, and technological investment, for example) which limit their innovative capacity. Consequently, the research has reinforced the conception that the evolution in the capacity for innovation is also tied to forces that are external to companies, so that, however successful the efforts to implement innovation within them are, if they occur isolated, they end limiting the significance of results in relation to the whole. Taking into account the innovation typology presented by Hjalager (2010) on the analyzed context, the product or service and marketing innovations were the most commonly identified ones.

Some of the research limitations – namely the spatial concentration, the relatively small number of surveyed companies and the evaluation focused on only one radar dimension – have restricted the possibilities for bigger generalization and for confirming or refuting theoretical discussion regarding the tourism reality and, more specifically, the travel agencies segment reality, even at a regional level. We suggest, thus, that new researches be developed with more significant samples covering other cities, states, and country’s regions, which may approach evaluations focused on other segments of the touristic chain and in all IR dimensions.

Comparing the obtained results from studies in different areas of the national territory, identifying similarities and differences in innovation processes, and researching the impact and influence that the innovation actions of a certain radar dimension exert over others and how can they vary from one segment to the other are possible paths for future researches, which will contribute to a better understanding of the segment’s reality and tendencies and, consequently,

to the elaboration of public and private policies and strategies which may solve or lessen the effects of possible identified problems.

Lastly, it was verified that the use of the Innovation Radar is conditioned to the interviewee's notions, appreciation and interpretation, so that the subjectivity involved in this evaluation process may compromise or distort reality. Moreover, it was shown that the tool has some limitations and questions that need to be better adapted to the reality of the studied corporate segment and of others which comprise the tourism chain (hotels, car rentals, bars and restaurants, leisure and entertainment, among others), since they have different complexities from each other, which must be considered. The scale itself and the score classification (only 1, 2, and 3) used in the IR is confusing. In this sense, we suggest that, for each 1 to 5 degree, a situation should be attributed and, thus, besides enriching the classification, the probability of invalidating the impact of some innovation actions implemented by the diagnosed companies would be reduced or eliminated.

Therefore, pointing out behavioral indicators for these companies regarding innovation would be an interesting point for the creation and/or redefinition of innovation measuring tools that are more appropriate for the segment. This would even ease the evaluation of measuring tools such as the IR which, by the way, are scarce. Performing researches that cover these issues is, thus, recommended.

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