
André Luiz Vieira Soares
Federal University of Rio Grande do Norte

Luiz Mendes-Filho
Federal University of Rio Grande do Norte

Ulrike Gretzel
University of Southern California

ICT Practices and Isomorphism in Tourism: Insights from Hotel Managers in Brazil

This research aimed to examine technology practices through an Institutional Theory perspective focused on isomorphism. Hotel managers in Natal (Northeast Brazil) were interviewed about their ICT adoption and use. The results painted certain technology as essential for hotels and revealed isomorphic tendencies in their use. The results also highlighted a lack of institutional pressures leading to isomorphism in terms of technology non-adoption. Theoretical and practical implications are discussed.

Key words: ICT practices, isomorphism, institutional theory, tourism

André Luiz Vieira Soares
Federal University of Rio Grande do Norte
Ave. Senador Salgado Filho, 3000
Natal - RN, 59064-741
Brazil
Email: andreluizvieirasoares@hotmail.com

Luiz Mendes-Filho
Federal University of Rio Grande do Norte
Ave. Senador Salgado Filho, 3000
Natal - RN, 59064-741
Brazil
Email: luiz.mendesfilho@gmail.com

Ulrike Gretzel
Center for Public Relations
Annenberg School for Communication and Journalism
University of Southern California
3502 Watt Way
Los Angeles, CA 9089
USA
Email: gretzel@usc.edu

André is a PhD student in the Department of Tourism at Federal University of Rio Grande do Norte (UFRN), Brazil. His main interests are information technology and communication (ICT) in tourism, and ICT adoption in tourism.

Dr. Luiz Mendes-Filho is Assistant Professor in the Department of Tourism and is Director of Tourism Management Studies Research Lab (GESTUR) at UFRN, Brazil. He is also researcher in the Brazilian National Council for Scientific and Technological Development (CNPq - Brazilian Federal Government Organization).

Ulrike Gretzel is a senior fellow at the USC Center for Public Relations. Her research focuses on persuasion, technology-mediated experiences and human-technology interaction in the context of tourism.

Introduction

According to Institutional Theory, institutional pressures lead to isomorphism in the adoption of organizational practices (such as the use of technology) (Hassan, 2008). Isomorphism per se is important to detect because it implies that a certain technology has become "standard practice". While most technology adoption research in tourism focuses on innovation, competitive advantages and other organizational gains such as efficiency, Scott (2001) suggests that an organization sometimes makes choices simply based on its desire to survive. For example, the adoption of a mature technology doesn't provide any competitive advantage but not using it might significantly hurt the establishment. Such technology adoption decisions may guarantee survival but also restrict the autonomy of organizations (Krell, Matook, Rohde, 2016). The aim of this paper is to explore isomorphism among hotels in terms of their marketing-related ICT practices to provide an alternative perspective on their technology adoption decisions.

Weerakkody, Dwivedi & Irani (2009) suggest that the value of Institutional Theory lies in helping understand how external pressures affect the operations of organizations. In the services sector, more specifically in tourism, Institutional Theory has been used in a limited way by de Grosbois (2016), and relating to technology adoption by Gretzel, Mendes-Filho, Lobianco, Alonso-Vasquez, & Mistilis (2017). Studies that discuss technology adoption by tourism operators are typically focused on identifying organizational diversity in ICT adoption and use: on factors that differentiate the organization's patterns from its peers in relation to the use of a particular technology (Gretzel et al., 2017). There is therefore a great need for more research in tourism, and specifically regarding technology adoption in tourism, that uses an Institutional Theory perspective (Gyau and Stringer, 2011). Institutional perspectives offer an important alternative to understanding the adoption of technology in

tourism, a dynamic industry with strong environmental interference and a plethora of regulations.

The emerging Brazilian hospitality and tourism sector offers a rich case study to explore processes related to the adoption of technology in hotels. The Brazilian Tourism GDP grew 3.1% in 2018 according to the World Travel & Council (WTTC) (2019), one of the highest in South America, twice that of the Brazilian economy. It is also a dynamic market for Information and Communication Technology (ICT). According to the Associação Brasileira de Empresas de Software (ABES) the ICT market in Brazil increased 9.8% in 2018 (ABES, 2019), more than twice the initial forecast value for the year.

The Northeast of Brazil is a particularly important tourism region. The 2016 Brazilian housing market (IBGE, 2017), showed 31.3 thousand establishments in the country, with one million housing units (suites, bedrooms, chalets) and 2.4 million beds. Hotels accounted for 47.9% of all establishments. In the yearbook published by BRAZTOA (2017), the region is at the top in terms of domestic tourism revenue, with 67.4% followed by the Southeast with 13.7%. The national average of beds per establishment is 77, the State of Rio Grande do Norte at the Northeast region had a higher average, with 79 beds per establishment (IBGE, 2017). Its capital, Natal, has been named ninth best tourist destination in Brazil by the Travelers' Choice Awards promoted by TripAdvisor (2016). Given the importance of the northeast region for tourism in Brazil and the prominence received by Natal, the city was chosen as the research context to examine isomorphism in the technology practices of hotels.

Literature Review

Institutional theory research requires a particular perspective on organizations (Guarido Filho & Costa, 2012). Important for institutional theory is the understanding that organizations are expressions of social values, rejecting rationalistic conceptions and

observing organizations as a distinct kind of social system (Vieira & Carvalho, 2003; Fonseca, 2003). One aspect is highlighted in this context by scholars, namely that of organizational institutionalism (Dacin, Goodstein & Scott, 2002); i.e., public opinion, laws, education systems, etc. influence corporate doctrines, positions, schemes, and procedures (Astley & Van De Ven, 2005). Also characteristic of institutional theory research are wide levels of analysis to cover the different specificities of the organizational environment (Scott, 2001). The organization's environment is conceptualized as the joint action of firms in a recognized institutional camp (DiMaggio & Powell, 1983) that is shaped by suppliers, consumers, regulatory agencies and so on.

The incorporation of new technologies or management practices in organizational processes (Cooper, Fletcher, Wanhill, Gilbert & Shepperd, 2007) is a practice that, when recognized as being favoured by the institutional environment, is likely imitated by others, leading to isomorphism in the market. Instead of companies trying to distinguish themselves, organizations tend to adapt to what is already in practice in the market. Institutions can also coerce organizations into the adoption of certain ICT practices by means of regulations/standards or exercise normative pressures through educational campaigns. Consequently, institutional pressures can inhibit the organization's independent development or restrict the emergence of new approaches. Similarly, Vieira & Carvalho (2003) explain that innovation decisions generally follow rules and values imposed by the organization's environment. Isomorphism in an industry or market is therefore a likely result of organizations' reactions to the institutional environment in which they exist and strive to survive (DiMaggio & Powell, 1983).

Gretzel et al. (2017) found isomorphism across regional settings in the use of ICTs by tourism operators. This research expands their survey-based findings by providing an in-depth, qualitative perspective on the phenomenon.

Methodology

The study used a qualitative approach to identify isomorphism in hotels from Natal/Brazil.

Data Collection and Sample

A semi-structured interview script informed by prior institutional theory research (Ali et al., 2013; Gretzel et al., 2017) was used to collect data from hotel managers regarding marketing technology-related adoption practices of hotels, asking questions about questions about what ICT tools they applied in their marketing practices and for what specific purposes. Hotel managers were interviewed in person and the conversations were recorded using a mobile device. All respondents occupied important positions in the hotels that provided them with an overview over technology use practices. The interviews lasted between 18 and 42 minutes, resulting in a total of approximately 7 hours of audio. The sample comprised of hotels within the city limits of Natal, Brazil. The sample consisted only of independent hotels, considering that hotels that are part of a hotel chain are strongly influenced by their relative/management companies. To define the participating hotels, lists published by Tripadvisor and the Associação Brasileira da Indústria de Hotéis (ABIH) were used as the sampling frame. Initially, 34 independent hotels were found in TripAdvisor highly-rated hotels ranking in Natal. Then, the ABIH website (2017) was checked to see which of these hotels were members as the ABIH is a strong institutional force in the region. Of the 22 hotels that were classified, 2 refused to participate, leading to a final sample of 20 hotels. Figure 1 shows the location of these hotels.

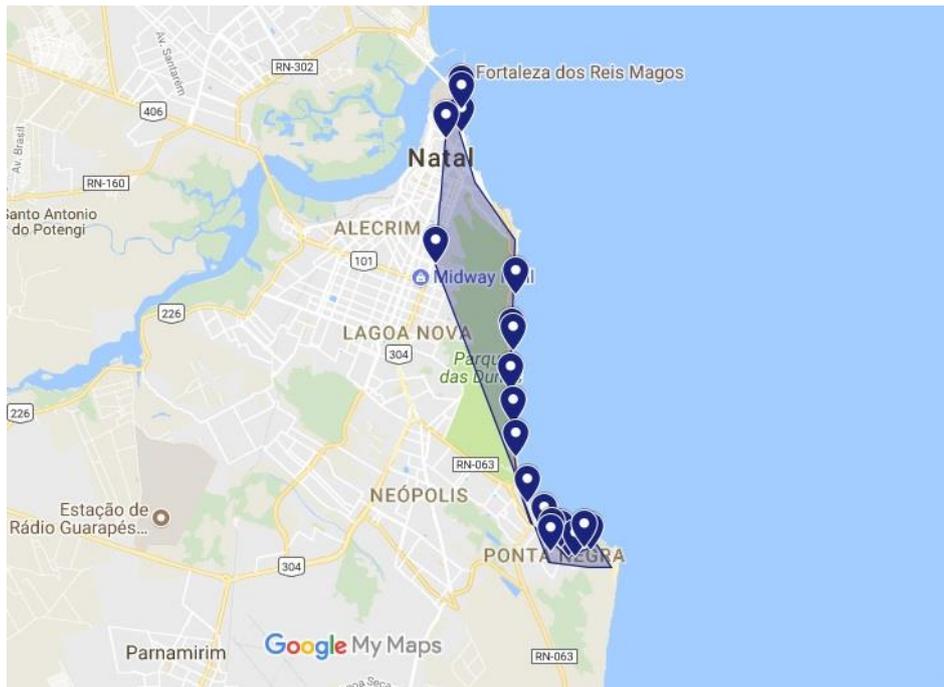


Figure 1. Location of hotels

The participating hotels represent leisure hotels (17) and business hotels (3). In terms of length of existence, the sample has 12 hotels operating for more than 20 years, four in the 10-19 years category and another four that had been established more recently (5-9 years). Regarding the hotel's classification, the sample consists of one 2-star hotel, nine 3-star hotels, nine 4-star hotels and one 5-star hotel. In terms of size, four hotels have less than 50 rooms, six have up to 100 rooms, and seven have over 100 rooms. All hotels are in very similar locations and therefore, location was not considered for the analysis.

Data Analysis

The data analysis comprised of three phases: pre-analysis, exploration and finalizing of results (Bardin, 1994). Pre-analysis involved the first contact with the data. The audio files were transcribed and subjected to initial screening and sorting. The exploration phase was assisted by NVivo, a qualitative analysis software. NVivo allowed to identify themes and verify the relative importance of concepts through counting the frequency of related words. The final phase established the relationship among themes and illustration of categories with

quotes. The data was primarily coded by one author and the resulting codes were discussed by the entire research team to improve the trustworthiness of the findings.

Findings

The results clearly demonstrate isomorphism in the technology adoption and use practices of hotels. The participants highlighted four types of technologies during the interviews: Messaging Tools, Websites, Social Media and E-Commerce and the results are organized accordingly. Table 2 provides a summary of isomorphic technology practices in the hotels based on the interviewee statements. The first column shows the tool and the second how it is generally used (or understood) by managers. The following sections illustrate the isomorphic uses of these tools in detail.

Table 1. Summary of isomorphic technology practices

Tools	Use		
	Internal		External
Messaging tools: Email & Whatsapp	Archive data; Record keeping; Employee communication; Contact suppliers		Communication; Sales
Websites	Promotion/CRM		Distribution
	Send questions and/or comments; Information about the hotel; Images of the hotel and/or the city; Registration to the newsletter; Contacts; Language change options; Link to profiles in other virtual environments		Reservations; Budget requests; Fees and packages; Online sales
Social media	Monitoring	User Generated Content	Online Reputation
	In-house vs. outsourced monitoring	Possibility to analyze the content (positive/negative); Strategic analysis; To solve problems	User rating; Position in rankings on specialized sites; Perceived image
eCommerce	Direct sale		Intermediate sale
	Website; Social media		OTAs; Tour operators

Messaging Tools

The findings show that all hotels in the sample use email widely for internal and external communication. The uniform results regarding the use of email for communication clearly picture email as an established form of communication needed by hotels to survive. The understanding of email as a fundamental tool for communications confirms the findings of Gretzel et al. (2017), which describe email as a mature technology. But hotels across the board also use cloud storage functions attached to email systems for record keeping purposes, establishing email as an effective data storage mechanism. Institutional needs to keep evidence of conversations seem to drive this particular use of email technology.

Surprisingly, WhatsApp, an instant messaging app, was also widely adopted by the respondents as a tool for direct communication with customers and employees, in some cases suppressing the use of email. Table 2 offers some respondents' comments about Whatsapp that illustrate its perceived importance and describe it as having become a "standard" communication tool for hotels. Normative pressures coming from consumers who increasingly use mobile technologies in the vacation context (Wang et al., 2016) and think that hotels should use WhatsApp seems to be the biggest impetus for the adoption.

Table 2. WhatsApp use by hotels
WhatsApp internal and external use

WhatsApp internal and external use	
Hotel 1	[...] we are in a transitional phase... and a lot of issues have been solved by WhatsApp. WhatsApp really is another way that replaces traditional tools.
Hotel 2	[...] I think WhatsApp... it is standard for everything. I am with my director in Buenos Aires participating in a conference and I can instantly exchange messages with him about the hotel issues.
Hotel 16	[...] a lot of people do not read the e-mails, so what happens? We send them messages through WhatsApp. We have groups at WhatsApp.

Hotel 15	[...] so sometimes I come here to my room and spend more time on WhatsApp than on the computer. Because the consumer is the whole time asking for a photo in real time, "take a photo of the apartment and send it to me"...
-------------	--

Websites

Similar to what Zach, Gretzel and Xiang (2010) found for the convention and visitor bureau sector, the interviews revealed that websites per se have been adopted by all hotels; however, the level of sophistication of the website differs. Despite the availability of cheap and easy to use website creation tools and regardless of increasing information and communication needs from tourists (Yuan et al., 2019), many of the interviewed hotels still do not provide interactive websites. Smaller hotels seem to not perceive any institutional pressures or incentives to advance their use of websites for sales or customer service management. As such, the results found isomorphism in smaller hotels with respect to the lack of sophisticated website use.

Social media

While social media use is widespread across the hotels in the sample, most efforts are focused on sales instead of relationship management, despite its prominent role in social media marketing (Gretzel and Yoo, 2013). Social media can provide a real-time environment to communicate with existing and future guests before, during and after their visit (Buhalis and Leung, 2018). Also, social media monitoring is becoming a standard practice in the sector (Leung, 2019) and this is also visible for the sample (Table 3).

Importantly, while performance measures for social media are the same across the hotels, two different groups were evident related to social media monitoring practices: those who outsource the monitoring of their social media and those who monitor on their own. This

grouping did not show any relation to the size of the hotel. Seeking technological solutions to the risks stemming from negative comments left on social media was a common thread in the interviews. Any negative comments posted on social media can affect the hotel image and decrease customer visit and booking intention (Buhalis and Leung, 2018). Thus, the use of technology for the maintenance of a previously legitimized organizational image (Mendonça and Andrade, 2002) emerged as a key concern.

Table 3. Social Media Monitoring Practice

Comments on Importance of Social Media Monitoring	
Hotel 2	[...] give us some insider information, for example, intensity and interaction, the number of likes... Who follows our hotel? Who sees our page ends with which hotels? So by doing this, by doing this research we can know who our main competitors are by price, by location, by a specific time period.
Hotel 9	[...] if the tourist has any comments or often a situation has happened that we don't know, are not aware here in the hotel, he speaks on social media. So, we get in touch and check.
Hotel 20	[...] we know that the client is no longer patient, so he plays right on the internet if he's not satisfied.

E-commerce

The e-Commerce category looks at tools/ICTs used specifically for online sales while website category looks more broadly at the use of websites as a marketing tool. For a small group of four hotels, their own social media pages are also optional places for tourists to book their services. According to the managers' comments, e-commerce can be divided into three distribution channels: direct, mediated by OTAs, or through tour operators (see Figure 2).

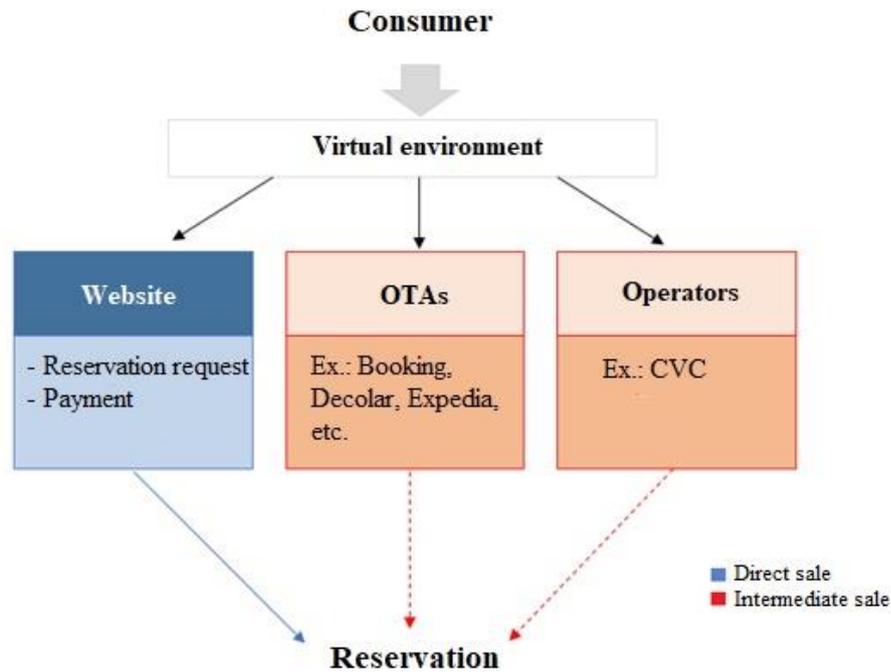


Figure 2. e-Commerce channels adopted by Natal hotels

Direct bookings through their hotel websites constitute a highly profitable sale; however, the hotel managers indicated that they feel pressure to use OTAs to boost their sales due to the agility with which information must be disseminated and updated on the Internet. They describe their situation as an impasse, where staying out of the OTAs means losing visibility, while using these partners will increase their competitiveness, but at a high price (see Table 4).

Gibbs and Kraemer (2004) suggest that e-commerce adoption is driven by strategic benefits, external pressure, technology and financial resources, as well as the policy environment. All hotels in the sample have adopted e-commerce and with it demonstrate a commitment to survival in a technology-mediated marketplace (Lai et al., 2006). Their acceptance of OTAs and tour operators as the dominant distribution channels could however hurt them in the long run. This is a case where institutional pressures are disconnected from the internal needs of the enterprise (Meyer and Rowan, 1991).

Table 4. Comments related to Online Travel Agencies and hotel rates

OTAs: parity rates versus visibility	
Hotel 1	[...] regarding that Channel Manager question, if I do not have it I'm not in the showcase of many operators, of many OTAs, it forces us to legitimize the investment.
Hotel 3	[...] the fight is the tariff parity. I know my average daily rate and how far I can decrease, but I cannot spread these rates in the OTAs so as not to break the big operators like CVC, Trend and so on.
Hotel 2	[...]today we have another problem that is the commissions of these OTAs, these online sites. These are higher and higher commissions, from 22-28% based on the daily rate that we publish. So selling through them is good and bad at the same time because the commission ends up being very high.

Conclusion

The pressures forced hotels to adopt ICT practices even if they do not bring benefit or advantage, which ends up consolidating a practice as a standard. The findings show that it is more important to pursue what is being well established in the environment than to truly innovate. This behaviour results in homogeneity in attitudes and behaviours. Isomorphism appears strongly in almost all identified practices in this study, with the same technologies and the same platforms being mentioned by the hotel managers we interviewed. Aspects of the networked nature of the hotel business further facilitate isomorphism as leads to heightened transparency of business practices and makes it easier to monitor what peer organizations implement in terms of marketing ICTs. Importantly, the research also identified the lack of institutional pressures leading to homogeneous lagging behind.

When isomorphism is a result of institutional pressures, then this suggests that technologies are adopted for reasons that go beyond efficiency/rationality. From an economic point of view, this inefficiency is troublesome as it might hurt businesses in the long-run. On

the other hand, it might also show the existence or effectiveness of normative or coercive pressures. This is an important practical finding to consider when designing innovation initiatives. At the same time, the lack of normative pressures to adopt some of the technology practices implies that the government established policies, incentives, certification programs, are not working.

As a theoretical contribution of this study, we sought to fill gaps in the use of institutional theory applied to the tourism sector. Institutional theory has made important contributions to understanding technology adoption in other contexts, but in tourism literature the institutional forces have been only superficially addressed. The research also contributes to the literature on social media use by hotels, confirming the importance of monitoring consumer opinions for the very existence of these hotels. In addition, the results suggest that technology adoption research needs to consider incentives and pressures beyond perceived usefulness when trying to understand technology adoption and diffusion in tourism.

Future studies may support the discussion by expanding the sample to other types of tourism operators or by taking a quantitative approach to measure the extent of isomorphism.

References

- Ali, V., Cullen, R., and Toland, J. (2013), 'Information and communications technology in the tourism sector of the Maldives: An institutional perspective', in System Sciences (HICSS), 46th Hawaii International Conference, Wailea, Maui, HI, USA, pp. 4226-4235.
- ABES, Associação Brasileira das Empresas de Software. (2019), 'Mercado Brasileiro de Software - Panorama e Tendências, Estudo 2019 - Dados de 2018', <http://www.abessoftware.com.br/dados-do-setor/estudo-2019--dados-2018>. Accessed 26 August 2019.
- ABIH, Associação Brasileira da Indústria de Hotéis do RN (2017), 'Hospedagem – Hotéis associados', <http://www.abihrn.com.br/>. Accessed 15 March 2017.
- Astley, W. and Van De Vem, A. (2005), 'Debates e perspectivas centrais na teoria das organizações', *RAE*, 45:2, pp. 245-273.
- Bardin, L. (1994). *Análise de conteúdo* (70a ed.). Lisboa.
- Brasil. IBGE. (2017), 'Brasil tem 2,4 milhões de leitos em sua rede de hospedagem', <https://agenciadenoticias.ibge.gov.br/agencia-sala-de-imprensa/2013-agencia-de->

- noticias/releases/14786-brasil-tem-2-4-milhoes-de-leitos-em-sua-rede-de-hospedagem.html. Accessed 20 November 2017.
- BRAZTOA, Associação Brasileira de Operadoras de Turismo (2016), ‘Nordeste lidera demanda por viagens no Brasil’, <http://jconline.ne10.uol.com.br/canal/economia/nacional/noticia/2016/.php>. Accessed 24 March 2017.
- Buhalis, D., & Leung, R. (2018). Smart hospitality—Interconnectivity and interoperability towards an ecosystem. *International Journal of Hospitality Management*, 71, 41-50.
- Cooper, C., Fletcher, J., Wanhill, S., Gilbert, D. and Shepperd, R. (eds) (2007), *Turismo: Princípios e Práticas* [trans. Alexandre Salvaterra], Porto Alegre: Bookman.
- Dacin, M., Goodstein, J. and Scott, W. (2002), ‘Institutional theory and institutional change: introduction to the special research forum’, *Academy of Management Journal*, 45:1, pp. 45-57.
- de Grosbois, D. (2016), ‘Corporate social responsibility reporting in the cruise tourism industry: a performance evaluation using a new institutional theory based model’, *Journal of Sustainable Tourism*, 24:2, pp. 245-269.
- DiMaggio, P. and Powell, W. (1983), ‘The iron cage revisited: Collective rationality and institutional isomorphism in organizational fields’, *American Sociological Review*, 48:2, pp. 147-160.
- Gibbs, J.L. and Kraemer, K.L. (2004), ‘A Cross-Country Investigation of the Determinants of Scope of e-Commerce Use: An Institutional Approach’, *Electronic Markets*, Vol. 14 No. 2, pp. 124–137.
- Gretzel, U., Mendes-Filho, L., Lobianco, M., Alonso-Vasquez, M. and Mistilis, N. (2017), ‘Technology Adoption by Tourism Operators in Australia and Brazil: An Institutional Theory Perspective’, *E-Review of Tourism Research*, 8, pp. 1-5.
- Gretzel, U. and Yoo, K.H., 2013. “Premises and promises of social media marketing in tourism.” In McCabe, S. (Ed.), *The Routledge handbook of tourism marketing*, pp.491-504. New York: Routledge.
- Guarido Filho, E. and Costa, M. (2012), ‘Contabilidade e Institucionalismo Organizacional: Fundamentos e implicações para a pesquisa’, *Revista de Contabilidade e Controladoria*, 4:1, pp. 20-41.
- Gyau, A. and Stringer, R. (2011), ‘Institutional isomorphism and adoption of e-marketing in the hospitality industry: a new perspective for research’, *Food, Agri-Culture and Tourism*, Springer Berlin Heidelberg, pp. 130-139.
- Hassan, M. (2008), ‘The development of accounting regulation in Egypt: Legitimizing the International Accounting Standards’, *Managerial Auditing Journal*, 23: 5, pp.467-484.
- Krell, K., Matook, S., & Rohde, F. (2016). The impact of legitimacy-based motives on IS adoption success: An institutional theory perspective. *Information & Management*, 53(6), 683-697.
- Lai, K.H., Wong, C.W. and Cheng, T.E. (2006), ‘Institutional isomorphism and the adoption of information technology for supply chain management’, *Computers in Industry*, Vol. 57 No. 1, pp. 93–98.
- Leung, R. (2019), ‘Smart hospitality: Taiwan hotel stakeholder perspectives’, *Tourism Review*, Vol. 74 No. 1, pp. 50–62.
- Mendonça, J.R.D.C. and Andrade, J.A.D. (2002), ‘Teoria Institucional e Gerenciamento de Imagem em busca de Legitimidade Organizacional através do Gerenciamento da Imagem Corporativa’, II Encontro de Estudos Organizacionais, Recife, Brazil.
- Meyer, J. and Rowan, B. (1991), ‘Institutionalized organizations: formal structure as myth and ceremony’ in Powell W. and DiMaggio P. (ed.), *The new institutionalism in organizations analysis*, London: The University of Chicago Press.

- Scott, R. (eds) (2001), *Institutions and Organizations*, Thousand Oaks: Sage Publications.
- Tripadvisor (2016), ‘Travelers Choice – 2016’,
<https://www.tripadvisor.com.br/TravelersChoice-Destinations>. Accessed 10 October 2018.
- Vieira, M. and Carvalho, A. (eds) (2003), *Organizações, instituições e poder no Brasil*, Rio de Janeiro: FGV.
- Wang, Y. S., Li, H. T., Li, C. R., & Zhang, D. Z. (2016). Factors affecting hotels' adoption of mobile reservation systems: A technology-organization-environment framework. *Tourism Management*, v. 53, p. 163-172.
- Weerakkody, V., Dwivedi, Y. and Irani, Z. (2009), ‘The diffusion and use of institutional theory: a cross-disciplinary longitudinal literature survey’, *Journal of Information Technology*, 24:4, pp. 354-368.
- WTTC. World Travel & Tourism Council (2019), ‘Economic impact’, <https://www.wttc.org/-/media/files/reports/economic-impact-research/regions-2019/world2019.pdf> Accessed 25 July 2019.
- Yuan, Y.; Tseng, Yuen-Hsien; Ho, Chaang-Iuan. Tourism information technology research trends: 1990-2016. *Tourism Review*, v. 74, n. 1, p. 5-19, 2019.
- Zach, F., Gretzel, U. and Xiang, Z. (2010), “Innovation in the web marketing programs of American convention and visitor bureaus”, *Information Technology & Tourism*, Vol. 12 No. 1, pp. 47–63.