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Articles and essays

Touristic destination assessment models: design and applicability[1]

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Abstract

This article proposes a contextualized interpretation of touristic destination assessment models and their evolutionary path. A critical analysis was conducted on the applicability and main aspects of the models chosen for this study: Leiper; Butler; Mathieson & Wall; Gunn, Mill & Morrison; Boullón; Beni; and Alvares. The methodology technique used was content analysis grounded on Bardin. The theories that evaluate tourist destinations proposed a much more inductive than assertive analysis regarding the history of tourism development. Further research is required to improve existing models, as well as to establish new models capable of evaluating the process of tourism evolution based on the diversity and specifics inherent to each tourism destination.

Keywords: Models; Assessment; Tourism destination; Development; Tourism phenomenon.

Resumo

Modelos de avaliação de destinos turísticos: concepção e aplicabilidade[1]

Este artigo propõe uma leitura contextualizada dos modelos de avaliação de destinos turísticos e de seu percurso evolutivo. Desta forma, é realizada uma análise crítica em relação à aplicabilidade e aos principais aspectos observados dos modelos selecionados para o estudo: Leiper; Butler; Mathieson e Wall; Gunn, Mill e Morrison; Boullón; Beni; e Alvares. Como metodologia de pesquisa, utilizou-se a técnica de análise de conteúdo de Bardin. A partir desta pesquisa, observou-se que as teorias de avaliação de destinos turísticos propõem uma análise muito mais indutiva do que assertiva do percurso de desenvolvimento turístico. Por fim, concluiu-se que novas pesquisas são necessárias para aprimorar os modelos existentes, assim como para o estabelecimento de novos modelos passíveis de avaliar o processo de evolução do turismo, a partir da diversidade e da particularidade inerente a cada destino turístico.

Palavras-chave: Modelos; Avaliação; Destino turístico; Desenvolvimento; Fenômeno turístico.

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Resumen

Modelos de evaluación de destinos turísticos: diseño y aplicabilidad

La presente investigación propone una lectura contextualizada de los modelos de evaluación de destinos turísticos y su itinerario evolutivo. De esta forma, se realiza un análisis crítico en relación a la aplicabilidad, así como a los principales aspectos observados en cuanto a los modelos seleccionados para el presente estudio: Leiper; Butler; Mathieson e Wall; Gunn, Mill e Morrison; Boullón; Beni; y Alvares. Como metodología de investigación, se utilizó la técnica de análisis de contenido de Bardin. A partir de la presente investigación, se observó que las teorías de evaluación de destinos turísticos proponen un análisis mucho más inductivo que asertivo del recorrido de desarrollo turístico. Finalmente, se concluyó que nuevas investigaciones son necesarias para perfeccionar modelos existentes, así como para el establecimiento de nuevos modelos capaces de evaluar el proceso de evolución del turismo, a partir de la diversidad y particularidad inherente a cada destino turístico.

Palabras clave: Modelos; Evaluación; Destino turístico; Desarrollo; Fenómeno turístico.

INTRODUCTION

Numerous studies related to the evaluation of the tourism phenomenon have been developed for more than 50 years in order to establish guidelines for the evolution process of activities in touristic destinations (Alvares, 2008; Arcese, Di Pietro, & Mugion, 2015; Beni, 1998; Boullón, 1997; Butler, 1980, 2006; Christaller, 1963; Dredge, 1999; Getz, 1986; Gunn, 1988, 2004; Leiper, 1979; Mathieson & Wall, 1982; Miossec, 1977; Pearce, 1995, 2008; Plog, 1973; Whitford, 201; Yang, Ryan, & Zhang, 2014).

Many of these investigations propose tourism modeling based on the creation and validation of models explaining the tourism phenomenon. According to Alvares (2008), a model, as a structured, abstract and ideal simplification of a complex reality, is a way of expressing ideas, intending to converge them for the understanding of reality, as well as for future projections.

Based on these assumptions, this article aims to perform a contextualized reading of evaluation models for touristic destinations and their evolution path. Due to the complexity of the field, this reading follows the line of researchers defending tourism as a phenomenon (Boullón, 1997; Fuster, 1979; Goeldner, Ritchie, & McIntosh, 2002; Martínez, 2005; Moesch, 2000; Panosso Neto, 2005), since this concept covers dimensions related to social, political, economic and cultural issues to which other definitions do not.

In this study, after the methodological procedures were properly defined, a vast bibliographical review on tourism models was performed. After that, based on an analytical perspective, the models selected for this study were presented, namely: Leiper (1979, 1990), Butler (1980), Mathieson and Wall (1982), Gunn (1988, 1994), Mill and Morrison (1985, 1992, 1998, 2007), Boullón (1997), Beni (1998), and Alvares (2008). Lastly, the results were discussed, and further studies were recommended.

METHODOLOGY

The methodological assumptions followed by this article were outlined according to two methodological categories: theoretical investigation and content analysis. According to Rejowski (1999), the methodological aspects of tourism studies can be approached in three ways:

1) reductionist view: it analyzes in detail the whole it is inserted in. The focus is on elements, and not on interrelations;

2) holistic view: it is a perspective that takes into account all inter-related parts, which are not possible to be analyzed separately;

3) systemic view: it originates from the limitations of the reductionist and holistic approaches. Tourism is analyzed according to a system that allows for the observation of particularities of the whole and, at the same time, specific properties of the parts composing this whole.

Finn, Elliott-White and Walton (2000) have categorized tourism investigations into three groups: theoretical investigation (with no empirical evidence), empirical investigation (with no theory), and descriptive studies. At first, touristic models were analyzed theoretically (theoretical investigation), thus allowing for the performance of both holistic and systemic evaluations. After that, content analysis was used (Bardin, 1977/2006) for analyzing the selected models. For Creswell (2007), any data analysis technique ultimately means an interpretation methodology and, as such, has peculiar procedures, involving the preparation of data for analysis, given that this process consists on extracting meaning for text data and from images from the obtained sources.

Based on the theoretical investigation, this study used a vast literature review on tourism models, with added reflections on system theory and the tourism phenomenon. After that, the analyzed models were selected and then described, and a reflection on each one of them was performed by the content analysis technique. Lastly, the results were discussed under the holistic and systemic views and recommendations were made for further investigations.

TOURISM MODELS AND SYSTEM THEORY

Evaluation models appear in the 1950s, with the beginning of the information era, with the intent of making developed studies more structured and supported by theory. Models usually have different scopes and are designed by different methods and techniques, having each a different nature, that is, they originate from mathematical equations, computer programs, conceptual graphic representations, or theoretical-conceptual models.

In tourism, the first studies related to destination evaluation models appear after 1960 (Butler, 1980; Christaller, 1963; Cohen, 1972; Getz, 1986; Leiper, 1979; Plog, 1973; Stansfield, 1978). These many models intend to contribute to the

understanding of the various elements constituting the touristic activity, be it through the systematization of tourism planning and organization, or by establishing future predictions and indicating tendencies. A series of systemic approaches have been proposed to understand tourism components, their functioning, and the roles played by them (Akın, 2015; Cole, 2012; Garay, & Cànoves, 2011; Gunn, 1988, 1994; Lea, 1988; Leiper, 1979, 1990; McIntosh, Goeldner, & Ritchie, 1995; Mill & Morrison, 2007; Pearce, 1995; Witt and Moutinho, 1994).

Studies based on the systemic theory of tourism can be considered essential for understanding this area (Dalonso, 2015). In the evaluation by Lohmann and Panosso Netto (2012), studying tourism through a general system theory has its advantages and disadvantages (Chart 1). In this scope, the possibility of segmenting the tourism system is emphasized, studying it by parts; at the same time, however, this separation may cause a fragmented view of the whole.

Chart 1 – Advantages and disadvantages of the general system theory

Advantages	Disadvantages
Viewing tourism as a whole, allowing for the segmentation of the system in parts and for its study separately.	Separating the touristic system eases the studies, however, it may cause a fragmented view of the object of study.
Allows for the interdisciplinary study of tourism, allowing for the separation of the touristic system from other ones.	By segmenting tourism in a system, it may limit the analysis of the activity, restricting the view of tourism as a whole.

Source – Design based on Lohmann and Panosso Netto (2012)

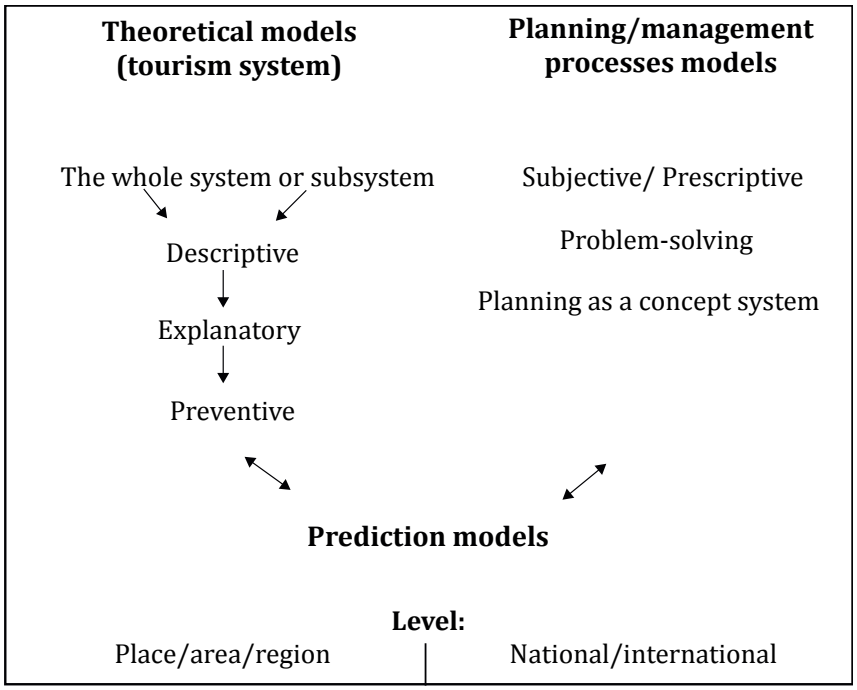
Based on a geographical analysis of the touristic movement and its flows, as well as of its components (Leiper, 1979), the applications of tourism systems have been widely used in many areas, including touristic marketing (Formica, 2000; Zaheer, Albert, & Zaheer, 1999), planning and development (Carlsen, 1999; Gunn, 1994), and economy (Uysal, 1998). Despite having notable precedents (Christaller, 1963; Gilbert, 1939), the analysis of the evolution of touristic destinations has become an interest for research along with the rise of international tourism as a mass phenomenon. In the 1970s, many studies have identified mass tourism as the final stage of the evolution of destinations (Miossec, 1977; Plog, 1973; Turner & Ash, 1975), which would end up making destinations lose their original attraction capacity (Baidal, Sanchéz, & Rebollo, 2013).

CATEGORIZATION OF TOURISM MODELS AND DIFFERENT ANALYSIS PERSPECTIVES

According to Getz (1986), tourism models can be categorized into three big groups: theoretical models, planning/management processes models, and prediction models (Figure 1). Besides, models may be applied at different levels (local, regional, as well as national or international ones). Theoretical models are used to explain the working of systems and subsystems and to predict elements in them. While models for planning/management processes follow a more complex approach, proposing a more subjective analysis regarding the

way of planning tourism, in which problem-solving models follow a determined sequence of definition of objective up to its implementation. Lastly, prediction models refer to the representations of tourism tendencies, using subjective evaluation techniques based on the theoretical and planning/management process models.

Figure 1 – Classification of tourism models according to Getz (1986)



Source – Getz (1986)

In the same study by Getz (1986), more than 150 models were analyzed. Based on the analysis done by Scarpino (2010) concerning the study by Getz (1986), a reference chart was proposed to classify tourism models based on some selected studies (Chart 2). According to Scarpino (2010), research on tourism theories is still being developed at a moderate rhythm, appearing in specific topics such as touristic attraction studies (Leiper, 1990), tourism demand ones (Song & Witt, 2000), or in one focused on macro levels, shedding light over national and global dynamics (Cornelissen, 2005).

Chart 2 – Examples of tourism models according to Getz (1986)

Theoretical models		Planning/management processes models		Prediction models/physical models	
Complete systems		*Development area*		*Econometric analogic electric*	
1964 1981 1982 1982	Wolfe Leiper Van Doorn Mathieson and Wall	1975 1977 1978 1979 1985	Bargur and Arbel Arnott Lawson and Baud-Boy Gunn Mill and Morrison	1966	Ellis and Van Doren
Spatial/temporal		*Project development*		*Physical analysis*	

(continues...)

Chart 2 – Continuation

Theoretical models		Planning/management processes models		Prediction models/physical models	
1964 1972	Christaller Plog	1978	Kaiser and Helber	1976	Parks Canada
Motivational/Behavioral		*Management and marketing*		*Spatial analysis*	
1972 1976 1982 1982 1984	Plog Clawson and Knetsch Pearce Iso-Ahola Fridgen	1979	Doswell and Gamble	1980	Wander and Van Erden
General impacts		*Planning as a conceptual system*		*Econometric*	
1978 1981	Council of Europe Duffield and Long	1978 1983	Mathews Getz	1982	Loeb
Economic impacts					
1973 1981 1981	Lundgren Duffield and Long Pearce				
Social/cultural impacts					
1974 1975 1977 1982 1982 1982 1983	White Doxey Smith Jafari Kariel and Kariel Konx Getz				
Ecological impacts					
1977 1981	Walle and Wright Pearce				

Source – Scarpino (2010) based on Getz (1986)

A very limited number of scholars has approached the application of the theory of complexity in tourism (Baggiom 2008; Farrell & Twining-Ward, 2004; Faulkner & Russel, 1997; McKercher, 1999), but the implications of the use of complex systems have allowed for a better understanding of the tourism phenomenon (Scarpino, 2010). In the study developed by Pearce (1995; 2003), touristic spaces were classified based on four tourism criteria: travel or connection, origin-destination, structural models, and evolution model (Chart 3).

Chart 3 – Touristic space models

Types	Emphasis	Author	Characteristics
Connection	Travel or connection component	Mariot Campbell Greer-Wall Miossec	– Route concept (access/recreative/return) – Journey × stay (excursionist × recreative) – Changes in the volume of touristic trips – Concept of successive zones – Centers and belts

(continues...)

Chart 3 – Continuation

Types	Emphasis	Author	Characteristics
Origin-destination	Creating/ receptive function and its reciprocal integration	Lundgren Pearce	– Spatial hierarchy of travel circulation (types of touristic destinations) – Creation/reception interaction + touristic flow
Structural	Center/ periphery relation	Britton	– Depending destinations – multinational commercial system – touristic enclave in peripheral economies
Evolutionist	Shifts in touristic movements and in the development of touristic structures. Concept: pleasure periphery	Plog Butler Gormsen Miossec Oppermann	– Personality of the different tourist types (psychographic types) – Lifespan of touristic areas – Incorporation of shifts in the degree of local/ regional participation in the development process – Structural evolution of touristic regions in time and space (facilities) – Combining spatial structure with the role and behavior of different tourist groups (existence of pre-touristic structures)

Source – Design based on Pearce (2003)

Spatial and reciprocity interactions, as well as the notion of spatial hierarchy, are important characteristics of these models. The origin-destination model, for example, considers that places are in different scales, but places generating tourists can also be touristic destinations. However, in a structural model, tourism markets are centered around a local, regional, national or international hierarchy.

The interaction of demand and supply in this structural model is based on the economic superiority and technological development of the areas. Lastly, the evolution model explains tourist movements, focusing on the perspective of evolution of its movements and on the structural development of tourism. Market interaction, with the intention of providing components, shifts throughout time, depending on tourists' characteristics and behavior (Pearce, 1995).

Besides, Pearce (2003 apud Castro, 2006) has emphasized that the analysis and evaluation of two main components, including destination resources (for example, attractions, hosting, transportation, infrastructure), and the existing and potential markets (visitor statistics, tourist satisfaction, resource mapping and evaluation) are common procedures in tourism planning. By correlating touristic demand and supply, a base approach for tourism planning is defined, in which the correspondence of elements of touristic demand and supply aims to meet specific objectives, such as exchange increases, job creation, and the reduction of environmental impact.

In the evolution of these discussion, Dredge (1999) has proposed an extensive analysis regarding the tourism models applied to touristic regions. In the study, models in the period from 1969 to 1995 that were designed to help in planning for touristic regions were analyzed. The models are analyzed based on spatial structure, hierarchical evolution, travel and connection patterns. Different

disciplinary perspectives upon which these models have evolved are very useful for planners, who are essentially multidisciplinary professionals. The studies developed by Pearce (1995) similarly provide general views of the analysis suggested by Dredge (1999).

In Dredge's analysis (1999), the studied models do not merely point out visited attractions and touristic points, but also hotspots containing touristic services and facilities. In this case, the models have a good starting point for the exploration of the nodal structure of touristic regions, being thus characterized as conceptual references for planning and developing projects in these regions.

However, Dredge (1999) defined five important considerations regarding the applicability of the models. Firstly, models related to travel and connection patterns were initially developed based on destination regions in North America, where travelling by automobiles prevail, thus resulting on a limited applicability for other kinds of touristic regions.

Secondly, most structural models have been developed according to empirical studies in which the physical structure of an existing destination is generally analyzed, aiming to explain the space-evolutionary process of different coastal resorts. For example, Miossec (1977) describes the evolution of a destination based on spatial characteristics, means of transportation, tourist behavior, and on the attitudes of decision-makers and the community. These models provide planners with an understanding of the process through which the phenomenon was constituted; however, they do not help identifying the ideal structure of a touristic space.

The evolution models presented in the study are a diverse group that approaches many aspects of the development region of the destination. Plog's allocentric-psychocentric model (1973) and the destination lifespan model by Butler (1980) are widely mentioned examples, having significant critiques (Getz, 1992; Haywood, 1986). Despite trying to describe an evolutionary process, these models do not predict nor explain and, thus, have limited use for the planning of touristic regions.

In addition, most models do not have wide applicability for different types of destination, such as islands and terrestrial destinations, or different scales (for example, regions or countries). They are also not widely applicable to different markets, as a touristic equipment or a cruise.

Investigations regarding the nature of different components constituting a touristic region are still scarce, thus limiting its applicability for the process of destination planning, as well as restricting the systemic analysis of touristic activity in the regions.

Despite such critiques, Dredge (1999) points out that there is a series of important ideas that come from the analysis of existing models and that constitute the basis for developing a spatial model for the planning of touristic destinations.

REFLECTION ON SOME MODELS FOR TOURISTIC DESTINATION EVALUATION

Based on the classification proposed by Getz (1986), Pearce (1995, 2003), and Dredge (1999) and on the wide study of models constituted throughout

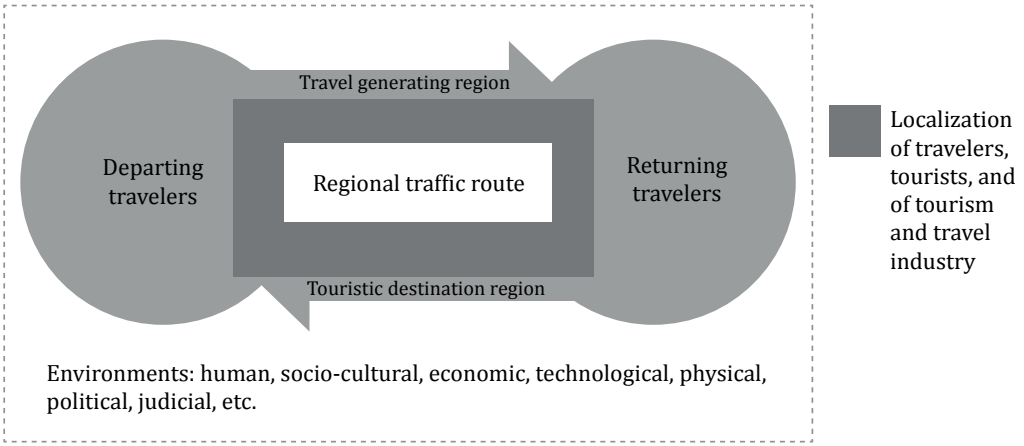
the last decades (Alvares, 2008; Beni, 1998; Cole, 2012; Garay & Cànoves, 2011; Hovinen, 2002; Huimin & Ryan, 2011; Ma & Hassink, 2013), this article proposed to analyze eight theoretical-conceptual models in their most varied propositions and objectives.

Thus, the following studies were chosen: Leiper (1979, 1990), Butler (1980), Mathieson and Wall (1982), Gunn (1988, 1994), Mill and Morrison (1985, 1998, 2007), Boullón (1997), Beni (1998), and Alvares (2008). The criteria for choosing the models considered: (1) aspects related to visibility in the international scholar environment; (2) different analysis perspectives on the tourism phenomenon; and (3) the applicability potential for touristic destinations.

Leiper Model

According to the model proposed by Leiper (1979), the tourism system is composed by five elements: tourism generating areas, tourists, traffic regions, inbound tourism regions, and the tourism industry. These elements are interrelated to physical, cultural, social, economic, political, and technological environments (Figure 2). Considering them as paths binding the generating region to the touristic destination regions and to the tourist trips, such as traffic routes, each one of the elements in Leiper's touristic system (1979) interacts in different contexts in which tourism occurs.

Figure 2 – Tourism system



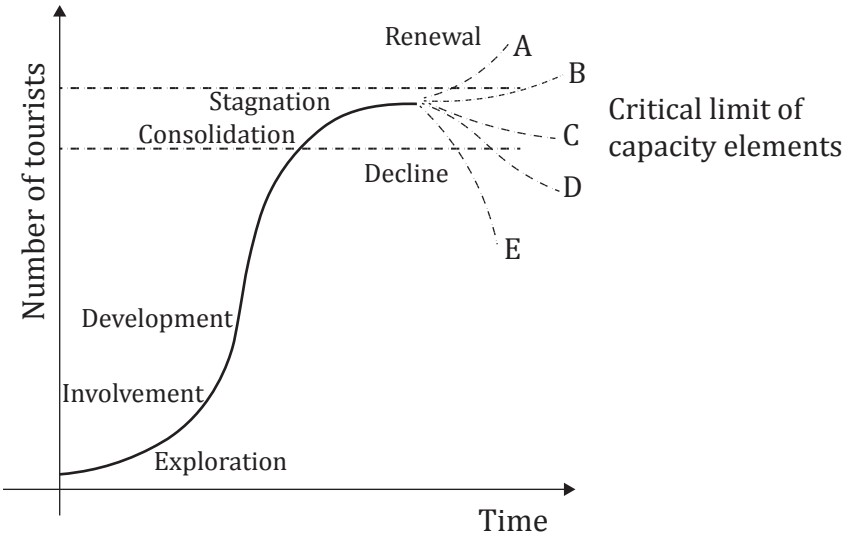
Source – Designed based on Leiper (1979)

The main advantages of Leiper's model are its general applicability and simplicity. An author corroborating this reading is Panosso Neto (2005), by affirming that Leiper's model is easy to understand and adding that it is capable of covering a great share of tourism phenomenon aspects. Many years after its creation, the model is still presented as a theoretical-conceptual reference in academia (Cooper, Gilbert, Fletcher, & Wanhill, 1993). However, a more critical analysis indicates some aspects to be reviewed regarding the model, specially related to the fact that the representation of flows identifies much more the sense of an exchange between origin and destination regions than a circular movement of individuals (Leiper, 1990).

Butler model

Butler has adapted product lifespan models for tourism and consolidated the tourism area life cycle (Butler, 1980), known as TALC (Graph 1). The model of life cycle for a touristic destination can be translated, according to Butler, by a "S" curve, established in relation to the number of tourists versus time. This model is until today one of the most mentioned ones in tourism analyses (Hall, 2006). For Butler, the considered variables are related to the number of tourists in a given period of time, a sum that determines the phases of tourism. The phases of "exploration", "involvement", "development", "consolidation", "stagnation", and, later on, "decline" or "renewal" were defined by said researcher.

Graph 1 – Butler model (1980) for the hypothetical evolution of a touristic area



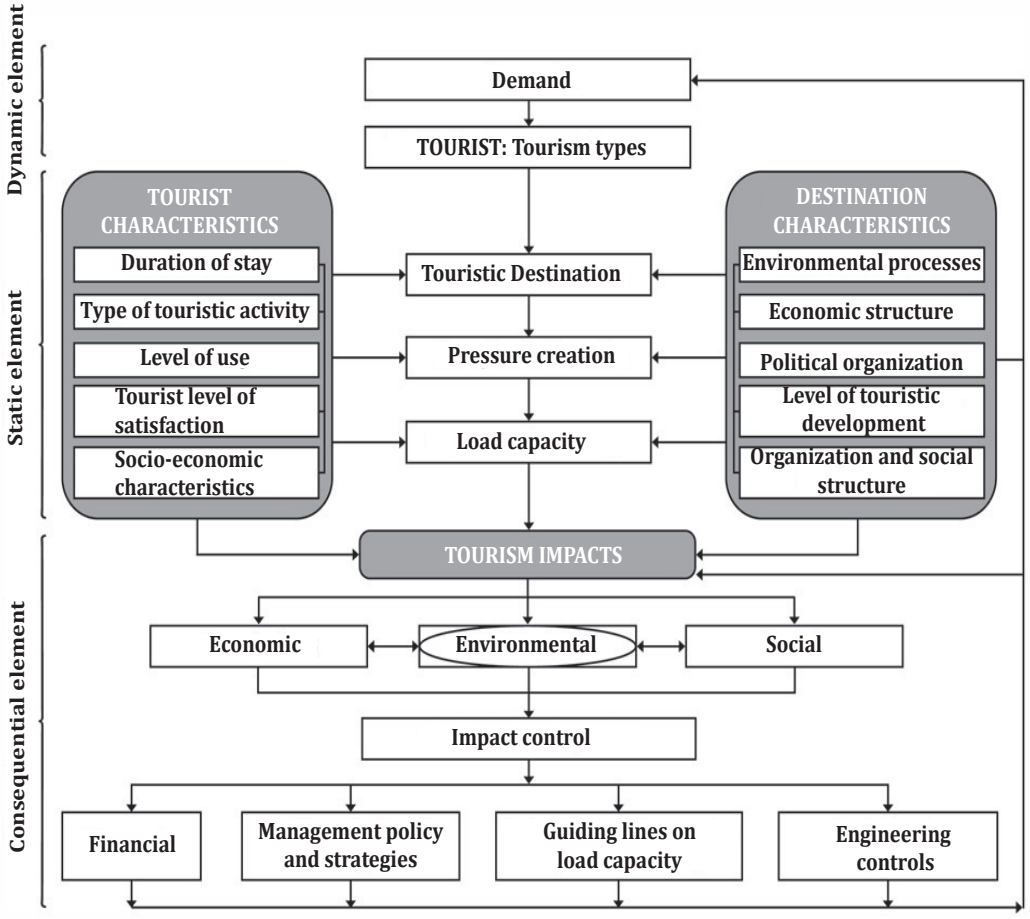
Source – Designed based on Butler (1980)

Many authors have suggested some changes regarding the number and extension of the phases initially proposed by Butler, which can still be observed, but they have kept the principle of modeling only one curve related to the development of touristic activity. Among the researchers that used similar models to Butler's, are: Keys (1985), Haywood (1986), Knowles (1996), Berry (2001), Russo (2002), Cooper and Jackson (1989), Cooper (1990, 1992), Hernández and León (2003), and Flores et al. (2006). Lastly, it is highlighted that the model proposed by Butler (1980) was applied in case studies of various worldwide destinations.

Mathieson and Wall model

The first studies on the effects of touristic activity were restricted to economic analyses, specially to its benefits, and only after the 1990s were socio-cultural aspects taken into account (Mathieson & Wall, 1982). One of these pioneering analysis proposals was established by Mathieson and Wall's model, in the 1980s (Figure 3).

Figure 3 – Tourism impacts



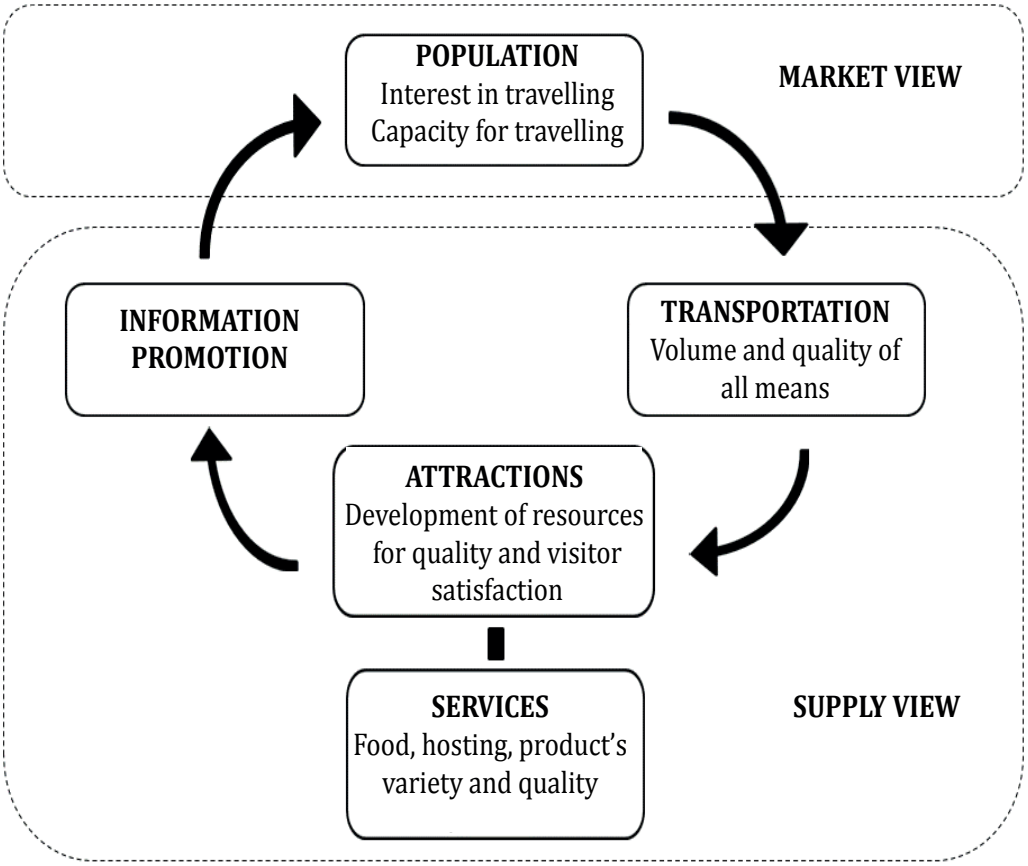
Source – Designed based on Mathieson and Wall (1982)

One of the advancements in this model is that it establishes elements to measure the relationship between tourists and the processes created in touristic destinations, besides considering pressures, load capacity, and the need for controlling economic, environmental and social impacts. In this sense, it is important to emphasize that the most well known impact measuring models are the ones evaluating the economic impact on job and income, but few advancements were made in models systemically evaluating the positive or negative influence of tourism over the territory and its population regarding socio-cultural and environmental aspects.

Gunn model

The model proposed by Gunn (1988, 1994) (Figure 4) is structured to distinguish supply from demand, in which are presented the connection between components, including population (on the demand part); and information/promotion, transportation, attraction, and facilities/services (on the supply part). The model shows how demand and supply interact to increase the development of regional tourism. The supply part is represented by five interdependent components of attractions, transportation, information, promotion, and services (Gunn, 1994), so that a shift in one of the components will affect the other system components.

Figure 4 – Touristic system model



Source – Designed based on Gunn (1988)

Each component's level of functioning largely depends on many external factors, including natural and cultural resources, organization, leadership, finance, work, entrepreneurship, community, competition, and government policies.

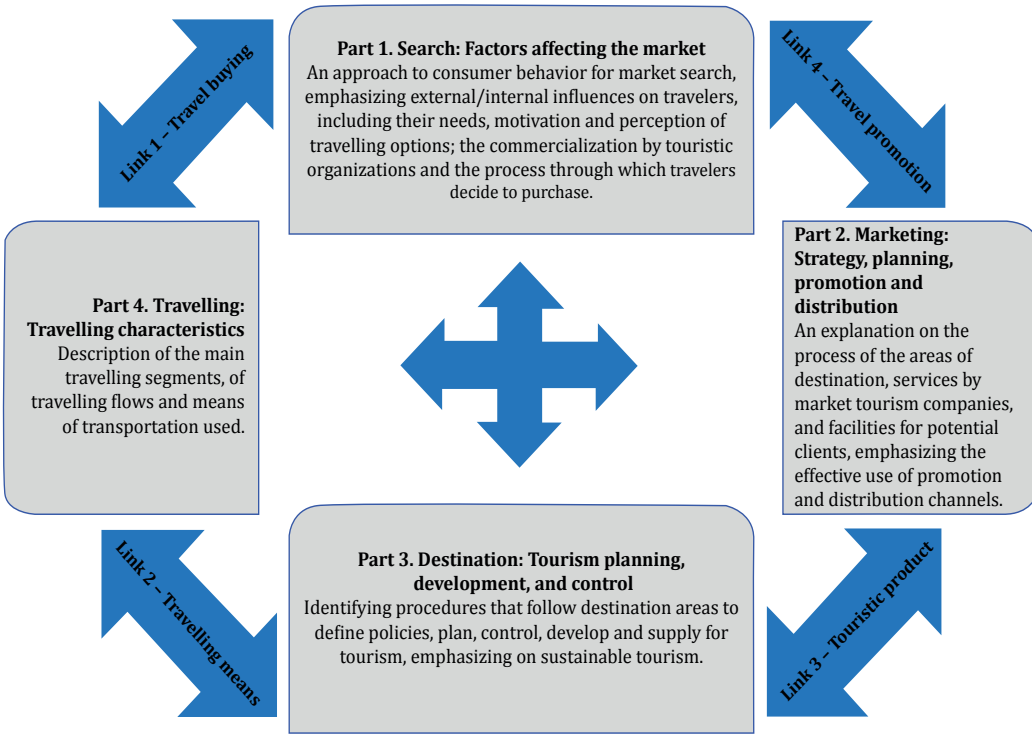
In the touristic system model proposed by Gunn (1988), its main components are focused on hosting companies or intermediary agencies, aiming to evince the view of tourism as a system that must work dynamically.

The author has himself recognized that one of the main changes in tourism in the last decades was the significant increase in scientific studies, specially regarding visitor satisfaction and the integration of inhabitants and tourists with environmental protection, based on a systemic approach (Gunn, 2004). However, the challenge faced by investigators and professionals lies on applying the most elemental proposed conclusions and recommendations – due to the complex nature of tourism, as well as to its quick growth and development.

Mill and Morrison model

The systemic tourism model proposed by Mill and Morrison (1985, 1998, 1992, 2007) includes four basic dimensions: market (tourists), travels (transportation), destination (attractions, facilities, and services), and commercialization (information and promotion), with each component being intimately connected to the others (Figure 5).

Figure 5 – Touristic systemic model



Source – Designed based on Mill and Morrison (1992)

First, there are demand elements, which are related to tourist behavior. Secondly, the model presents the marketing developed by organizations to promote and distribute touristic products and services. In third place, are presented elements related to tourism planning, development, and control in the destination. In fourth place, the model includes traveling and flows, as well as transportation.

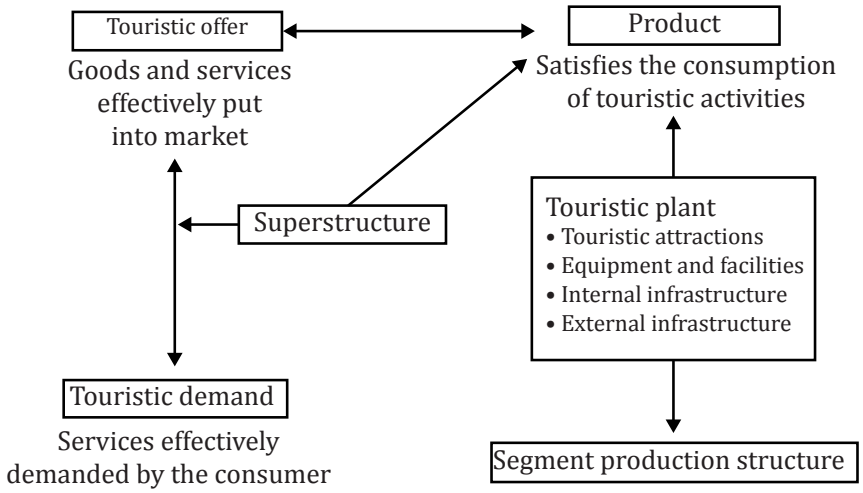
The model similarly highlights the importance of the system's economic sustainability for touristic destinations. It also suggests that the destination is itself a system that consists on a mixture of attractions and services, in which each part depends on others for the success of the attraction, the maintenance and tourist satisfaction.

Boullón Model

The model by Boullón (1997) focuses on detailing the elements composing the touristic system (Figure 6). This model considers the relation supply × demand, the intervention of superstructure (public bodies, private ones and other administrators of the touristic activity) over supply and demand relations, just as its tole on the creation of products, based on equating the supply and touristic plant (touristic attraction, infrastructure, equipment, and facilities—hosting, food, entertainment—, besides other services, such as the one by travel agencies).

Boullón's model (1997) allows for a systemic and clear view of tourism working that is based on the representation and interrelation of its main components.

Figure 6 – Boullón model: supply × demand

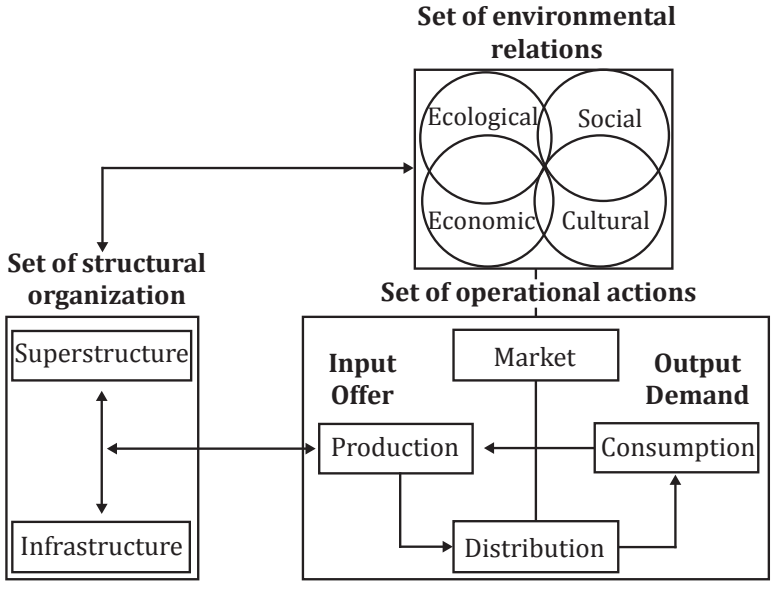


Source – Designed based on Boullón (1997)

Beni model

Beni's Tourism System (1998), also known as Sistur (Figure 7), consists on an open system, given that the part interacts with the surrounding environment. This model is an advancement in relation to Boullón's (1997) since it better details the superstructure, infrastructure, as well as supply and demand relations, besides considering environmental relations on the system regarding the ecological, social, economic, and cultural aspects. Besides that, it is an advancement due to the definition of ways to model, designing some indicators for the analysis of elements in the system. Beni's Sistur consists on the relations of subsystems integrating three systems, namely: environmental relations, structure organization, and operational actions.

Figure 7 – Tourism System (SISTUR)



Source – Designed based on Beni (1998)

The model by Beni (1998) richly details the relations constituting tourism, being thus useful for understanding the activity in a holistic/systemic manner. However, due to the inherent complexity of this kind of analysis and to the large number of elements considered by SISTUR, its application is difficult.

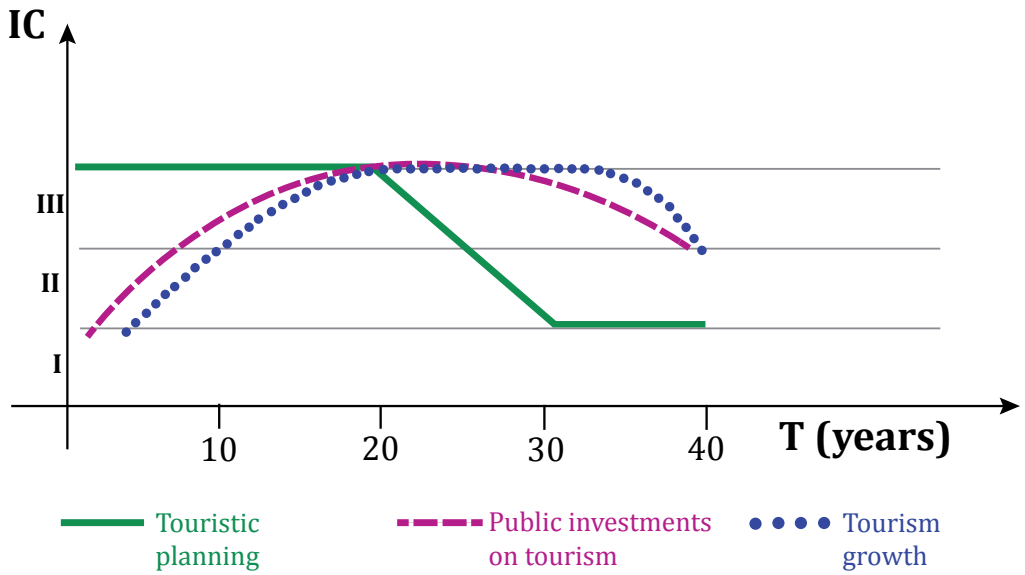
In almost 30 years after its creation (Beni's book was published in 1998, but the model is from 1988, the years of the doctorate defense in which he proposed SISTUR), the model was much mentioned in academic studies in Brazil and it is used as a theoretical-conceptual basis for market studies. However, its practical application in case studies of touristic destination is still incipient.

Beni has himself applied the model to only one destination, namely, the West Coast (Beni, 1999), a region located in the far west of the state of Paraná, in the borders of Brazil, Argentina and Paraguay. By analyzing the results of this application on the West Coast, one can observe that SISTUR was constituted as a theoretical basis and not effectively designed for the analyzed case, that is, the model established what is to be done and it is not used in practice as a tool for analyzing the behavior of touristic system elements in the locality.

Alvares' model

The model of analysis of the touristic process (MATP) by Alvares (2008) seeks to contribute to a higher application of tourism life cycle models, related to process analysis. MATP was designed based on the models by Butler (1980), previously presented in this article, and by Lourenço (2003), who developed a model for urban expansion areas. MATP considers three variables, namely: touristic planning, public investments in tourism, and tourism growth (Graph 2).

Graph 2 – Model of analysis of the touristic process (MATP)



Source – Designed based on Alvares (2008)

Despite having the concept of life cycle been widely spread, both in marketing and strategic positioning, there are difficulties in operationalizing it (Gonçalves & Águas, 1995). In this sense, it is emphasized that MATP is a model capable of supporting these studies, even with difficulties in compiling data for a wide period of time.

Contrary to Butler's model (1980), MATP established the mentioned variables and its respective indicators, with a simple indicator (public capital invested in tourism) being used for measuring the variable of public investments on tourism; a compound one (housing units x occupation rates) to assess tourism growth; and another one created by a multi-criteria analysis (plans, programs, strategies/guidelines, studies, public participation) for analyzing the touristic planning variable. Regarding the critiques to Gonçalves and Águas (1995), MATP is notably presented as a more complex model than Butler's (1980) and the designed indicators would provide propositions for such critique.

The model by Alvares (2008) was first applied by the author on the touristic destinations of Salvador (Brazil), Ouro Preto (Brazil) and, previously, during a pre-test, on the Fernando de Noronha Island (Brazil) and on Madeira Island (Portugal). Despite being referred to as theoretically-conceptually in other investigations, MATP, just as Beni's model, needs yet to be modeled for other touristic destinations.

RESULT ANALYSIS

Aiming to deepen the understanding on tourism evaluation models, this study has allowed for the epistemological analysis of concepts and definitions regarding the theme, as well as it has presented a history of the development of studies and researches on tourism models constituted in different perspectives.

Based on the theoretical-conceptual approach, it was possible to observe that systemic tourism models include, among other matters, the importance of planning to improve efficiency, as well as social responsibility and destination sustainability (Devine & Devine, 2011; Gössling, Scott, Hall, Ceron, & Dubois, 2012; Johnson & Sieber, 2011; Padin, 2012); Likewise, tourism systems were shown to not necessarily be presented linearly and predictably, making precise planning a difficult task (Farrell & Twining-Ward, 2004; McKercher, 1999). The unpredictable nature of tourism and the failure of many models in the planning process suggest a need for developing integrated studies in a sustainable and long-termed perspective (McKercher & Wong, 2004; Ritchie, 2004).

Due to the different realities in each touristic destination, it was concluded that it is necessary to evaluate, within existent models, which components are adapted to the analyzed scenario. Thus, this study sought to cover the analysis of models that allow for uniting the most diverse variables that, as a set, could better translate the realities one intends to know. In Chart 4, the main advantages of the models analyzed by this study are presented, as well as their applicability limitations and some reflections.

Chart 4 – Main strong points and limitations of the analyzed models

Model	Strong points	Applicability limitations
Leiper (1979, 1990)	– Easy-to-understand visual representation; – Thirty years after its creation, the model is still a theoretical-conceptual reference in academia.	It does not define indicators for applicability to destinations.
Butler (1980)	– Applied to many destinations; – Recognized in academia and it has been widely used to explain the evolution of destinations.	– It does not contribute to deeper analysis on the touristic development of a set destination.
Mathieson and Wall (1982)	– Pioneering model for socio-economic and environmental impacts of tourism.	– Despite providing some guidelines for analysis, it does not define indicators.
Gunn (1988, 1994)	– Considers elements of touristic supply and demand, demonstrating concern in changes that may happen in a system component and its effects on other components.	– It considers many analysis elements, but does not define indicators.
Mill and Morrison (1985,1998, 1992, 2007)	– Introduces some analysis elements that were not considered in previous models, namely, touristic planning and marketing.	– Due to the large number of analysis elements and to the lack of indicators, the applicability of the model to touristic destinations is difficult.
Boullón (1997)	– Easy-to-understand visual representation; – Besides considering the relation supply x demand, it is concerned with social actors, represented by the superstructure in the model.	– It does not define indicators for applicability to other destinations.
Beni (1998)	– Superstructure, infrastructure and relations between supply and demand are further described, besides considering environmental relations in the system regarding ecological, social, economic, and cultural aspects.	– Its application is difficult by the inherent complexity of this kind of analysis and by the large number of elements covered by the model.
Alvares (2008)	– Allows for the analysis of touristic development processes based on the perspective of supply and demand, activity planning, and public investments on tourism.	– Despite having well-outlined indicators, this model's difficulty to be applied lies on data gathering.

Source – Designed by the authors (2017)

The studies by Leiper (1979, 1990), Mathieson and Wall (1982), Gunn (1988, 1994), Mill and Morrison (1985, 1992, 1998, 2007), and Boullón (1997) are models of a visual representation that allow for a holistic understanding of touristic activities, however, given the systemic approach to many matters, they were not applied in case studies, according to what the authors could find.

The models by Beni (1998) and Alvares (2008) have been designed but are still incipient. Overall, these models are used by other researchers as base theory, being the reference to support tourism research, under the most varied perspectives, aside from being support elements for new theoretical-conceptual proposals.

Butler's model (1980), despite being internationally referred to and having been modeled for many destinations, allows for destination analysis only from the perspective of touristic demand, evaluating the number of tourists. One criticism towards Butler's model (1980) is that it considers only internal dynamics of a destination, being oblivious to the structure of touristic activity, just as to the competition with other destinations (Debbage, 1990).

Debbage (1990) has been known to have established a fundamental aspect for a holistic and non-fragmented understanding of the touristic process, which allows for the definition of more assertive strategies, based on the analysis of interrelations of the elements constituting the complex touristic system.

FINAL REMARKS

According to the theoretical-conceptual approach used in this study, systemic tourism models include, among other issues, the importance of planning to improve efficiency, as well as the destination's social responsibility and sustainability. Tourism systems have not necessarily been presented linearly and predictably, preventing precise planning. The unpredictable nature of tourism, as well as the failure of many models in the process of planning, suggests the development of integrated studies in a sustainable and long-term perspective.

It is relevant to consider that the theories for touristic destination evaluation propose an analysis that is more inductive than assertive for the process of touristic development. Thus, performing new studies and applying these theories are strategical tools for diagnosing and monitoring the path of touristic development in destinations. For that, new studies are needed for the development of models that can evaluate the process of touristic development based on the diversity and particularity inherent to each destination.

This study has enabled the analysis of a series of tourism models, from its categorization up to theoretical-conceptual reflections regarding it. It has also allowed for the reflection on the design of some models for touristic destination evaluation, specifically the models by Leiper; Butler; Mathieson and Wall; Mill and Morrison; Gunn; Boullón; Beni; and Alvares.

Lastly, it can be concluded that process modeling in touristic destination is still an incipient area for research, specially regarding theoretical analyses with practical applications. Thus, applied research is increasingly more pressing, aiming to: (1) support public administrators and guide the design of public tourism policies; (2) subsiding decisions by tourism private initiative; (3) ground preventive and predictive studies; and (4) contribute to holistic and systemic analyses of the complex tourism phenomenon.

REFERENCES

Akın, M. (2015). A novel approach to model selection in tourism demand modeling. *Tourism Management*, *48*, 64-72. doi:10.1016/j.tourman.2014.11.004

Alvares, D. (2008). *Avaliação de planos-processo em áreas de desenvolvimento turístico* (Tese de doutoramento). Universidade do Minho, Portugal.

Arcese, G., Di Pietro, L., & Mugion, R. G. (2015). Social life cycle assessment application: Stakeholder implication in the cultural heritage sector. In S. Muthu (Ed.), *Social life cycle assessment: An insight* (pp. 115-146). doi:10.1007/978-981-287-296-8_4

Baggio, R. (2008). Symptoms of complexity in a tourism system. *Tourism Analysis*, *13*(1), 1-20. doi:10.3727/108354208784548797

Baidal, I., J. A., Sánchez, I. R., & Rebollo, J. F. V. (2013). The evolution of mass tourism destinations: New approaches beyond deterministic models in Benidorm (Spain). *Tourism Management*, *34*, 184-195. doi:10.1016/j.tourman.2012.04.009

Bardin, L. (2006). *Análise de conteúdo* (L. de A. Rego e A. Pinheiro, trads.). Lisboa: Edições 70. (Original work published in 1977)

Beni, M. (1998). *Análise estrutural do turismo* (2a ed.). São Paulo, SP: Senac.

Beni, M. (1999). Política e estratégia do desenvolvimento regional: roteiro metodológico com base na instrumentalização e operacionalização do Sistur – Sistema de Turismo aplicado ao projeto Costa Oeste – estudo de caso. *Turismo: Visão e ação*, *3*, 51-70. doi:10.14210/rtva.v2n3.p51-70

Berry, E. N. (2001). *An application of Butler's (1980) tourist area life cycle theory to the Cairns Region, Australia 1876-1998* (PhD thesis). James Cook University of North Queensland, Australia.

Boullón, R. (1997). *Planificación del espacio turístico* (3a ed.). México, DF: Trillas.

Butler, R. (1980). The concept of a tourism area of life cycle of evolution: implications for management of resources. *Canadian Geographer*, *19*(1), 5-12. doi:10.1111/j.1541-0064.1980.tb00970.x

Butler, R. (2006). *The tourism area life cycle: Applications and modifications* (Vol. 1). Bristol, UK: Channel View Publications.

Carlsen, J. (1999). A systems approach to island tourism destination management. *Systems Research and Behavioral Science*, *16*(4), 321-327. doi:10.1002/(SICI)1099-1743(199907/08)16:4%3C321::AID-SRES255%3E3.0.CO;2-5

Castro, N. A. R. (2006). *O lugar do turismo na ciência geográfica: Contribuições teórico-metodológicas à ação educativa* (Tese de doutorado). Universidade de São Paulo, São Paulo, SP.

Christaller, W. (1963). Some considerations of tourism location in Europe: The peripheral regions underdeveloped countries recreation areas. *Papers of the Regional Science Association*, *12*, 95-105. doi:10.1111/j.1435-5597.1964.tb01256.x

Cohen, E. (1972). Toward a sociology of international tourism. *Social Research*, *39*(1), 164-182. Recuperado de https://bit.ly/2GgJPdU

Cole, S. (2012). A political ecology of water equity and tourism: A case study from Bali. *Annals of Tourism Research*, *39*(2), 1221-1241. doi:10.1016/j.annals.2012.01.003

Cooper, C. (1990). Resorts in decline: The management response. *Tourism Management*, *11*(1), 63-67. doi:10.1016/0261-5177(90)90009-X

Cooper, C. (1992). The life cycle concept and strategic planning for costal resorts. *Built Environment*, *18*(1), 57-66. Retrieved from https://bit.ly/2VAvuOF

Cooper, C., & Jackson, S. (1989). Destination life cycle: The Isle of Man case. *Annals of Tourism Research*, *16*, 377-398. doi:10.1016/0160-7383(89)90051-0

Cooper, C., Gilbert, D., Fletcher, J., & Wanhill, S. (1993). *Tourism: Principles and practice*. London, UK: Longman Group.

Cornelissen, S. (2005). *The global tourism system: Governance, development and lessons from South Africa*. Farnham, UK: Ashgate Publishing.

Creswell, J. W. (2007). *Projeto de pesquisa: Métodos qualitativos, quantitativo e misto* (2ª ed.). Porto Alegre, RS: Artmed.

Dalonso, Y. (2015). *Avaliação de políticas públicas de desenvolvimento turístico das cidades de Gramado (Brasil) e Rovaniemi (Finlândia)* (Tese de doutoramento). Universidade do Minho, Portugal.

Debbage, K. (1990). Oligopoly and the resort cycle in the Bahamas. *Annals of Tourism Research*, *17*, 513-527. doi:10.1016/0160-7383(90)90024-L

Devine, A., & Devine, F. (2011). Planning and developing tourism within a public sector quagmire: Lessons from and for small countries. *Tourism Management*, *32*(6), 1253-1261. doi:10.1016/j.tourman.2010.11.004

Dredge, D. (1999). Destination place planning and design. *Annals of tourism research*, *26*(4), 772-791. doi:10.1016/S0160-7383(99)00007-9

Farrell, B. H., & Twining-Ward, L. (2004). Reconceptualizing tourism. *Annals of Tourism Research*, *31*(2), 274-295. doi:10.1016/j.annals.2003.12.002

Faulkner, B., & Russell, R. (1997). Chaos and complexity in tourism: In search of a new perspective. *Pacific Tourism Review*, *1*(2), 93-102. Recuperado de https://bit.ly/2UPb2N2

Finn, M., Elliott-White, M., & Walton, M. (2000). *Tourism & leisure research methods*. Harlow, UK: Pearson Education Limited.

Flores, M., Rezende, C., Tavares, K., Cohen, M., Fraga, M., Stilpen, P., Vieira, P., Couto, R. (2006). O ciclo de vida do destino turístico: O estudo de caso do balneário de Búzios. In C. L. Carvalho, & L. G. M. Barbosa (Orgs.), *Discussão de propostas para o turismo no Brasil: Observatório de inovação do turismo* (Vol. 1, pp. 157-195). Rio de Janeiro, RJ: Editora Senac Nacional.

Formica, P. (2000). Inovação e empreendedorismo: um ponto de vista do context italiano das PME. In Confederação Nacional da Indústria, & Instituto Euvaldo Lodi (Org.), *Empreendedorismo, ciência, técnica e arte* (pp. 59-82). Brasília, DF: CNI.

Fuster, F. (1979). *Teoría y técnica del turismo*. Madrid: Nacional.

Garay, L., & Cànoves, G. (2011). Life cycles, stages and tourism history: The Catalonia (Spain) experience. *Annals of Tourism Research*, *38*(2), 651-671. doi:10.1016/j.annals.2010.12.006

Getz, D. (1986). Models in tourism planning: Towards integration of theory and practice. *Tourism Management*, *7*, 21-32. doi:10.1016/0261-5177(86)90054-3

Getz, D. (1992). Tourism planning and destination lifecycle. *Annals of Tourism Research*, *19*(4), 752-770. doi:10.1016/0160-7383(92)90065-W

Gilbert, E. W. (1939). The growth of inland and seaside health resorts in England. *Scottish Geographical Magazine*, *55*, 16-35. doi:10.1080/00369223908735100

Goeldner, C., Ritchie, J., & Mcintosh, R. (2002). *Tourism: Principles, practices, philosophies* (9ª ed.). London, UK: John Wiley & Sons Inc.

Gonçalves, V., & Águas, P. (1995). A abordagem do ciclo de vida: Aplicação ao produto turístico. *Cadernos de Económicas*, documento de trabalho nº 1. Universidade Técnica de Lisboa, Departamento de Gestão, Lisboa.

Gössling, S., Scott, D., Hall, C. M., Ceron, J. P., & Dubois, G. (2012). Consumer behaviour and demand response of tourists to climate change. *Annals of Tourism Research*, *39*(1), 36-58. doi:10.1016/j.annals.2011.11.002

Gunn, C. A. (1988). *Tourism planning* (2nd ed.). New York: Taylor and Francis.

Gunn, C. A. (1994). *Tourism planning* (3rd ed.). New York: Taylor and Francis.

Gunn, C. A. (2004). Prospects for tourism planning: issues and concerns. *The Journal of Tourism Studies*, *15*(1), 3-7.

Hall, C. (2006). Introduction. In R. Butler, *The tourism area life cycle: Applications and modifications* (Vol. 1, Aspects of tourism: 28, pp. 26-33). Bristol, UK: Channel View Publications.

Haywood, K. M. (1986). Can the tourist-area life cycle be made operational? *Tourism Management*, *7*(3), 154-167. doi:10.1016/0261-5177(86)90002-6

Hernández, J., & León, C. (2003). *Endogenous lifecycle and optimal growth in tourism*. Contribution to CRENoS international conference Tourism and Sustainable Economic Development: Macro and Micro Economic Issues, Chia, Sardinia.

Hovinen, G. R. (2002). Revisiting the destination lifecycle model. *Annals of Tourism Research*, *29*(1), 209-230. doi:10.1016/S0160-7383(01)00036-6

Huimin, G., & Ryan, C. (2011). Ethics and corporate social responsibility: An analysis of the views of Chinese hotel managers. *International Journal of Hospitality Management*, *30*(4), 875-885. doi:10.1016/j.ijhm.2011.01.008

Johnson, P. A., & Sieber, R. E. (2011). Negotiating constraints to the adoption of agent-based modeling in tourism planning. *Environment and Planning B: Planning and Design*, *38*(2), 307-321. doi:10.1068/b36109

Keys, N. (1985). *Tourism evolution in Queensland* (Master's thesis). Griffith University, Nathan, Queensland.

Knowles, T. (1996). *Corporate strategy for hospitality.* Harlow, UK: Longman.

Lea, J. (1988). *Tourism and development in the Third World*. London, UK: Routledge.

Leiper, N. (1979). The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry. *Annals of Tourism Research*, *6*(4), 390-407. doi:10.1016/0160-7383(79)90003-3

Leiper, N. (1990). Partial industrialization of tourism systems. *Annals of Tourism Research*, *17*(4), 600-605. doi:10.1016/0160-7383(90)90030-U

Lohmann, G., & Panosso Netto, A. (2012). *Teoria do turismo: Conceitos, modelos e sistemas* (2ª ed.). São Paulo, SP: Aleph.

Lourenço, J. M. (2003). *Expansão urbana: Gestão de planos-processo*. Lisboa: Fundação Calouste Gulbenkian.

Ma, M., & Hassink, R. (2013). An evolutionary perspective on tourism area development. *Annals of Tourism Research*, *41*, 89-109. doi:10.1016/j.annals.2012.12.004

Martínez, A. (2005). Aproximação à conceituação do turismo a partir da teoria geral de sistemas. In L. Trigo (Ed.), *Análises regionais e globais do turismo brasileiro* (pp. 109-147). São Paulo, SP: Roca.

Mathieson, A., & Wall, G. (1982). *Tourism: economic, physical and social impacts*. Harlow, UK: Longman.

McIntosh, R. W., Goeldner, C. R., & Ritchie, J. R. B. (1995). *Tourism principles, practices, philosophies*. New York: Wiley.

McKercher, B. (1999). A chaos approach to tourism. *Tourism Management*, *20*(4), 425-434. doi:10.1016/S0261-5177(99)00008-4

McKercher, B., Wong, D. Y. (2004). Understanding tourism behavior: Examining the combined effects of prior visitation history and destination status. *Journal of Travel Research*, *43*(2), 171-179. doi:10.1177/0047287504268246

Mill, R. C., & Morrison, A. (1985). *The tourism system*. Englewood Cliffs, NY: Prentice-Hall.

Mill, R. C., & Morrison, A.M. (1992). *The tourism system: An introductory text*. New Jersey: Prentice Hall.

Mill, R. C., & Morrison, A. (1998). *The tourism system: An introductory text*. Dubuque, IA: Kendall/Hunt Publishing.

Mill, R. C., & Morrison, A. (2007). *The tourist system* (Rev. ed.). Dubuque, IA: Kendall/Hunt Publishing.

Miossec, J. M. (1977). Un modèle de l'espace touristique. *Espace géographique*, *6*(1), 41-48. doi:10.3406/spgeo.1977.1690

Moesch, M. (2000). *A produção do saber turístico*. São Paulo, SP: Contexto.

Padin, C. (2012). A sustainable tourism planning model: Components and relationships. *European Business Review*, *24*(6), 510-518. doi:10.1108/09555341211270528

Panosso Netto, A. (2005). *Filosofia do turismo: teoria e epistemologia*. São Paulo, SP: Aleph.

Pearce, D. G. (1995). *Tourism today: A geographical analysis* (2nd ed.). Harlow, UK: Longman Scientific & Technical.

Pearce, D. G. (2003). *Geografia do turismo: Fluxos e regiões no mercado de viagens* (Saulo Krieger, trad.). São Paulo, SP: Aleph.

Pearce, D. G. (2008). A needs-functions model of tourism distribution. *Annals of Tourism Research*, *35*(1), 148-168. doi:10.1016/j.annals.2007.06.011

Plog, S. (1973). Why destination areas rise fall in popularity. *The Cornell Hotel and Restaurant Quarterly*, *14*, 55-58.

Rejowski, M. (1999). *Turismo e pesquisa científica* (3ª ed.). São Paulo, SP: Papirus.

Ritchie, B. W. (2004). Chaos, crises and disasters: a strategic approach to crisis management in the tourism industry. *Tourism management*, *25*(6), 669-683. doi:10.1016/j.tourman.2003.09.004

Russo, A. P. (2002). The "vicious circle" of tourism development in heritage cities. *Annals of Tourism Research*, *29*(1), 165-182. doi:10.1016/S0160-7383(01)00029-9

Scarpino, M. (2010). *Tourism Systems: An analysis of the literature for improved subnational development*. Recuperado de https://bit.ly/2JKzKrO

Song, H., & Witt, S. F. (Eds.). (2000). *Tourism demand modeling and forecasting: Modern econometric approaches*. London, UK: Routledge.

Stansfield, C. (1978). Atlantic city and the resort cycle: Background to the legalisation of gambling. *Annals of Tourism Research*, *5*(2), 238-251. doi:10.1016/0160-7383(78)90222-0

Turner, L., & Ash, J. (1975). *The golden hordes: International tourism and the pleasure periphery* (11ª ed.). London, UK: Constable.

Uysal, M. (1998). The determinants of tourism demand: A theoretical perspective. In D. Ioannides, & K. G. Debbage (Eds.), *The economic geography of the tourist industry* (pp. 79-98). London: Routledge.

Whitford, M. (2011). A framework for the development of event public policy: Facilitating regional development. *Tourism Management*, *30*, 674-682. doi:10.1016/j.tourman.2008.10.018

Witt, S. F., & Moutinho, L. (1994). *Tourism marketing and management handbook* (2nd ed.). Hertfordshire, UK: Prentice Hall International.

Yang, J., Ryan, C., & Zhang, L. (2014). Sustaining culture and seeking a Just Destination: governments, power and tension: a life-cycle approach to analysing tourism development in an ethnic-inhabited scenic area in Xinjiang, China. *Journal of Sustainable Tourism*, *22*(8), 1151-1174. doi:10.1080/09669582.2014.924953

Zaheer, S., Albert, S., & Zaheer, A. (1999). Time scales and organizational theory. *Academy of Management Review*, *24*(4), 725-741. doi:10.5465/amr.1999.2553250

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