



**Strategic Analysis of
Competitiveness and
Innovation in the
Tourism and
Telecommunications
Industries
Opportunities and Challenges
in Latin America and the
Caribbean**

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Development Bank**

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Strategic Analysis of Competitiveness and Innovation in the Tourism and Telecommunications Industries

Opportunities and Challenges in Latin America and the Caribbean

Celso Garrido

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Inter-American Development Bank and Compete Caribbean

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Abstract

This paper analyzes the trends and challenges of competitiveness and innovation in the tourism and telecommunications industries of Latin America and the Caribbean (LAC) from a strategic and global perspective. This analysis aims to identify the conditions and opportunities for these industries in this context, in particular for small- and medium-sized enterprises (SMEs) and the economic development of the region. To this end, the first section studies these two industries as well as common characteristics that they share in the modern economy. The second section introduces a few concepts to approach this study from a methodological perspective that is appropriate for addressing the characteristics of the problem at hand. The third section contemplates the global situation of the industries within the context of the proposed conceptual framework, while highlighting the challenges created by trends in innovation developments that promote competitiveness in each industry, as well as interactive relationships that enable positive synergies, particularly for the tourism industry. The fourth section presents change trends for both industries in LAC, and as an illustration presents cases that highlight the presence in the region of areas capable of developing competitive innovation-based businesses. The conclusion provides recommendations and suggestions for implementing policies that help boost current progressive development trends.

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Importance, Common Characteristics, and Perspectives

In terms of the total world economy, information from specialized agencies indicates that, despite the current short-term fluctuations caused by the international crisis, there will be positive trends for the tourism and telecommunications industries during the current decade, which is the time frame for this strategic analysis. According to the World Travel & Tourism Council (WTTC, 2011), in 2010, international inbound tourism accounted for 9.1 percent of global GDP and directly or indirectly employed over 250 million people in a highly competitive and changing environment. The Organisation for Economic Co-operation and Development (OECD) has indicated that, in the same year, telecommunications represented 3 percent of the GDP of OECD member countries, while the International Telecommunications Union (ITU, 2010) reported an accelerated expansion trend in the mid-term for various services within the industry, particularly in mobile telecommunications and Internet access. In general, the existence of a favorable environment is good news for business and this applies to companies in the tourism and telecommunications industries in LAC. However, this does not necessarily imply industry players in LAC will succeed in following these trends, since conditions are complex and dynamic and thus pose serious challenges. Therefore, to be successful in such an environment, companies need to recognize these conditions and make strategic decisions in keeping with their business plans. Factors to be considered include a highly competitive global scenario for both industries where large international leaders clearly influence trends, as well as salient asymmetries between participating countries and regions. Within this context, competition propels diverse players to achieve competitiveness through technology innovation and organizational practices, among other innovations, which during the last two decades has translated into permanent changes in the traditional configuration of both industries and imposed limits on their activities. Also, new and powerful competitors emerge and the lifecycles of innovations providing competitiveness are shortened such that companies operate in highly dynamic environments with constant challenges and opportunities.

On this basis, to consider the strategic horizon for driving the development of tourism and telecommunications in LAC, the dominant characteristics of these business configurations need to be identified and the gaps in the region's operations in these industries identified, specifically for SMEs. This analysis is intended to detect the opportunities to compete successfully and pinpoint the innovative behaviors SMEs would require to increase their competitiveness in the global arena. Public and private actors in both LAC industries under study are familiar with this broad agenda, and multiple proposals based on traditional analytical approaches have been prepared. Considering the importance of this agenda, there are ways of approaching the competitiveness of these industries that have not yet been developed in the region and that would enrich the comprehension of future challenges and opportunities, and support the adoption of innovative behaviors that all competitors would benefit from.

Strategic Analysis Tools

The analysis in the previous section calls for considering analytical tools that address the complexity of the conditions under which the telecommunications and tourism industries currently operate so that the corresponding private and public actors can perform a superior strategic analysis of their activities. Within the broad scope of tools available for conducting these types of analysis, this section suggests two tools that are central for the subject under study and constitute a standard reference in the literature on this topic.

Business Ecosystems

The first tool allows the inclusive comprehension of diverse concurring factors to directly and indirectly determine the strategies of individual agents. Moore's (1996) **business ecosystems** metaphor allows a holistic and dynamic view of economic processes. Having inherited a long debate on the nature of firms and the market initiated by Ronald H. Coase, Moore formulates his metaphor, placing the firm at its core, as an analytical tool for recognizing and organizing the different factors that converge to explain the changing business climates. It is within this context that a firm must determine its strategic actions, applicable to different geographical areas of activity and different firm sizes. A simple definition of a business ecosystem is a community comprised of different industries and actors (suppliers, lead industries, competitors, governments, regulators, etc.) producing goods and services of value to customers, who are also members of the ecosystem. The actions of community members are carried out within the context of the systemic organization and adaptability of its constituents, where the central concept is that competitive actions advanced by a firm or by an industry involve parallel direct or indirect co-evolutions and interactions with all other elements participating in the ecosystem.

This interaction allows the introduction of two fundamental elements of competitive analysis. The first element refers to the fact that ecosystem participants compete from different strategic positions: key stakeholders that stabilize the ecosystem; dominant competitors that seek vertical or horizontal integration; dominant competitors within the value chain; and niche players that tend to represent the mass of the ecosystem and the heart of innovation itself. The second element stems from the fact that within the dynamics of the ecosystem, relationships between different players are competitive but can also be cooperative, which can be sustained to build systemic competitive conditions. Given these characteristics, ecosystems are changing entities in terms of their members and their inter-relationships, as well as in terms of the boundaries of the ecosystem, which depend on the correlation between the mentioned strategies and on the emergence of new players or ecosystems competing with them.

Consequently, an important fact that firms must acknowledge is that they are entities within a business ecosystem whereby competitiveness and cooperation forces operate, and whose activity is determined by direct and indirect interactions. The entire ecosystem and therefore its own business perspective will be determined by a life cycle (pioneering, expansion, authority, renewal, or death) resulting from competitive-cooperative interactions between ecosystem components and with other ecosystems.

Figure 1 is an outline of the business ecosystem structure according to Moore's conception, which contains the configuration of the "core business" as well as the "extended enterprise."

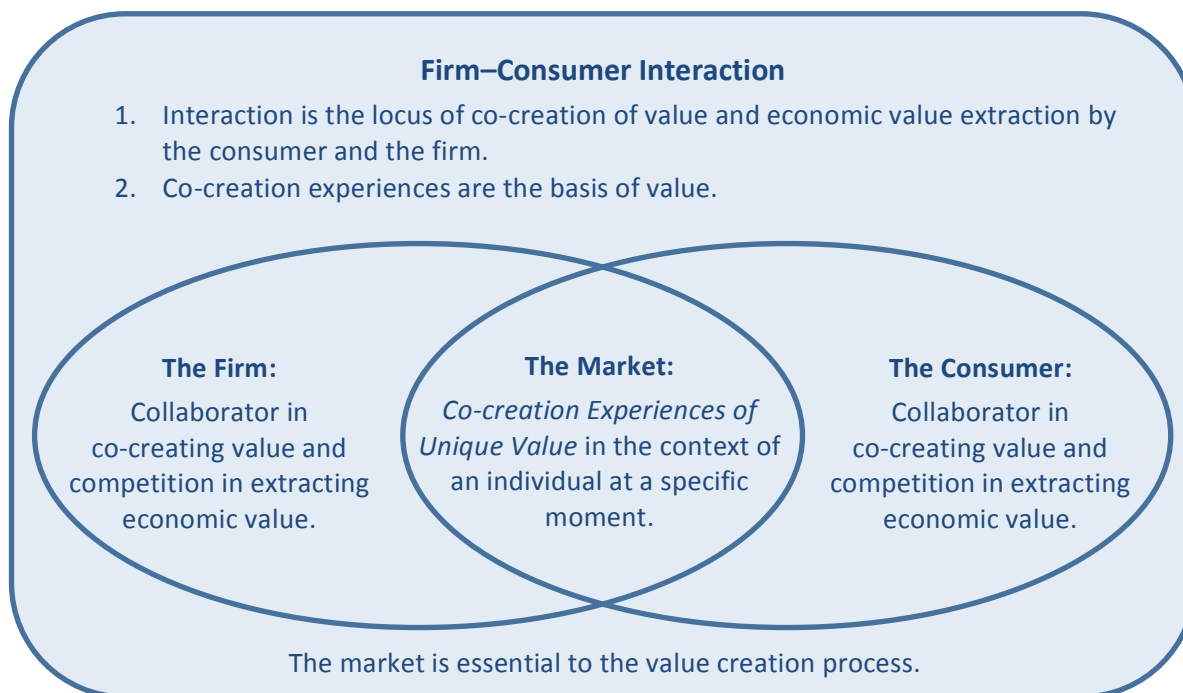
Figure 1. General Business Ecosystem Structure



Source: Moore (1996)

In the context of this business ecosystems approach, it is necessary to define how firms should undertake the actions required to compete on the basis of innovation. According to Morris (2009), the starting point for this lies in innovation, which the author defines as the result of a process whereby firms and customers cooperate, whereby the firm creates higher value offerings for customers that materialize because they are willing to pay a price for that value. Thus formulated, innovation by a firm is not only the result of technology components, but encompasses all areas where this feature of innovation can be achieved and that involves creating a novelty (e.g., new functionality, cost reduction, improved margins, price reduction, and market creation) with viable markets. The process of innovation can pertain to organizational structure, administration, products and services created, processes utilized, customer experience, customer services, or the supply chain. Consistent with the ecosystems approach, this process incorporates both what occurs within the firm and the environment in which it operates. Similarly, the innovation process does not result from a firm's actions alone, but for a successful process all of the mentioned firm activities should be implicated. Finally, any innovation activity on the part of a firm depends on the customer who responds to the value creation by consuming the produced good or service. Moreover, as Prahalad and Ramswamy (2004) point out, the co-creation of value takes place between the firm and the consumer through the market, as laid out in Figure 2. As addressed later in this paper, co-creation is relevant for businesses in both the tourism and telecommunications industries.

Figure 2. Firm–Consumer Interaction in the Co-creation of Value

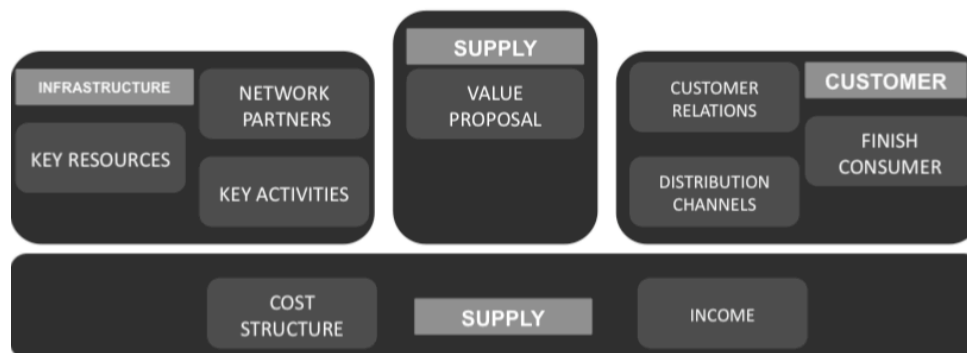


Source: Prahalad and Ramswamy (2004)

Business Model

For the innovation process to be functional, the adoption of a second tool is essential to capture all of the elements that contribute to its development under the conditions outlined for an ecosystem. To this end, it is necessary to recognize that a fundamental component of business ecosystems that distinguishes them from natural organisms is that they are communities that make up social systems comprised of people who make decisions on the basis of their vision of the future. Consequently, a key element of the co-evolution of the ecosystem and its firms is cohesion, which depends on the fact that its participants have a shared idea and perspective about their activities. To achieve this goal, business people spend time trying to understand the entire scope of their competitive playing field with the purpose of finding the most beneficial ways of participating or of changing the game to their benefit. Based on Morris' perspective, this holistic representation of the process is built through the formulation of a **business model** that consists of a comprehensive description of the firm operating in a system integrated by its own components and the set of elements of the ecosystem in which it participates. For Osterwalder and Pigneur (2010), a business model is composed of four major areas — infrastructure, offering, customers, and finances — and within these categories nine elements are identified — value propositions, customer segments, distribution channels, customer relationships, key resources, key partners, key activities, cost structure, and revenue streams — as shown in Figure 3.

Figure 3. Elements of a Business Model



Source: Osterwalder, Pigneur, and Tucci (2005)

Similarly, the business model describes the way in which the value creation and distribution experiences evolve according to the changing needs and preferences of customers, and shows how the firm profits by offering customers what they are willing to pay for. Consequently, the business model prefigures and represents the core aspects of the competitiveness and innovation strategy, which is guided by the dynamics of customer needs and desires. This gives the firm certain competitive advantages, which are, however, temporary since competitors might propose better models.¹

Overall, as discussed in the next section, the business ecosystem and the business model currently constitute relevant tools for the analysis, design, and execution of strategies oriented toward the development of innovation-based competitiveness, within complex scenarios such as those in which tourism and telecommunications companies operate and that are addressed in this paper.

Evolution and Trends within the Telecommunications and Tourism Ecosystems

This section analyzes the telecommunications and tourism industries based on the business ecosystems perspective presented above. This is a scenario in which firms compete through the formulation of business models based on innovation approaches. The analysis of both sectors on the basis of this perspective allows participating players, particularly in LAC, to become familiar with the challenges and opportunities available in the context of the global economy in which these ecosystems operate. Likewise, this type of analysis highlights the possibility that positive synergies occur between the telecommunications and tourism ecosystems, which creates opportunities for the participation and escalation of operations in these complex competitive environments. Knowledge of both ecosystems covers a vast range of topics; therefore, this section will only present a basic outline of each ecosystem's structure and a few facts

¹ For an operational approach to business model formulation, see Osterwalder and Pigneur (2010).

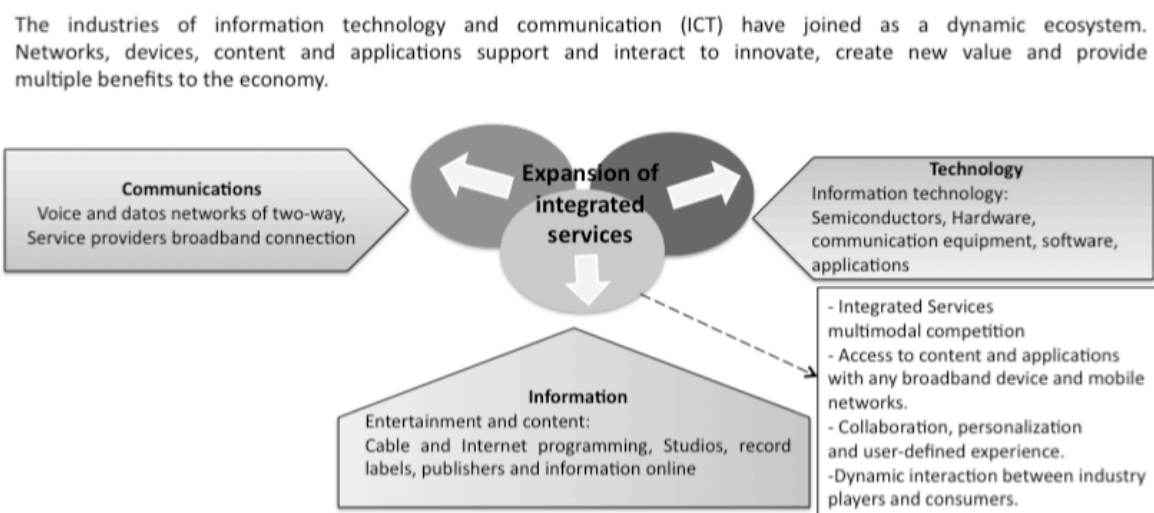
about the way change takes place in each one of them, whether through the actions of different private and public sector entities or through competition between different ecosystems operating inside the same industry.

The Telecommunications Ecosystem

According to current international definitions,² telecommunications encompasses communication via telephone, telegraph and telex; the transmission of radio and television programs; the supply of Internet access through cable networks; radio broadcasting, radio transmission or satellites; as well as network maintenance.

These different fields of telecommunications operate within a broader economic environment, the **Information and Communication Technologies (ICTs)** business ecosystem, which is derived from the convergence of the communication, information, and technology sectors, as shown in Figure 4.

Figure 4. ICT Ecosystem



Source: Brogan (2009)

This convergence is the result of a long process of technological transformation carried out independently yet concurrently in the fields of communications, electronics, and information technology during three decades, as analyzed in detail by Lombard (2008). The most important advances in this area are schematically reviewed below.

² For more information visit: http://www.fifoost.org/database/nace/index_en.php.

The great technological developments that gave way to the creation of numerical telecom networks, Internet, and cellular telephony in the 1990s included:

- The conversion of analogical information into numeric binary codes, which involved the inter-relationship of informatics and electronics.
- The development of integrated circuits, microelectronics, silicon-based processors, and miniaturization, which allowed the move from traditional dial-up connection telephone networks with hierarchical circuits toward totally distributed and decentralized flat networks where each element functions independently, giving way to self-modifying networks.
- The dropping costs of silicon and the adoption of the GSM standard made communications mobility (versus fixed telephony) possible and allowed production to be industrialized.

In the following decade, entering the new millennium, another wave of major changes occurred that jump-started a trend in the ecosystem toward ICT convergence and the permanent and widespread connection of users. Broadband widened network transmission capacity and accelerated the use of wireless communications with fixed-line equipment but particularly mobile wireless equipment. On this basis emerged Mobile Virtual Network Operators (MVNO), which, though they lack a frequency spectrum concession, provided their services through an agreement with Mobile Network Operators (MNO) that have their own networks. Cellular telephones became multimedia communication mediums on the basis of technological changes toward third generation (3G) telecommunications (image, data, and video communications) and fourth generation (4G) high-velocity broadband telecommunications. Internet telephony (VoIP) and Internet Protocol Television (IPTV) introduced a radical change in the communications business while creating deadly competition for traditional operators. Media convergence at different levels, observed in television, Internet, and telephony, and with the so-called Triple-play, changed the competitive landscape in an even broader sense. This more complex development of convergence, produced through Next Generation Networks (NGN), will articulate the group of systems and networks in this ecosystem. In a process still under development, cloud computing opens a large field for computing and communication services in different areas, maximizing the general transversal versatility of the ICT ecosystem, which influences all fields of economic activity.

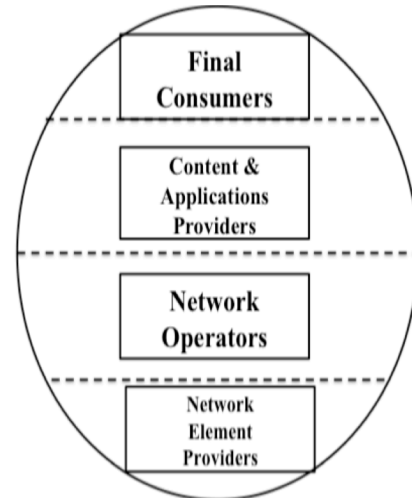
However, according to Arlandis and Ciriani (2010), the articulation and dynamics of this ecosystem are not a mere product of this group of technologies, but the result of the interaction between diverse business models implemented by different players participating in the four-layered system described below. In these business models, the interrelationship with consumers is essential, as they constitute proactive actors who create new demands for goods and services that are individualized, complex, and diverse. Moreover, also relevant is the institutional, regulatory, and market environment originated following the privatization and deregulation processes of traditional telecommunications activities.

According to Fransman (2007a), this ICT ecosystem must be conceived as a modular structure with four layers (L) operated by major groups of participants:

- L1: Network Element Providers (manufacturers of computers, phones, routers, servers, etc.)
- L2: Network Operators (telephone companies, mobile telephone operators, cable television and satellite TV operators, etc.)
- L3: Platform, Content, and Applications Providers (search engines such as Google, e-commerce such as Amazon, social networks such as Facebook, etc.)
- L4: Final Consumers (FC)

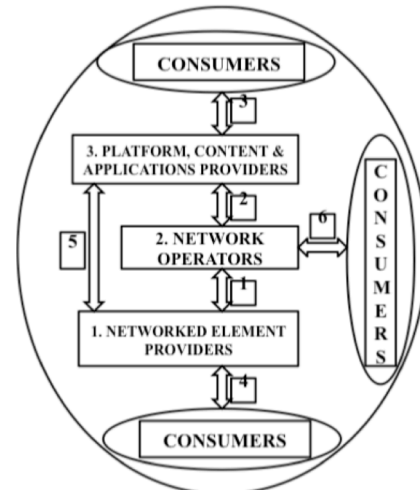
For the purpose of this paper it is relevant to underscore six symbiotic³ relationships between the groups of participants in the four layers proposed by Fransman (2007a), which are the basis for creating innovation within an ecosystem. The first symbiotic relationship is between telecom operators and their network element suppliers (L2-L1). The second is between network operators, applications providers, and content providers (L2-L3-L4). The third involves applications providers, content providers, and final consumers (L3-L4-FC). The fourth relationship is between network element providers and final consumers (L1-FC). The fifth is between network element providers and content and application providers (L1-L3-L4). Finally, the sixth symbiotic relationship is between network operators and final consumers (L2-FC). Each of these six relationships operates in four dimensions that generate different flows: buyer–seller (financial flow), input products (material flow), information flow, and flow of inputs across the innovation process. These relationships are outlined in Figure 6.

Figure 5. ICT Ecosystem Participants



Source: Fransman (2007a)

Figure 6. Six Interactive Relationships of the ICT Ecosystem



Source: Fransman (2007b)

³ The terminology used to categorize dominant relationships between ecosystem competitors is developed by Moore (1996).

This relationship structure generates a network effect that spreads the dynamics of innovation to the group, which is verified in some of these relationships. The network effect induces co-evolving behaviors among different participants through open innovation practices that tend to spread out to firms.

In this analysis, one particular relationship stands out as a determinant of the innovation dynamic of the ecosystem — the third symbiotic relationship, which involves platform, content, and applications providers (L3) and final consumers (L4). This relationship is based on the new types of user interactions enabled by Web 2.0 (O'Reilly, 2007), which allows the conversion of users into content providers and co-innovators. For this relationship to be viable, firms that operate in L3 need to have specific competencies. On one hand they must be able to develop the software required to create, manage, and improve an interactive database, which is the heart of operations in Web 2.0 firms. On the other hand, they must also be capable of involving final consumers in the contents and the applications they offer and secure this relationship over time since the increased involvement of consumers is what adds value. This third relationship constitutes a dynamic innovation nucleus and yields the highest return for the ecosystem, and therefore becomes a preferred position for those actors operating in other symbiotic relationships.

The Tourism Ecosystem

The World Tourism Organization (WTO) defines tourism as “the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes unrelated to the performance of a paid activity in the place being visited,” (Sancho, 1998). Depending on the sphere in which it is carried out, this activity can be classified under four basic dimensions: beach, inland, domestic, and international. This last category is made up of countries of origin on one hand, and destination countries on the other, constituting what is known as “in-bound tourism” that economies record as an export and which constitute the principle motor of tourism globally.⁴ While this study centers its attention on this last type of tourism, statistically, domestic tourism quantitatively predominates in countries and regions.

The tourism industry is unique given the nature of the product it creates, which is the activity of the tourist, an intangible product that materializes through the “experience” of the person practicing it. This activity is the result of the interaction between the media that reports service offerings and the tourists who want to use them to live the above-mentioned “experiences” (Weiermair, 2003). Hence, it is a service product that is jointly developed by providers and consumers, which materializes with the enjoyment of its users, implicating a high risk for consumers with regard to the value obtained from the price paid since the “desired experience” may not be fulfilled by the service being offered.

The evolution of tourism during the last quarter century was marked by an accelerated expansion of demand and was characterized as the mass tourism phenomenon. As shown in Pollock and Benjamin

⁴ The accounting of tourism activities is conducted through the Tourism Satellite Account (TSA) kept by countries in their national accounts (OECD, 2001).

(2002), the supply response to this phenomenon had three dominant features. Principally, it adopted economies of scale with homogeneous and undifferentiated services for consumers. Also, it produced a high concentration in different segments together with a massive offering in the independent hotel industry in charge of SMEs with marked fragmentation and heterogeneity, which translated into strong competition between service providers and their dependence on a myriad of highly concentrated intermediaries. In general, there has been a tendency in the tourism industry toward the commoditization of products with narrow profit margins and low innovation dynamics.

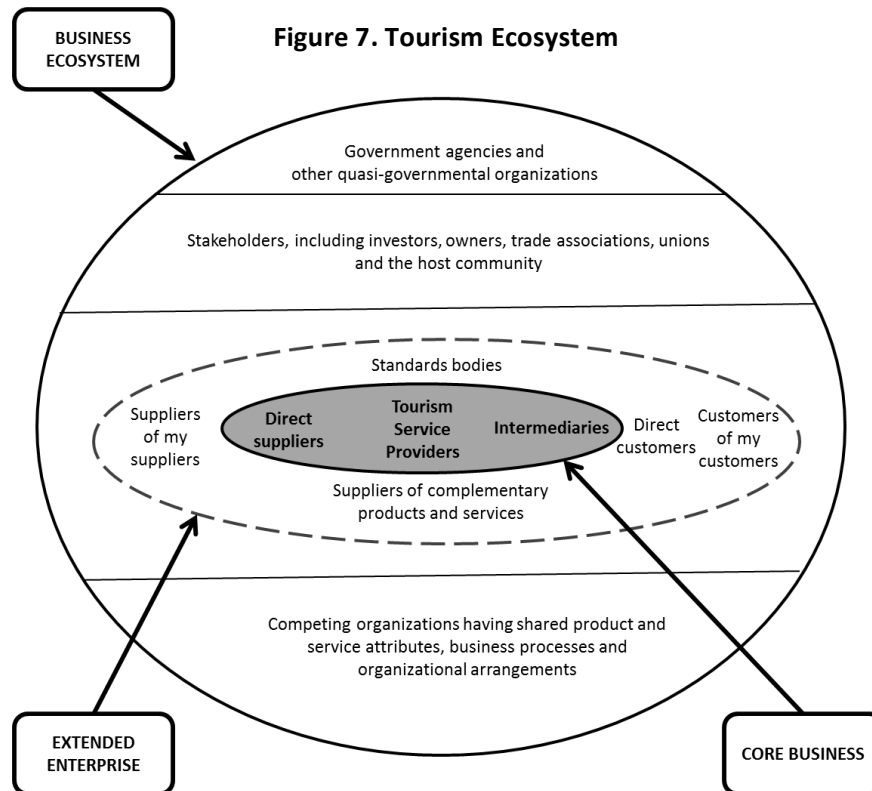
The tourism ecosystem is composed of five basic elements:

1. The customers, which have highly diverse characteristics in terms of the duration, objective, etc., of the tourism activity.
2. The service providers to end customers (e.g., hotels, restaurants, transportation companies) and associated services (e.g., insurance, money exchange, financial).
3. The intermediaries (e.g., travel agencies, tour operators, GDS) and the distribution channels (e.g., tourism guides, Internet portals, fairs).
4. The direct or indirect input suppliers (e.g., furniture, linen, equipment, accountants, printing workshops) and services (e.g., insurance, foreign exchange agencies, travelers cheques).
5. The communities that receive tourists (e.g., the population, different levels of government, institutions).

An outline of the tourism ecosystem is provided in Figure 7.

Despite its accelerated growth, throughout the years this ecosystem has shown resistance to the introduction of significant changes to its traditional business model for mass tourism and toward a model based on innovative behaviors.

The traditional business model of mass tourism can be illustrated through two basic components (Williams, 2010). The first is funnel-shaped supply in relation to demand, where the diversity of elements available to make up such a supply end up materializing in a limited set of standard and homogeneous products that treat consumers in an undifferentiated way and centers the business on economies of scale, as mentioned earlier. This is in line with a second component — that in this model the offering is not produced for the client by the service supplier but rather by the tourism producer, typically known as the tour operator, who prepares the product packages that said service suppliers offer to their customers. These tour operators establish quota contracts with the final supplier, independently of variations in demand. Consequently, it is the channel that determines the industry. In this model, tour operators have market power because they control information, which allows them to generate scarcity and therefore gain lucrative profits within the whole ecosystem.

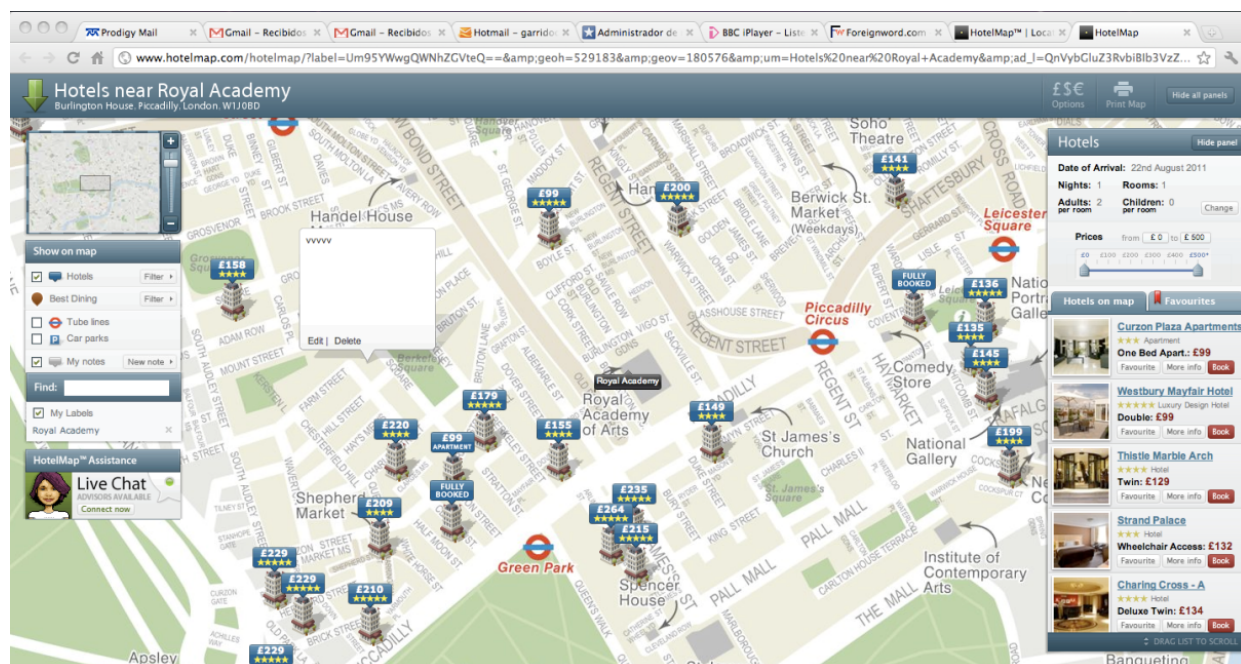


Source: Pollock and Benjamin (2001)

In recent years, this business structure has been challenged by two phenomena. First, the explosion of the Internet and the digital ecosystem eliminated monopolies over information since they made possible the diffusion of new service offerings directly proposed by end suppliers in a person-to-person (P2P) model. Second, the change in the behavior of consumers has led to more individualized and personalized demand for services (e.g., ecotourism and rural tourism). All of this is due to changes in labor conditions that have been brought about by more flexible vacation periods, increased income, and the incorporation of new consumer segments such as retirees, gays, wealthy couples without children, and emerging middle classes in developing countries (particularly China).

In this context, there are forces driving innovation in the tourism ecosystem (Weiermair, 2003). On the supply side, the central issue is the development of e-tourism made possible by the ICTs to benefit consumers by increasing the efficiency of services and limiting the windfall of the profit-oriented business of tour operators. This means that end providers can directly offer their products without the costs and rigidity of tour operators, through portals such as turismorural.com in which rural hotels across the world directly offer their services via the payment of a fee on the website. Moreover, new digital intermediaries or virtual agencies are emerging. They maintain portals that provide information on hotels, restaurants, shows, and other tourist information, enabling consumers to customize their planned activities. Such is the case of the portal hotelmap.com, which offers a dynamic interface for searching hotels, restaurants, and cultural activities.

Figure 8. hotelmap.com Portal



Source: www.hotelmap.com

Thanks to this phenomenon, consumers have greater power to select options that satisfy their distinct wishes. On the demand side, consumers are changing their tourism consumption habits toward more personalized services that value punctuality, responsibility, convenience, and price. Also, there is a wider differentiation of the tourism types sought out by travelers, including ecological tourism, adventure tourism, and rural tourism. All of this has triggered the evolution of supply with the creation of tourism “products” oriented toward enhancing an “experience,” which implies a qualitative change in the description of the services that should be offered by end suppliers. For example, a hotel business may need to transcend the traditional approach of strictly a service providing room and board. This translates into the need for these suppliers to develop new abilities, whether in computer management or customer service, otherwise known as “hospitality” or so-called “emotional engineering,” which places emphasis on managing tourist emotions.

A further evolution is the emergence of online portals that create tourist communities to share opinions and experiences regarding their trips and services. This is a powerful “consumer auditing” system for the industry, such as tripadvisor.com, which already has over 50 million reviews.

The approach that conceives tourism as an “experience” has resulted in the formation of typologies of those experiences relatable to customer segments, on whose basis it is possible to direct strategies for services and marketing, as illustrated in Table 1.

The “tourism as experience” approach is accompanied by other transformations that increase competition within the ecosystem. A good example is airline companies with the emergence of “low cost” options or the multiplication of alternative distribution channels. Expedia, Travelocity, and Orbitz (among others), which now directly represent the airline companies, have weakened the power of tour operators that once controlled these channels. The following classic distinction between product innovation and process innovation is observed: while product innovations in tourism activities focus on quality improvements made to rooms, computer hardware availability, client loyalty programs, among others, process innovations include the development of Internet-based reservation systems, new distribution and market systems, the development of supply-side co-operative practices, optimization of services, and client satisfaction programs. For SMEs within the industry, computer functionality for process activities makes their work more efficient and less costly, rendering their small enterprises more profitable.

All of the above delineates evolving industry trends, based on a dynamic where the innovation component increasingly becomes a decisive factor in the competitiveness of the various tourism ecosystem participants.

Table 1. Typology of Customer Experiences and Segments in Tourism

Experience	Searching online	New parents (0–4)	Exhausted parents (+ of 5)	Empty nesters	Lovers	Gays	Friends	Soul mates	Seniors	Health	Immigrants	Business	Supporters	Adventurers	Religious	Environmentalists	Exclusive
Socialization need																	
Knowing people like me																	
Flexibility																	
Rest and relax																	
Create resources																	
(Re)discover the world																	
Zero surprise																	
Share experiences																	
(Re)discover the couple																	
Comfort																	
Feel accepted																	
Security																	
Do something for your health																	
Demonstrate the purchasing power																	
Feel alive																	
Overcome																	

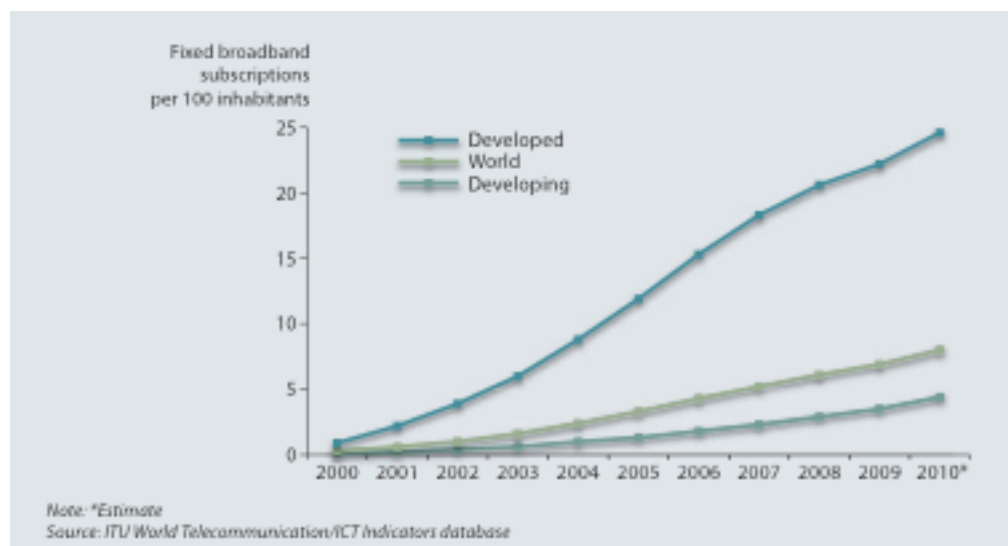
Source: Gallo and Kruka (2008)

Transformations, Opportunities, and Challenges in Latin America and the Caribbean

During the last decade, the telecommunications and tourism industries in LAC have experimented with important transformations, whether due to the effect of the global evolution of both of the analyzed ecosystems or due to different kinds of changes occurring in the region. As a result, despite their secondary role in relation to global ecosystems, these industries present new development conditions and perspectives. Figure 9 illustrates trends in broadband availability in different regions of the world.

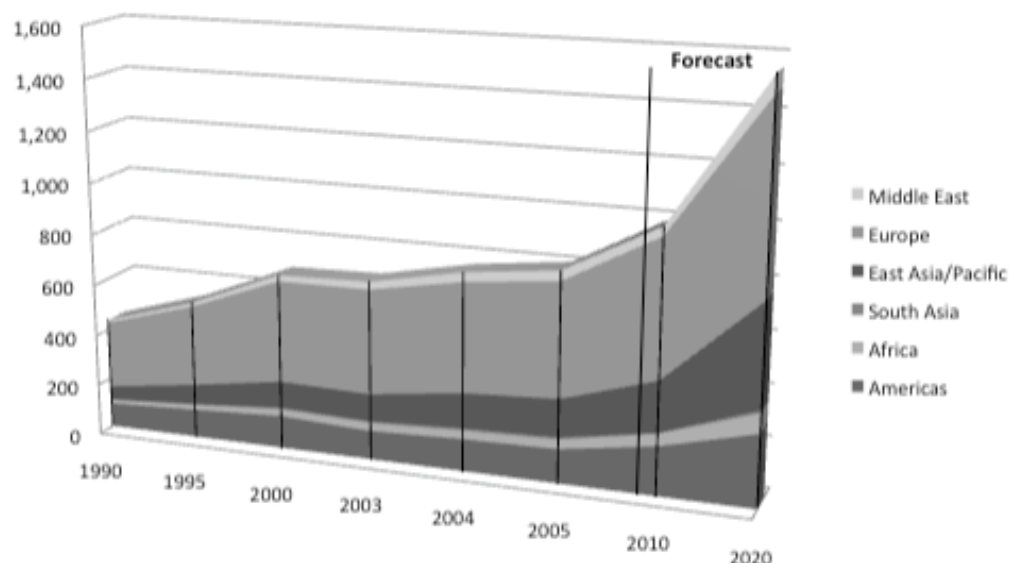
These phenomena take place in the context of rapid changes, where efficiency boundaries in the ecosystem are permanently shifting. Moreover, in the tourism ecosystem, the countries within LAC are classified by the World Travel & Tourism Council as being within the “Americas” group, which includes the United States, the top destination for tourism in the group. Figure 9 shows that the group occupies second place when it comes to international tourism flows.

Figure 9. World Trends in Broadband Availability



Source: ITU (2010)

Figure 10. International Tourist Arrivals by Region, 1995-2020



Source: Author elaboration based on WTO data

According to the World Economic Forum (WEF, 2011), the region registers low levels of competitiveness worldwide, although it has remarkable natural and cultural resources, and shows a decreasing trend in sector participation, with higher levels for Asian countries.

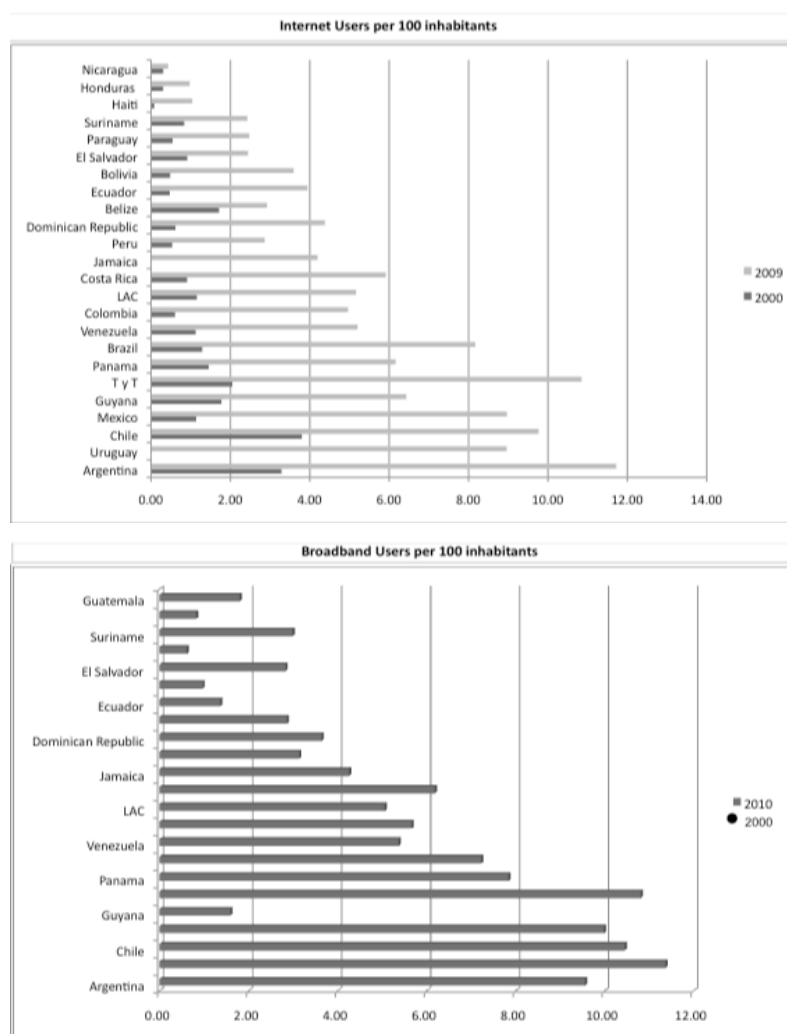
In relation to the global telecommunications and tourism ecosystems, corresponding ecosystems in the region face difficult challenges, so if they wish to maintain and increase their competitiveness, innovative practices will be imperative. There are positive examples in both ecosystems in LAC, as described later in this paper, but generally it will be vital to intensify efforts both relating to public policy and to collaboration among ecosystem participants if the region is to successfully come out of this challenging situation.

In the context of the competitive dynamics of global ecosystems, the evolution of both industries in the region has been driven by three important factors: the institutional changes of the 1990s, the response of businesses, and the public policies of countries or multilateral agencies.

The ICT ecosystem experienced important transformations due to institutional changes in the region, through the privatization of telephone companies and the gradual deregulation of the sector. Two models were adopted: the “national champions” model applied by Mexico transferred state monopolies to a private company to develop the sector; and Brazil’s competitive market structure model. Both models have had different outcomes, but an important result has been that the Mexican telephone company that changed to *América Móvil* has become one of the two largest competitors in the region, together with *Telefónica*, which is also the product of the privatization of a Spanish telephone company that fol-

lowed the “national champions” model. As a consequence of these changes, Latin America first experienced an accelerated expansion of the number of fixed telephony land lines, growth that later shifted to the area of cellular telephony, to the point where there is already more than one unit per person in the region. In the field of 3G technologies in particular, remarkable growth has been achieved, although values are considerably lower than those of developed countries, according to the Inter-American Development Bank (IDB, 2010). In turn, Internet access for the region registers an average of 4 percent against 75 percent in North America. With regards to broadband access, the average for the region is even lower at around 3.5 percent. For both Internet and broadband access, there are marked differences between the region’s countries, as can be seen in Figure 11.

Figure 11. Internet and Broadband Subscribers in Latin America and the Caribbean



Source: Author elaboration based on ITU data

With the effects that institutional changes have had, entrepreneurial sectors have shown a diversity of responses in facing new challenges. Faced with the competition of cable companies, large telecommunication operators responded by disseminating the triple-play service in the region. With respect to the mobile telephone ecosystem, major changes were registered for the region (*Fundación Telefónica*, 2010) with the expansion of the community of developers integrated into global networks, the evolution toward business models with convergent technologies and open standards, and technological adaptation. For example:

- The Colombian Coffee Growers Federation adopted intelligent magnetic stripe cards, providing financial services to 300,000 coffee growers with mobile banking.
- The governments of Brazil and Mexico promoted the use of cellular phones for the transmission of services information through SMS.
- In Amazonia, the *Saude e Alegria Foundation* of Brazil promoted a wireless antenna service for communications on health and education for 143 communities.
- The *Universidad de la Frontera* in Southern Chile promoted the high-velocity wireless network, which allows different regional clusters to be interconnected via the Internet (Innova Chile, 2010).

Moreover, certain initiatives have been developed to establish mobile telephony under the MNVO model mentioned earlier, such as *Maxcom* in Mexico, *Tuyo* in Costa Rica, *Nuestro Móvil* in Argentina, and *UFF Móvil* in Colombia, although the spread of this technology is still limited due to regulatory restrictions in certain countries. In general, the development of mobile telephony is still limited by tariffs, by the insufficient development of networks for mobile access to the Internet, and because applications suitable for local cultural characteristics are scarce in the region.

With reference to public policy, along with the different industry-specific national policies, important efforts have been made in the region. For example, the Broadband Commission for Digital Development was created by ITU and UNESCO to promote broadband use. Also, the Economic Commission for Latin America and the Caribbean proposals (Jordan et al., 2010) create a Broadband Regional Observatory as a tool to disseminate that service, which has larger implications for programs in health and education services, among others, in the most disadvantaged communities in the region. Likewise, IDB (2010) has formulated several proposals to promote the use of cellular telephony in different dimensions of development and social inclusion.

Similarly, during the period under study, the evolution of the tourism industry in LAC has been propelled by changes in regulatory policy, but also by measures implemented by several of the region's countries for promoting the industry. With respect to the first point, the privatization and deregulation of airlines was a phenomenon that gave way to a radical change in this segment's offering. Opening the market for foreign companies to compete in the region, as was the case of Iberia, intensified the interest of mobilizing tourism to the region, which coincided with the expansion strategy of large Spanish hotel chains. Several low-

cost regional airlines were created that witnessed a successful evolution, as was the case of Gol in Brazil or Volaris in Mexico, and airlines were expanded, such as LAN and Copa.

However, the tourism trends in the region appear to have been influenced by the implementation of long-term public policies in several countries that with time managed to reach leadership positions, as shown in Table 2.

Table 2. Tourism Flows in Select Countries of Latin America and the Caribbean (2009)

Selected Countries	International tourist arrivals 2009 (thousands)	International tourism incomes 2009 (million)	Income arrival 2009 (USD)	Tourist arrivals 1000 inhabitants (estimated) 2007	per capita income 2005 (USD)	incomes as % of exports of goods and services 2003	Tourism incomes % GDP 2003	% Direct and indirect jobs in tourism 2005	World Tourism Competitiveness Ranking TTCI 2008	Index Value TTCI 2011
Argentina	4.329	3.916	905	115	57	7,4	1,8	9,1	60	4,20
Brazil	4.802	5.305	1.105	26	18	3,2	0,5	7,0	52	4,36
Chile	2.75	1.568	570	151	73	5,3	1,9	6,8	57	4,27
Costa Rica	1.923	2.075	1.079	442	343	17,5	8,1	13,3	44	4,43
Cuba	2.405	2.08	865	188	169	n/d	n/d	n/d	n/d	n/d
Mexico	21.454	11.275	525	201	103	5,7	1,6	14,2	43	4,43
Panama	1.2	1.483	1.236	330	211	10,6	6,3	12,9	56	4,30
Peru	2.14	2.046	956	65	41	9,0	1,6	7,6	69	4,04
Rep. Dominic.	3.992	4.065	1.018	408	353	36,2	18,8	19,8	72	3,99
Uruguay	2.055	1.311	638	525	145	14,2	3,6	10,7	58	4,24

Source: <http://www.unwto.org/facts/menu.html>.

Table 2 shows that Mexico holds a leadership position, followed by countries in the Caribbean; countries in South America occupy third place. In general, this is a result of the successful policies that were put into practice for the development of tourism clusters in different countries. In Mexico, the Secretary of Tourism and Fonatur programs led to the development of Cancún, Los Cabos, and Huatulco. In the Dominican Republic and Cuba, government programs promoted foreign investment in hotels within the context of important infrastructure investments to support them. In Argentina, Brazil and, more recently, Chile, Colombia, and Peru, long-term programs were implemented with an impact on tourism flows. All of these initiatives were effected by some form of tourism promotion council and current policy designs concerned about delivering differentiated service offerings according to specific groups of interest. Argentina is especially noteworthy for its specific offering in support of SMEs in the industry.

In this context, specific government strategies have recently been formulated to position regions and countries; for example, those realized in country-brand portals such as colombiaespasion.com or peru.travel. Of particular interest is the offering of the Jamaica Tourist Board at jamaicamia.com, with a solid orientation toward touristic differentiation along with the offer of diverse packages, or the places.eyestour.com portal promoted by the Puerto Rico Tourism Company, whose objective is for tourists to suggest their own plan through attractive video presentations and georeferencing of tourist destinations. Similarly, there are new actors in special interest tourism, such as redturs.org, the community-based tourism network that groups over 15 countries of Latin America. In terms of strategies for consolidating sustainable business ecosystems, an initiative that stands out is that of the Ministry of Foreign Commerce and Tourism of Peru with

the *Ruta Moche* (larutamoch.pe), which obtained the UNWTO Ulysses Award. Also noteworthy is the important institutional development promoted by the Caribbean Tourism Association, with the onecaribbean.org portal, which proposes unique initiatives such as the identification of niche markets, best practices, quality certifications, and databases that strengthen the entire regional ecosystem. Moreover, several technology services entrepreneurship are being carried out to support small hotel businesses. This is the case of *TraveladServices.com*, a virtual agency that offers a variety services, including marketing consulting and web page design, to independent hotels in Chile, Argentina, and Brazil. *Grupovisiting.com* disseminates information about hotels in LAC and Spain through 1,600 portals that are visited by over 15 million people every year. At the same time, *lahres.net* (Latin American Hotel Reservation Systems) is a Latin American virtual agency that offers independent Latin American hotels the services of an electronic reservation centrally linked to major worldwide channels (GDS, ADD, etc.). This service's business model is in line with global changes since each hotel has full control over reservation operations, tariffs, and other functions. Likewise, *Fundación Red de Energía* in Central America implemented a Small Hotels Energy Efficiency Regional Program for El Salvador, Costa Rica, and Nicaragua.

At the company level, important development opportunities are available to small firms in the industry by selling services to third parties, reaching global levels of 15 percent in earnings for these types of start-ups (Forrester, 2011), as well as in the domain of customer-centered virtual tourism agencies.

In terms of public policy, in addition to policies developed by individual countries, the Organization of American States (OAS) promotes regional programs for the development of small hotels in the Andean and Central American countries and a Latin American Network for the Development of Tourism. The IDB, along with the World Tourism Organization, has also implemented regional programs to improve industry information sources and governance.

Conclusions

This paper has shown that the telecommunications and tourism industries in LAC are experiencing challenges in view of global competition. At the same time, however, extraordinary opportunities have arisen for developing business enterprises in these industries, which urgently need to evolve positively due to their economic and social impact. With respect to the first issue, a comparison with international developments reveals that efforts to configure more structured business ecosystems in both industries will sharply contribute to stimulating domestic and international private investments. For this purpose, in the ICT ecosystem, it is imperative not only to consolidate but to increase essential public policy measures that impel the development of infrastructures related to broadband or NGN networks to reach the full potential of cloud computing, which has a great impact on SMEs in all sectors. Similarly, the promotion of technology literacy in the region is essential, specifically with respect to health, education, social security, etc., because on this depends the possibility for populations to access said technologies (IDB, 2010).

In the case of the tourism industry, the WTO indicated at the World Travel Market Minister's Summit held in Madrid in 2010 that there is a wide sphere of action for public policy. Actions can promote improvements in operator capabilities and drive joint initiatives with the private sector like the country-brand initiatives, which serve to help the region position itself within global competition. Or they can develop regional clusters for special interest tourism. It is particularly critical to increase public efforts to maintain relative competitiveness with other areas of the world through investments in infrastructure and financial support to back tourism firms, especially those belonging to the independent hotel sector.

Glossary

Broadband: High velocity Internet access that is always on.

Cloud computing: A paradigm that offers computing services over the Internet in such a way that users can access services of all the information technology programs and systems available online after paying a fee.

Global Distribution System (GDS): A computer reservations system to book airline tickets, hotels, and other travel arrangements. These systems are operated by large global corporations such as Sabre or Amadeus, and it is through them that travel agencies manage their reservations.

Global System for Mobile Communications (GSM): A digital mobile telephone standard that is royalty-free and through which a telephone can connect with a computer, use e-mail, send faxes, browse the Internet, and use short message services (SMS).

ICCA: International Congress and Convention Association

Internet Protocol (IP): The principal communications protocol used to relay datagrams (packets) across an internetwork using the Internet Protocol Suite.

Internet Protocol Television (IPTV): A system through which television or subscription video services are delivered using the Internet Protocol Suite over a packet-switched network such as the Internet.

Next Generation Network (NGN): A network based on the transmission of packets that is capable of providing integrated services, including traditional telephony services, and taking full advantage of channel bandwidth by making use of Quality of Service (QoS) technologies so that transportation is independent of the network infrastructure in use.

Tour Operators: Wholesale agencies that act as intermediaries between tourism businesses and retail agencies. Tour operators can operate in local offices or via the Internet.

Triple-play: The provision of audio-visual services and contents (voice, broadband, and television).

Voice Over Internet Protocol (VOIP): Transmission techniques for the delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks, such as the Internet.

Web 2.0: Web applications that facilitate participatory information sharing, interoperability, user-centered design, and collaboration on the World Wide Web. Examples of Web 2.0 include social networking sites, web applications, video sharing sites, wikis, and blogs.

3G or third generation mobile communications: Technologies for mobile telephones that allow the transfer of voice and data (a telephone call or video call) as well as non-voice data (e.g., downloading programs, exchanging e-mails, and instant messaging).

4G or fourth generation mobile communications: Technologies for mobile telephones entirely based on an IP protocol, a system of systems and network of networks, configured through the convergence of cable and wireless networks.

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