

# Thinking technological hubs for development strategies: assessing how value chains converge on tourism activities.

Kataishi, Rodrigo\*  
Roulier, Catherine †

## Abstract

This paper proposes that Tourism Activities can be considered as a technological hub. We will discuss the implementation of the Value Chains Framework in the analysis of the products, services and infrastructure related to tourism activities. The main idea consists of presenting an integrated and systemic perspective of the economic processes related to tourism, which may lead to develop strategies able to foster productive linkages from a novel perspective. The hypothesis of this work is based on the common dialogue between literature on supply characteristics and value chains, aiming to generate a comprehensive systematization of recent ideas to contribute to the consolidation of the concept of value hub. The main proposal, hence, consists on the elaboration of an analytical framework able to integrate a systemic approach for the tourism analysis, with a particular emphasis in its economic impact for local development. The paper proposes that Tourism Activities can be interpreted as a “technological hub”. As such, it unfolds the relation among different value chains that wouldn’t be connected by other forces -specially technologically driven ones-, nurturing efforts to generate innovation activities, product differentiation, and implement other development strategies.

**Keywords:** Value Chains, Tourism, Sustainability, Local Development

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\*CONICET Fellow Researcher / National University of Tierra del Fuego, Argentina - Onas 450, Ushuaia, Tierra del Fuego - rkataishi@untdf.edu.ar - +54 2901 440-853

†National University of Tierra del Fuego, Argentina - Onas 450, Ushuaia, Tierra del Fuego, +54 2901 440-853

## 1. Introduction

During last decades, researchers used the value chains approach to analyze multiple, complex and heterogeneous development problems. The importance of such approximation has been noted within a myriad of productive situations, in which tourism gained increasing interest among recent contributions (Godde, 2000; Godde et. al., 1999; Crestani, 2017; Gill and Williams, 1994). Despite the growing use of the value chains framework, the application of such construct on tourism analysis remains challenged due to the ambiguity of concept definitions and the interaction of different sectors and policy outcomes.

In this paper we propose an outline on the discussion regarding value chains literature related to tourism activities, as a strategy for developing regions. The approach proposed connects two different schools of thought: the first one is related to the value chains analysis, and the second one, to the tourism studies. As so, the objective is to analyze how these two branches are merged and how this can trigger new and specific conceptual proposals.

The contribution of the article aims to consider tourism activities as a particular type of value chain. In effect, we examine how tourism industry can be understood as a focal point of policy interventions, since it connects several activities, not naturally articulated by the technologically driven production flows of the economic system. Under the idea of a systemic approach that take into account supply heterogeneity, connectivity and firms capabilities (Cohen and Levinthal, 1990; Teese and Pisano, 1991), this proposal considers tourism activities as a key element to foster development, by implementing the concept of value hub instead of value chain.

Different types of schemes and conceptual contributions will be presented to argue that it is crucial to adopt a systemic approach in order to think new promotion mechanisms and policy interventions in peripheral areas, particularly on those that develop strategies based on tourism as a pillar of their economic activities. On this regard, the implications of this paper are relevant for both, conceptual and policy proposes, interpreting tourism as a multi-dimensional trigger able to consolidate different sources of innovation on the private sector.

The paper is divided into four sections. The next section gives a brief overview of the theoretical background, stressing the key elements of the Value Chains literature and the linkages that it shows with the tourism analysis. The third part analyses our proposal, in which a new methodology to approach the tourism in mountain areas is described. Our conclusions are drawn in the final section.

## 2. Methodology

The methodology applied in the next consists on a mixed strategy based on a two-steps analysis of literature review. We will first develop a literature revision, and secondly a synthesis that articulate key concepts and vacancy areas, letting emerge (in section 3) an alternative and original analytical proposal.

Specific approaches and procedures that the researcher can use in these kind of works, generally employ a strategies that starts from the following sequence: a research design, followed by a data collection phase, data analysis and interpretation stage, and a synthesis, consisting in a new proposal. The literature review represents a subset of methods oriented to the analysis of specific nature of data (Onwuegbuzie, Leech, and Collins, 2011), related to the fact that the literature reviewer chooses from an array of strategies and procedures for identifying, recording, understanding, meaning-making, and transmitting pertinent information to a topic of interest (Watson and Green, 2006).

Green et. al. (2006) remarks four branches in which literature reviews are usually constructed upon, detailing four specific domains: a) Philosophical assumptions and stances; b) Inquiry logics; c) guidelines for a research practice and; d) socio-political comments. This work intends to follow that steps by the use of a mixed strategy between the second and the third domains, providing a systematized and objective-oriented literature review to develop its own analytical framework. We will also consider the socio-political dimension as an important aspect of our reflections.

The current proposal is a mixed strategy within a literature review approach, similar to the one applied by Sandelowski and Barroso (2006) which stress the possibility to construct new knowledge base on a meta-synthesis, where literature reviewer integrates research findings with interpretative synthesis addressing to particular research questions and interests. In our case, as was mentioned above, that will be a proposal in which several research fields find a particular way of interaction, achieving a systemic approach to the tourism development strategies.

Regarding the strategy on research techniques, this literature review will utilize conceptual-level correlational research techniques to examine, across studies, the relationship between three fields: the value chain approach, as it represents one of the currently recognized approximations to achieve competitiveness; the local development strategies approach, as the role of local innovation systems in the development processes; and the tourism strategy to foster economic activities and development. Adopting Stake's (2005) typology, a literature review as the one we propose can be framed as a particular qualitative case study, starting from an instrumental approximation where the literature review is designed to

examine a particular case, with the purpose of providing insight into a phenomenon or issue, combined with a collective or multiple approach in which the research is designed to obtain a generalization by conducting through an specific path the contents analyzed, conclusions and synthesis of the literature.

**Table 1.** Steps adopted in the literature review and the conceptual discussion

<b>Methodological Steps</b>	<b>Research Stage</b>
Establish review 's scope and nature of the question, search for key strings	Strategy Definition
Definition of core concepts and keywords	Analytical Strategy
Preliminary search of electronic databases	Data Collection
Develop analytic framework	Analysis
Secondary search of electronic databases	Data Collection
Content analysis	Analysis
Review the framework for gaps and vacancy areas	Discussion
Elaborate an alternative framework	Discussion
Discuss and reflect about the Limitations of the new proposal	Discussion Conclusion

*Source: Own elaboration.*

As described on Table 1, the steps on this investigation consists on a three stages method, in which the first involves the gathering of key contributions amongst three lines of literature; the second lies on the systemic analysis of that literature and the third, the elaboration of a proposal considering both, the critical concepts and ideas of the review and the vacancy areas identified built upon the author's reflexion.

Lastly, the collection of the papers, articles and contributions exposed in this work were assembled using a search strategy that started with the identification of keywords used to build search strings, as detailed in Tranfield et al. (2003). This crucial stage of the research proposal basically determines which papers will be included in the data to analyze, and were based on broad criteria of the sequence topic-problem-relations. There were several sources of information, all of them available in electronic format, consisting in major search engines and specialized journals of the three topics that interact in this work. The review only considered articles and reviews which are in English and Spanish. The systematization of information was carried out by the acquisition, storage, codification and analysis cycle, discussed by Heisig (2009) and Hislop (2009) in their seminal contributions.

### 3. Tourism and Local Development

Tourism can be considered as a tool for economic development (WTO, 1980; Liu and Ma, 2017), as it triggers and fosters different activities, such as local production of food, services and manufactures, generating foreign regions' originated earnings derived from foreign regions. This showed that tourism has the potential to become a particularly important source of growth for developing contexts (Blake, 2017; Tosun, 2000) and that promotes economic interactions to foster regional growth (Soukiazis and Proença, 2008; Wen and Tisdell, 2001).

Economic growth is probably one of the most studied topics in modern economics, showing a vast range of approaches, models and conceptual frameworks. Whilst mainstream visions are mainly centered in the relations between natural endowments and factoral allocations given technologies and market structures, new perspectives tend to implement more comprehensive approximations<sup>1</sup>. In particular, within the growing neoschumpeterian and management related literature, one may find two path-breaking categories that claim to play a very important role in economic performance: the value chains (and its multiple levels such as local, regional and global), centered in client-suppliers productive relations and the innovation systems (also characterized by the presence of different levels, like the local and the national), in which a broader view (that includes the government and science and technology institutions) is presented.

On this regard, the local dimension of development acquired particular attention by hand of productivity related approaches (Kline and Moretti, 2013; Martinus, 2010) in which value chains and innovation systems play a major part. Both aspects can be interpreted as boosters (or restrictions, if inadequate) of productive activities, being able to generate virtuous dynamics in the economic system, improving capabilities and knowledge growth and setting a cumulative path of differentiation (Bell and Pavitt, 1997).

The integration of the value chains approach to the discussions on how to foster economic growth, local development and competitiveness is a relatively recent group of contributions (Porter, 1991; Gereffi et. al., 1994; Sturgeon, 2008) mainly driven by a microeconomic approach to the productive problems. Frameworks oriented to broader units of analysis that take into account aggregated dynamics, offer different directions in which theoretical and empirical contributions advanced, amongst them, the National Innovation System approach is one of the most relevant and diffused of the past decades. Inaugurated by Nelson (1993), Lundvall (1992) and fostered by OECD (1997), this approach has been recently interacting with the value chains perspective to explore several dimensions of developing economies integration into global production schemes.

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<sup>1</sup>Which, instead of be thought as substitutive approaches, are often combined, generating mixed conceptualizations and modeling.

In this sense, dialogs between these contributions is still in early stages, and the lack of a comprehensive framework is still a major challenge for economic researchers.

Tourism activities tend to be analyzed using a particular construction, based on conceptual configurations mainly oriented to the characterization of activities and to the measure of the gains of receiving tourism for an specific environment (Fayos-Solà, 2005). Local differentiation, in this sense, is one of the most relevant topics of discussion, as the attraction of demand is strongly linked to it (Tinsley and Lynch, 2008). From a productive perspective, however, one can find a gap between local development strategies to foster productive integration and the role tourism activities may play in economic growth.

There is a vast literature oriented to explore different strategies of local development in which Tourism activities were considered as a viable developing strategy in order to generate sustainable and genuine sources of growth (WTO, 1980). Destination opportunities can be characterized not only by its particular features in terms of natural endowments (such as the mountain, the sea, etc.) and the combination of products available at the location (Zabkar et. al., 2010) but also by the type of visitors it receives (Sharif and Mumukrishnan, 2015) and the strength of the linkages between the tourism offer with the rest of the economic system (Christian, 2011).

In order to analyze the engagement of an activity within an economy several frameworks can be taken into account, amongst them, we will underline the role of the value chain approach, as it serves to the purpose of a system-level perspective of economic activities. The term *value chain* has been used by Gereffi (1994) to refer to the group of activities that firms within a sector carry out to bring goods or services from its design and development to its use or consumption by the customer, including activities such as research and development, production, marketing, distribution and final consumer relationships. The contributions of Porter (1996, 2001, 1989) and Porter and Millar (1985) stressed the relevance of the interaction between agglomeration and productive relations to achieve competitive advantages, putting the focus on the relations between core activities (primary activities that define the business model) within sector and a set of support activities, consisting on environmental variables such as access to technology, human resources capacities and availability and procurement of infrastructure. The value chains approach emerges to analyze the interaction amongst these dimensions, opening a set of novel challenges on the economic development analysis. Recent approaches (Hjalager et. al, 2016) tend to take into account the complex relations in the value chain analysis, involving not only the profit driven dynamics, but also the social and contextual aspects, in particular if the main focus on the use of the concept is related to tourism studies.

**Table 2.** Categories and discussions on the literature: an overview.

Dimensions	Unit of Analysis / Focus / Issues	Core References
Competitiveness and Structural Competitiveness	Micro level: Firms, SMEs, Export-oriented firms technological capabilities	Porter, 1989 Porter and Ketels, 2003 Cooke and Schienstock, 2000
Value Chains	Meso level: firm-to-firm interactions technological linkages, networking and client-suppliers interactions Value networks Value Chains in Tourism	Gereffi et. al., 1994; Porter, 2001 Harland, 1996 Oliver and Webber (1982) Hjalager, Tervo-Kankare and Tuohino (2016)
National / Regional Innovation Systems	Meso level: Private-public-scientific interactions, business environment, knowledge sources; localized dynamics	Lundvall, 1992; Nelson, 1993;
Tourism as development strategy	Micro level: entrepreneurship, specialization of existent structure, efficiency gains Macro level: natural endowments Destination differentiation	WTO, 1980; Wu, 1982; Fayos-Sola, 2005; Stacey, 2015 Turner, 1976; Collins, 1999 Tinsley and Lynch, 2008
Local Development Localized Productivity	Meso/Macro level: localized dynamics Productivity within heterogeneous regions	Sarre, 1995 Kline and Moretti, 2013 Martinus, 2010 Bell and Pavitt, 1997
Mountain Tourism	Meso level: environment characterization and singularities	Gill and Williams, 1994 Muñoz Mazon et. al., 2012 Heberlein, Fredman and Vuorio, 2002 Nepal and Chipeniuk, 2005 Thiene and Scarpa, 2008 Bodega et. al., 2004

Source: Own elaboration.

Within the field of the economic development, traditional and modern approaches take in consideration a combination of the natural resources, local characteristics and sustainable use of the endowments of the economy as strategies for economic growth (OECD, 2013; UNEP, 2013). Under the idea that specific advantages inherent to regions are able to generate synergies and foster economic activities, these approaches were leading trends on the highlighting of particular conditions that a destination presents, interpreting it as a key asset for economic development (Mathieson and Wall, 1982; Collins, 1999).

### From Value Chains to Regional Systems Development

The value chain approach is a complementary perspective of that centered on the natural resources of a region. Whilst the latter put attention on the resource exploitation that may raise from economic activities, the first points out the types and nature of productive linkages needed to carry out an economic development strategy. The idea of local value chain is restricted within a geographic placement, limiting most of the value generation to an specific context

(Morris, 2001). A local chain is defined as “a sequence of target-oriented combinations of production factors that create a marketable product or service from its conception to the final consumption” (ILO, 2007), referring to the fact that value is added to intermediate products through the combination with other resources, passing through various stages of the chain, transforming product’s characteristics and increasing its value.

The value chain approach proposes an integral view of productive activities, focusing its attention on firm-to-firm interactions and their relation with the environment. The supply chain management represents a variety of meanings, some related to the microeconomic level, such as management processes, and others linked to structural views of the organization (Harland, 1996). A firm cannot be conceptualized as an isolated producer, as it is integrated in a vast supply-demand network in which it constitutes only a stage (Schumpeter, 1934), regardless the size of the firm. This fact stresses the potential benefits of a perspective able to integrate not only the internal business functions of manufacturing, but also those that involve other productive actors, such as purchases, sales and distribution (Oliver and Webber, 1982).

By the hand of the new communication and data processing technologies, which raised globally during the 90s, this new perspective became critical to the analysis of production environments and its development. According to Kaufman (1994), the supply chains management improvements actually tend to reduce the barriers and redundancies in the coordination, monitoring and controlling processes, being a novel manifestation of interaction for efficiency gains in production. In fact, important contributions (Li and Willey, 2002; Rullani and Zanfel, 1988, Antonelli, 1988) underline the importance of network structures behind the relations within and with other value chains, putting focus on the pertinency of a collective unit of analysis of these conglomerations. Value chains, by nature, are typically linked by a technological criteria, being determined by (multiple) connections “forward” and “backwards” the production stage (Bal-faqiha et. al., 2016).

As we already mentioned in our first lines, we claim that tourism activities are able to be analyzed from the value chains framework. The connections between different units of production in tourism show their own particularities, linking suppliers and clients beyond technological based relations: sectors and industries that have no common place from a technological point of view can be related each other through tourism (such as, for example, food supplies, pillows production and internet providers connected through hotels activities). This propose an important opportunity for development strategies, since tourism presents a new path of interaction for a myriad of sectors, allowing them to access new technologies, strategies and linkages.



Tourism involves several economic activities that takes place in a constrained territory , particularly related to the natural or cultural specificities of that area (Udovč and Perpar, 2007), allowing the possibility to generate development strategies and alternative paths for innovation, productivity and growth for a region. Tourism based development strategies face important restrictions in different fronts: the first and most important one is related to the sustainability of the destination (Sarre, 1995), specially due to the unplanned exploitation and use of natural resources (which is the key element of differentiation in these strategies); the second is related to the level of engagement that tourism activities has with the local economic system, such as services, suppliers and different types of production of the location; the third one, regarding the differentiation aspects, particularly important for those destinations based on natural characteristics that doesn't provide a distinctive historical or cultural assets to complement the attractions based on the landscape.

Despite the vision of tourism as an instrument of development, there has been multiple approaches that criticized tourism policies because of their focus on the promotional and entrepreneurial aspects of such activities (Fayos-Solá, 2005), instead of establishing methodologies, practices or integral strategies of integral development of emergent economies (Sarre, 1995). The value chains approach is able to go forward on these discussions, although there has been little interaction in order to build a systemic framework of analysis, this paper aims to contribute on this gap.

In general terms, there is a incipient but growing dialog between literature of tourism and the value chains approach (Christian et. al., 2011), usually centered on the possibilities of the destination to generate developing strategies based on natural and/or cultural attractions. The key issues on this dialog can be divided in several dimensions. The chain complexion is one of the most important, paying attention to the level of global/local engagement of the activities related to the tourism sector, its governance (Gereffi, 2005) and enforcement dynamics within the economic system, the organization of work-flows and knowledge dynamics to foster innovation of the tourism activities (Porter, 1985; Poon, 1993; Koutra, 2011) and the way in which the demand interacts with the value chain (Smith, 1988; Gössling et al., 2012).

Sector related research tend to focus on the tourism activities characteristics rather than in the analysis of the engagement of those in the economic system. This problem is very important since it underlines the pertinence of developing social and production networks to foster local development, exploring the phenomena beyond the last link of the production chain. Development policies require to assess these issues in order to achieve results that will allow a genuine source of job generation (Stacey, 2015), innovative behavior (Grissmann et al., 2013) and destination differentiation (Tinsley and Lynch, 2008).

In the literature there are few examples of a comprehensive and systematic approach to the local value chains concept related to tourism activities. What is known about this relation is largely based on the contribution of Christian's (2011) approach, although it focuses on the global aspect of the economic relations. The proposal developed in the next section intends to stress the importance of the local aspects in tourism based development strategies, to heighten economic synergies and interaction within the destination.

### **3.1 Singular Features in Mountain Areas**

Mountain areas development strategies deserves particular attention in this work. There has been a steady efforts towards increasing awareness around mountain issues (Nepal and Chipeniuk, 2005). In general, these areas involve specificities surrounding access, infrastructure and services quality, even in developed areas, which put a number of very singular challenges in the analysis of strategic development (Messerli and Ives 1997). These aspects are strongly related to the tourism activity and affect directly the visitor's experience and can affect the construction of virtuous value chains and productive interactions. Infrastructure and its complexities, however, constitute only one of many dimensions to consider in the development of such strategies, also very affected by competition of other mountain areas (substitution effects), institutional positioning and perspectives, technological capabilities and cultural values of the community.

The tourism industry has been constantly growing in mountain areas, and its becoming an important issue in development discussions. Among the driving forces of this phenomena one can identify the increased demand for recreational activities, from the demand side, and the need for infrastructure and job opportunities, from the supply. The positive economic effects of tourism in mountains can include a stimulus for industries and government (Frederick 1993; Shaw and Williams 1994) by putting in value areas that are not naturally benefit from their location and geographic characteristics (for instance, for the installation of manufacturing activities). Although tourism may be attractive as a means of economic development, it is known that its environmental impacts on fragile ecosystems are a matter of serious concern. These impacts have been studied extensively, and their destructive influences on the very qualities of the natural environment that attract tourists have been described (Hall and Page 1999).

Tourism in such areas is mainly composed of independent enterprises of small size, mostly linked to each other by symbiotic interdependencies (Aldrich, 1979) and small production cycles (Grandori, 1995) derived from the sharing of common context and a stationary demand. On this regard, natural resources and

human capital are critical, in particular in technological recognition, implementation and adoption. The lack of trained and qualified personnel is another characteristic of remote geographies in which mountain tourism take place, facing the need for interaction with organizations and key players on the region, to solve problems and improve their practices.

Linkages and foreign technological sources are a key feature to consider in a development oriented approach for mountain areas. The existence of interdependent resources is one of the major characteristics of these contexts, in which technology, human resources and infrastructure are difficult to obtain, maintain and retain. Operators, government and local firms are challenged to operate in a network scheme, otherwise they can compromise the possibility to access key assets for production (and promotion) within region.

Following Gill and Williams (1994), a variety of strategies can be implemented in order to foster productive dynamics and demand attraction in a network-type interaction. The first consists on the identification of the recreation opportunity spectrum (ROS), setting and offering guidelines for appropriate activities and quality visitor experiences. The second, is oriented to the contention of the impact that tourism activity may generate in the environment through visitor impact management strategies and the definitions of the acceptable changes that the region may suffer due to the tourism derived productive activities (not only associated with production, but also with services). The spectrum is central in order to identify opportunities and the latter to promote the mid-long term sustainability of the region and its sources of growth.

The role of the entrepreneurs, firms, government and science face the need to be inquired by a multidisciplinary, locally adjusted perspective of development. Culture, in this sense, is able to permeate and significantly influence entrepreneurial culture, promoting competitive advantages in human capital, but also some important disadvantages in terms of resilience to change in the implementation of organizational innovations (Bodega et. al., 2004). Local values in small communities in which we can identify traditions, habits, local pride, religion, etc. are a determinant of these conducts and might be considered in the planning of development strategies, specially in remote areas.

From an economic point of view, tourism areas in general tend to focus their policies, conglomerations and efforts in the differentiation of the destination. Differentiation opens the possibility to generate extraordinary rents derived from the exploitation of a -temporary- monopolistic condition (Schumpeter, 1947), fostering employment, growth and development. This acquires interesting features in mountain areas for two reasons: first, the natural condition of landscapes and geography tend to set up a particularly stable environment to exploit in a semi-exclusive way the extraordinary rents (shared amongst the lo-

cal community); second, in spite of the previous point, one can identify several aspects that put tourism in mountain areas in explicit competition, generating strong substitutability amongst destinations that are geographically proximal, transforming such differentiated destination in a commodity.

The substitution effect in mountain areas is a very important feature to consider (Thiene and Scarpa, 2008) because of its impact in local development and productive strategies (Rosemberg, 1988; Riaz and McAller, 2005). For instance, and to add clarity to this idea, consider two similar mountain areas in winter, one with snow and the other without it due to weather conditions, the substitution effect will operate in favor of the one snowed, regardless the particular strategies that the other region implemented to be different and particular. This tension that exists between differentiation and a substitution opens one of the critical debates on this topic. In order to mitigate such phenomena the differentiation strategies are strongly supported by innovative infrastructure and niche activities (Nepal and Chikeniuk, 2005) around services, products and activities offered by the region.

Niche activities can be though as a particular, *localized* manifestation of traditional but specific entertainments, such as rock climbing, mountaineering, trekking, glacier walking, ice climbing, mountain biking, amongst other possible recreations that are possible only in the mountains (Heberlein, Fredman and Vuorio, 2002). These activities has been largely exploited by tourism industry by introducing different types of innovations, and even generating new ones in the last decades. The appropriability (Harabi, 1995) of such novelties is limited due to fast dissemination in similar geographies and low barriers to access the content of new knowledge (its enough to have contact with the new activity to imitate it in a different context). The capacity of generating, in a recurrent manner, introduction of new products, services or processes can be constituted as a genuine dynamic strategy of differentiation. This path is, of course, strongly associated with the availability of human capital in the region (whether to create or to imitate foreign technologies) locking down one essential aspect of development ingrown in knowledge capacities and resources for create innovations.

Niches products and services represent one possible alternative to the substitutability phenomena, mitigating its effects and tending to stimulate differentiation in mountain regions. The ultimate problem for economic development, however, goes jointly with differentiation strategies, and has to do with the engagement of such niche activities in the local productive system. The existence of a source of differentiation can generates particular demand features, which trigger production. Whether this production is local or foreign crucially matters in a development strategy, since localized entrepreneurs and firms not only stimulate the creation of local jobs, but also -and more importantly- are a source

of cumulative dynamic capacities.

The engagement of productive activities in the local space can be analyzed using the concepts presented and discussed in the previous section. Combining different frameworks such as the value chains approximation and the neoschumpeterian perspective on productivity and innovation, and the particularities involved in deploying such ideas in tourism industry will be the center topic of the next section.

#### 4. Discussion, proposals and possible research directions

A distinctive feature of the conceptual analysis of value chains lies in the consideration of particular structures that serve to enhance or limit creation, diffusion and adoption of collective knowledge. The most important dimensions of such process can be systematized in different stages, oriented to differentiate activities that promote growth paths through differentiation strategies, offering a multi-pronged approach that pay attention to the collective interactions rather than focusing on individual, isolated outcomes.

The value chain development is strongly based on the simultaneous and coordinated efforts of the myriad of activities within it. In spite of price based competition strategy -that can be considered as an spurious source of competitiveness-perspective (Richardson, 1996), literature agrees that value chains are able to develop differentiation strategies to increase growth and stability of productive activities. A disadvantage of many cohort studies that focuses on price dynamics to promote competition is that the volatility of prices cannot be controlled by the production system, enabling the possibility of external shocks and higher economic vulnerability, that are able to be mitigated by a capacity based differentiation strategy.

A value chain fostering strategy is able to trigger several mechanisms of knowledge generation. The first and most important has to do with the morphology of the productive relations, affecting directly the input-output articulation in the economic system. The interaction of firms and the generation/strengthening of productive linkages multiplies the scope of the chain, increasing dramatically the possibility of generate virtuous knowledge flows amongst firms and institutions. The value chain mapping represents the very first, but crucially important, process of identifying stakeholders involved in taking a good or service from raw inputs to elaborated products, in order to be able to identify *what* the needs of the system are and *who* is able to assist, contribute and lead these vacancy areas. Figure 1 shows a scheme that summarize the mentioned processes.

**Figure 1.** Value Chains, Differentiation and Growth Dynamics.



*Source: Own Elaboration*

New knowledge is triggered by increased interaction dynamics, catalyzed by the use of additional sources derived from socialization processes, from which recombination proceedings take place. Exchanges of particular solutions for specific problems enhance the possibility to generate new knowledge and, additionally, escalates the interaction dynamics at the light of visible outcomes that are not conspicuous, regular responses, to such problems. The transformation of new knowledge in process and product innovations can be understood as an iterative trial and error sequence in which the expected outcome is a productivity boost due to efficiency or market share increase.

The differentiation processes within a value chain determine that the role dynamic factors (such as governance, institutions and inter-firm relationships) influence the location, development and competitiveness of the productive sector, implying a growth dynamic based on innovation. Local value chains, as was said before, are generally understood to refer to a closed system in which firms, institutions and economic actors are articulated in the generation of a set of product and services, mainly procured from and within that particular environment.

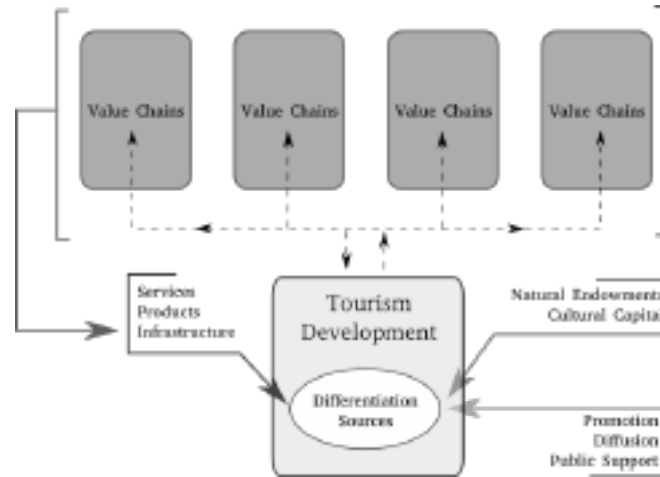
Figure 1 exhibit a cycle in which value chains fostering routines tend to promote differentiation dynamics through socialization, access to information and implementation of different pieces of knowledge, being able to generate differentiation of the chain and, hence, growth based on innovative practices. In this sense, value chains support and strengthening can be interpreted as a path towards virtuous economic and social development, specially due to the particular trajectory that generates cumulative capabilities and technological competition.

Tourism activities present a particularity on this matter. Different value chains usually conglomerates around a technological criteria, being the complementarity amongst products, services and goods the attractor of different sectors, activities and chains interactions. In the case of tourism, there is an specific feature that generates special interest in the characterization and analysis of value chains: the set of activities triggered by the tourism sector proposes a different, original conglomeration of productive links. In effect, the bonding of activities that, technologically speaking, wouldn't be connected *a priori* can be attributed to the role of the tourism sector, that functions as a hub of local value chains naturally unconnected.

The tourism sector has already been analyzed by the value chains perspective, particularly focusing on the global-level interactions (Christian et al., 2011; NDO, 2010; Canzanelli, 2001) of the productive agents, their relationships, the demand and the users, the services and activities offered in the destinations, and the enabling environment characteristics, amongst other dimensions. However, this approach, centered on the *local level* of the value chains has not previously been described. According to the proposed approach, the geographic circumscription of economic activities represent a crucial aspect of development, being the localized activities those which are able to generate quality jobs and to accumulate capacities over time in a certain destination.

The Tourism sector can be understood as a multi-dimensional connector of different value chains, as is presented in Figure 2. Several local and global value chains can interact around tourism activities, such as food, hospitality services, maintenance, furnitures, transport, etc., generating a particular ecosystem of firms and institutions that share the objective to address the needs (directly or indirectly) of the visitor in a destination. Value chains, as mentioned, interact along each other creating a set of relations that wouldn't occur without the presence of tourism development strategies.

**Figure 2.** Tourism Activities as a Value Chains Hub



Source: Own Elaboration

Differentiation in tourism sector is a complex challenge, whilst it involves not only the natural resources and endowments of the destination but also a number of cultural and productive related aspects. In effect, there are several fields in which attention should be put taking into account their critical effect on the destination quality (hence persistence of the demand to attend) and productive impact. The first one has to do with the cultural aspect, that can be put at the same level of importance as the destination environment, but with a greater *a priori* engagement with local infrastructure and traditional practices in terms of commerce and production.

The outcomes derived from tourism value chains interactions manifested in services, products and infrastructure (SPI) represent a particular gain for the territory: employment, capabilities and economic growth are triggered by these manifestation of the productive relations. The differentiation strategy based on natural resources, as it will be developed in next pages, is not enough to generate a sustainable and fruitful business conditions to allow economic development dynamics. In spite of the proposal based on this approach (Britton, 1982; Shaw and Williams, 1994), destination characteristics, natural/cultural uniqueness and geographical and weather related elements are strongly affected by substitution effects of regions with similar characteristics (i.e., The Alps and The Andes can be used as examples of this reasoning).

Thinking tourism as a hub of economic development demands the necessity of contemplate innovative behavior within the system. Innovative behavior constitutes the source of dynamic differentiation of an economic system, providing endogenous sources of growth over time. Given the existence of productive chains, solely related by their technological congruence, tourism offers a new



nature of sectoral and technological relationships that play the role of catalysts of virtuous services, products and infrastructure interactions. Existing value chains, linked in the destination to offer services and products to the visitor, can be recombined to generate niche activities of high value, creating knowledge exchange dynamics and problem solving interactions.

In order to make a point on this matter it is worth to recall the interesting discussion on the substitution effect and volatility in tourism destinations (Rosemberg, 1988; Riaz and McAller, 2005, Thiene and Scarpa, 2008). As said above, this issue not only concern mountain areas, but also takes place in different geographies, specially developed upon the natural endowments, landscape and particular weather conditions. Differentiation strategies based only on natural endowments are easily replaced under temporary disadvantages like bad weather conditions -storms, lack of snow, etc.- by other destinations free from restrictive conditions to the visitor.

As stressed in previous section, mountain destinations are particularly affected by this effect, since regions characterized by mountain chains usually present many alternative destinations available at a relatively low cost of transport, having similar offer in terms of the natural environment. This is clearly the case of the Alps, the Andes and the Himalayan chains, in which mountaineering, skiing, trekking and hiking are the most common activities. Particularly in these regions, the role of services, products and infrastructure represent the key elements to attract new visitors, in spite of potential unfavorable conditions. The differentiation of the destination stands equally important in these aspects, being the core of the dynamic differentiation both, the innovation system characteristics and the role that entrepreneurs and key actors play in the economic system.

The potential for tourism based on natural endowments, to function as an attractor for visitors led to extensive studies that stressed the importance of tourist experience in the area/locality (Chen and Chen, 2010), the quality of the services offered (Caro and Garcia, 2008) and the motivation of the visit to that particular destination(Devesa et al., 2010). These three expressions of tourism pull strategies can be separated in two groups: experiences and expectations. The first ones are strongly affected by the local capabilities and technological competencies, whilst the second is mainly fixed on the natural enviroment, being able to be promoted but not altered by an economic development strategy (besides its sustainability and perdurance).

According to this framework, the weaker the services, products and infrastructure offer in a destination, the higher will be the expectation of vulnerability and the influence of substitution effects, affecting directly on tourists' behavioural intentions, fidelity and persistence of the demand. The overall perception of a

destination can be influenced by policy-making, not only by the focusing on the selection process of the visitor (mechanisms and conducts, usually worked by the marketing and promotion of each destination), but also, and more importantly, by the tourist behavior and experience in general during the visiting (Bigne et al., 2001; Echtner and Ritchie, 1991).

The comprehension of demand profiles and tourist behavioral patterns in mountain regions is another important issue to develop in a deeper way within this framework. The relations identified above concerning the motivation of the tourist to visit a location but, dominantly, the experience of her in a particular mountain region can be stressed as another piece of the systemic view proposed in this work.

As so, the last element to present in our proposal is related to the characterization of the visitor's profile. Tourism development strategies based on destination's differentiation schemes strongly relies on the information regarding visitors characteristics. Behavioral characteristics of visitors and their economic impacts on local development showed to be strongly related to their expenditure patterns (Silberberg, 1995), their perception of satisfaction (Huh et al., 2006; Prayag et al, 2013) and to the activities they carry out on the destination.



Source: Own Elaboration

As is shown in Figure 3, demand profiling represents a crucial input for tourism development strategies. In this sense, creating and accessing information about the characteristics of the visitors regarding behavior during the season, consumption patterns and detail on the activities carried in the location serve as key guidance of potential system-level redesigns, interventions based on public support and redefinition of private incentives.

In an attempt to systematize a value chain approach applied to tourism activities, the role of demand identification and characterization can be determinant

since the differentiation strategies ought to be built upon the specific profiles of the actual demand that attends to the location (or that which is expected to attend). Promotion, diffusion and policy support of the tourism value chains may present a higher accuracy and efficiency if built upon concrete information derived from the demand profiling.

Differentiation strategies, in this sense, are closely linked to the efforts on the identification of visitors preferences and behavioral patterns. Both, the lack of particular SPI proposal based on the underlying demand perception -which entails the creation of new products and services- and the improvement of those SPI that are already existing -that results in efficiency gains- can be addressed by making use of specific information on the tourist profiling.

This experimental set up, strongly inspired by Christian (2011) introduce a number of novel elements previously disregarded by the literature. This system was chosen because it is a practical, feasible way to understand the system level interactions in the tourism industry. Far from give importance only to the portion of SPI that is strictly confined to the direct interaction with the visitor, this proposal comprehends elements that are behind the tourism noticeable commercial *apparatus*. The potential amount of engagement of different sectors and activities around the heterogeneous value chain driven by tourism denotes a particular opportunity to generate quality jobs, economic growth and social development.

## 5. Final Remarks

This work focused its attention on developing a conceptual approximation oriented to understand how tourism activities interact with value chains. Particularly, the proposal was centered on the idea that differentiation strategies based on value chains development are able to generate innovation and technological solutions in a region, enabling the emergence of new dynamic capabilities. These capabilities boosts destination attractiveness and efficiency of service, and can foster original infrastructure, services and products in a particular environment.

Tourism can be conceptualized as a technological hub, because it relates sectors and activities that are not expected to be technologically linked *per-se* (for instance, pillows, fishing and sport clothing manufacture). The role of this hub is to generate new interactions and combinations of products and services, proposing new challenges to producers from different sectors.

The importance to consider the elements exposed in this paper relays on the idea that local development strategies should take into account the complexity of interactions derived from tourism activities. Local value chains can be strongly linked to the destination development, fostering the generation of technological

capabilities and, hence, the allocation of highly skilled labor within the productive system. This concept rests upon the importance of the spillovers effects that the tourism sector is able to generate, which is rarely attained as a crucial dimension on the strategic design of local development, leaving an interesting opportunity to advance in the generation of alternative sources of sustained growth in remote destinations.

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