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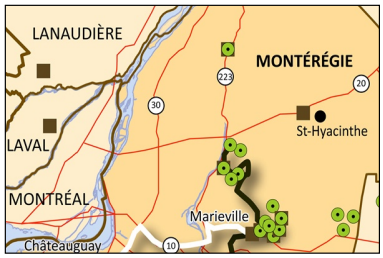

Image credit: Roche & Djaballah (Cloutier et al., 2016)

Innovation in Tourism

Welcome to the November issue of the *Technology Innovation Management Review*. We welcome your comments on the articles in this issue as well as suggestions for future article topics and issue themes.

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Chris McPhee

Overview

The *Technology Innovation Management Review* (TIM Review) provides insights about the issues and emerging trends relevant to launching and growing technology businesses. The TIM Review focuses on the theories, strategies, and tools that help small and large technology companies succeed.

Our readers are looking for practical ideas they can apply within their own organizations. The TIM Review brings together diverse viewpoints – from academics, entrepreneurs, companies of all sizes, the public sector, the community sector, and others – to bridge the gap between theory and practice. In particular, we focus on the topics of technology and global entrepreneurship in small and large companies.

We welcome input from readers into upcoming themes. Please visit timreview.ca to suggest themes and nominate authors and guest editors.

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Contribute to the TIM Review in the following ways:

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- Sponsor or advertise in the TIM Review.
- Tell a friend or colleague about the TIM Review.

Please contact the Editor if you have any questions or comments: timreview.ca/contact

About TIM

The TIM Review has international contributors and readers, and it is published in association with the Technology Innovation Management program (TIM; timprogram.ca), an international graduate program at Carleton University in Ottawa, Canada.

Editorial: Innovation in Tourism

Chris McPhee, Editor-in-Chief
David Guimont and Dominic Lapointe, Guest Editors

From the Editor-in-Chief

Welcome to the November 2016 issue of the *Technology Innovation Management Review*. This month's editorial theme is **Innovation in Tourism**, and I am pleased to introduce our guest editors, **David Guimont** and **Dominic Lapointe**. David Guimont is a Teacher-Researcher at the Cégep de Rivière-du-Loup in Quebec, Canada, where he is associated with the Living Lab in Open Innovation (LLio; llio.quebec). Dominic Lapointe is a Professor in the Department of Urban Studies and Tourism at the Université du Québec à Montréal (UQAM; uqam.ca). The vision for this special issue arose from the 2016 International Conference on Tourism (ICOT) Innovation Conference, which was held this past summer in Naples, Italy, in collaboration with the International Association for Tourism Policy (IATOUR; iatour.net), a non-profit organization dedicated to promoting scientific tourism research. At this event, the guest editors chaired a special session titled "Collaborative, Cooperative and Open: New Forms of Innovation and Partnership for Tourism", which featured early versions of some of the articles presented here.

The authors in this issue take us on a guided tour through interesting case studies at the intersection of tourism and technology innovation management. First, we travel along orchard-lined country roads following Quebec's Cider Route, where technology innovation may provide as much value in the mobile phones of visitors as it does to the stakeholders who are brought together through its role as a rejuvenating boundary object. Continuing our tour of rural Quebec, we see further examples of how technology is being used to enhance the sightseeing experiences of tourists, in this case also highlighting the importance of scale and territory when applying a living lab approach to tourism innovation. Next, travelling to an urban setting, we walk the tourist-filled cobblestone streets of Montreal to see how a city can be more than just a smart city, but can also be a smart destination for visitors – provided that the overlaps and unique aspects of these concepts (and among their stakeholders) are recognized. We also travel to Europe, first to the sheltered valleys of Western Switzerland, where we see how local actors have used crowdsourcing to attract stargazing visitors while co-creating shared value for local actors. In Spain, our final stop, we visit theme parks but must decide whether to wait in line or pay extra for a queue-jumping express pass put in place to segment and improve the customer experience. That is the brochure for the tour, but for a more detailed itinerary I encourage you to read the guest editors' introduction to the special issue, below.

In December, our theme is **Smart Cities and Regions** with guest editors **Taina Tukiainen**, **Seppo Leminen**, and **Mika Westerlund**. Then, we start 2017 by revisiting the popular theme of **Living Labs** in collaboration with the European Network of Living Labs (ENoLL; openlivinglabs.eu).

We welcome your submissions of articles on technology entrepreneurship, innovation management, and other topics relevant to launching and growing technology companies and solving practical problems in emerging domains. Please contact us (timreview.ca/contact) with potential article topics and submissions.

Chris McPhee
Editor-in-Chief

From the Guest Editors

Tourism is one of the largest industries in the global economic system, and its importance is growing. Indeed, since 2010, most industries have become accustomed to slow growth while the tourism industry records above-average growth, making it one the fastest growing industry worldwide. According to the United Nations World Tourism Organization (UNWTO, 2016), 2015 was a record-breaking year with 1.2 billion international tourist arrivals. Today, international tourism represent one tenth of the world economy and accounts for 1 out of every 11 jobs on the planet. Still, we find that there is not enough research on this industry compared to its economic and social importance.

Among the factors that support that important growth and the development of this industry is the opening of new destinations around the world, especially in developing countries. This new context increases the competition between destinations to attract new tourists

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onto the market, but also to retain existing visitors. The choices for visitors (customers) have never been as diverse and abundant as they are today. However, although those visitors are by definition highly mobile, the destinations are by definition not mobile. This situation pushes the destination to innovate to adapt to this competitive environment. Although innovation is seen as necessary to "survive", the structure of the industry impairs its capacity to innovate (Hjalager, 2002).

The tourism industry is complex and multi-dimensional; it involves a large diversity of stakeholders that offer a "basket of goods and services", meaning a combination of commercial and non-commercial goods and services that can only be consumed in the here and now of a visitor's experience during a trip. The major tourism companies (e.g., Disney World, the Hilton hotel chain) have strong innovation capabilities, the bundles of small and medium-sized enterprises (SMEs) that are the core of local destinations have greater difficulty innovating. The barriers to innovation faced by those businesses and the local destination management organizations are due to the difficulties in creating an innovation culture based on trust, the difficulties in protecting innovation from being copied, and high staff turnover, especially due to seasonality and a local culture of innovation management (Najda-Janoszka & Kopera, 2014).

The tourism industry is considered a pioneer in the use of information technology (Buhalis & Law 2008), even if innovation has not been widely discussed in the tourism literature (Halkier et al., 2013). Furthermore, new innovation paradigms are emerging and transforming existing innovation processes. Those new forms of innovation – such as open innovation, user-centric collaborative innovation, co-creation for innovation in services, living labs, smart destinations, and ICT-enabled innovation – offer different upsides and challenges. However, the tourism industry appears to struggle to integrate those new approaches (Najda-Janoszka and Kopera 2014), mainly because it lacks a culture of trust, it has difficulties coordinating very diverse types of businesses (e.g., lodging, entertainment, landscape planning), and it traditionally features centralized destination management and marketing activities. Indeed, these new forms of innovation call for a different type of partnership: a reconceptualization of the role of stakeholders in innovation processes and a renewed look at the innovation barriers and gateways. These concepts are the focus of this special issue.

In the first article, **Martin Cloutier** and **Laurent Renard** from the University of Quebec at Montreal (UQAM), Canada, **Sébastien Arcand** from HEC Montreal, and **Michael Laviolette** from the Toulouse Business School in France examine the collaboration undertaken to rejuvenate the Cider Route in Quebec, Canada. They use the concept of a boundary object through action design research to propose the creation of a mobile application. This form of innovation is designed to support the tourism experience but also to stimulate cooperation between the different groups of stakeholders. This collaboration aims at renewing the vision of the Cider Route and supporting its strategic planning.

In the second article, we discuss levels of innovation and geographic scales. We cross-examine those two concepts to analyze a living lab project aimed at fostering tourism innovation. This living lab is designed as an open innovation ecosystem but also acts as a socio-territorial model of development, thus stressing the importance of scale and territory to creates complex multi-faceted innovation processes.

Next, **Mohamed Reda Khomsi** from the Université du Québec à Montréal, Canada, examines the differences between the "smart city" and the "smart destination" and the omnipresence of tourism even when it is not the main innovative focus of the smart city. Sharing lessons from Montreal's implementation of its smart city plan, he also stresses that the creation of an organizational structure dedicated solely to the smart city helped to spawn initiatives within the innovation and entertainment sectors and promoted entrepreneurship through the linking of startups with funding bodies.

In the fourth article, **Vincent Grèzes**, **Béatrice Girod Lehmann**, **Marc Schnyder**, and **Antoine Perruchoud** from the University of Applied Sciences Western Switzerland in Sierre present a process of value co-creation in a peripheral region of Switzerland. The problem facing those communities is the declining value of tourism activities. Although innovation policies support strategic industries, no enticing measures are made to support co-creation through local stakeholders, which are the core of the tourism system in peripheral regions. They conclude that co-creation of value can differ from co-creation of shared value and that the latter helps in supporting the quality of the co-creation process.

Finally, **Gilda Hernandez-Maskivker** and **Gerard Ryan** from Rovira i Virgili University in Tarragona, Spain, look at how a problem in theme parks – long queues for attractions – became a source of revenue through an innovation called the priority system. Facing a lack of

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evidence from customers and managers regarding their attitudes toward priority systems, they surveyed 1000 customers and interviewed 10 managers to conclude that, if queues are hard to avoid, an innovative approach can transform the problem into a source of revenue.

Collectively, the contributions from the various authors highlight the importance of the context within which innovation happens. Indeed, tourism's basket of goods and services is highly context dependent, calling for innovation processes that take into account those contexts and the variety of stakeholders involved in those processes. From a touristic site (a theme park) to a metropolis (Montreal), within communities of tourism actors (living labs in rural Quebec) to an administrative region (Western Switzerland) but also within the construction of a tourism region around a production functional territorialization (the Cider Route alongside the cider production system in Quebec), processes are brought in action to stimulate and manage innovation. Those contributions offer a wider understanding of innovation processes, which is contextualized and moves beyond the dichotomies of market pull/push and technology pull/push to bring attention to stakeholders values, shared values, and tourism experience at the core of new innovation processes at play on different scales.

We hope you will enjoy this special issue and that the authors' insights will help inform your work.

David Guimont and Dominic Lapointe
Guest Editors

About the Editors

Chris McPhee is Editor-in-Chief of the *Technology Innovation Management Review*. He holds an MASc degree in Technology Innovation Management from Carleton University in Ottawa, Canada, and BScH and MSc degrees in Biology from Queen's University in Kingston, Canada. Chris has over 15 years of management, design, and content-development experience in Canada and Scotland, primarily in the science, health, and education sectors. As an advisor and editor, he helps entrepreneurs, executives, and researchers develop and express their ideas.

David Guimont is a Teacher-Researcher at the Cégep de Rivière-du-Loup in Quebec, Canada, where he is associated with the Recreation and Leadership Training Department and the Living Lab in Open Innovation (LLio). He holds a master's degree in Tourism Management and Development from the Université du Québec à Montréal (UQAM).

Dominic Lapointe is a Professor in the Department of Urban Studies and Tourism at the Université du Québec à Montréal (UQAM) in Canada, where he is the Director of the Tourism and Hospitality Management Undergraduate program. His research addresses development and environmental issues with the use of critical theory, especially in the fields of tourism, conservation, and the environment. He holds a doctoral degree in Regional Development from the Université du Québec à Rimouski (UQAR).

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Keywords: tourism, innovation, technology, smart cities, smart destinations, living labs, co-creation, crowdsourcing, boundary objects, action research

Rejuvenating the Cider Route in Quebec: An Action Design Research Approach to Stakeholder Collaboration and Innovation

L. Martin Cloutier, Laurent Renard,
Sébastien Arcand, and E. Michael Laviolette

> *"Our goals can only be reached through a vehicle of a plan, in which we must fervently believe, and upon which we must vigorously act. There is no other route to success."*
>
> Pablo Picasso (1881–1973)
> Artist, poet, and playwright

This article examines the problem of rejuvenating collaboration for innovation among cideries (cider producers) and the regional tourism association as the historical key stakeholders of the Cider Route of the Montérégie region in Quebec, Canada. The article reports on the initial steps of an action design research approach to support the stakeholders of the Cider Route in designing an innovative solution in response to numerous challenges they face, including a lack of new initiatives and steeply declining membership among cideries. The first step of the action design research was to define the problem: to renew the collaborative process among the Cider Route stakeholders by redefining the vision, mission, and strategy leading to an artifact proposal that could take the form of a mobile application. Thus, the notion of a boundary object is employed – in relation to the process of designing an information technology artifact in the form of a mobile application for the Cider Route – as a way to understand the need to collaborate to innovate in this context. The article also reports on the ongoing second step of the action design research process, which consists of supporting the collaborative process using group concept mapping. The group concept mapping method was suggested to guide and sustain the collaborative process over time because it is a participatory, bottom-up, mixed-methods approach to evaluation and planning. The group concept mapping, applied within the action design research approach, could be helpful in two ways: first, to define the rejuvenated vision, mission, and strategy for the Cider Route; second, to define the specific functionalities of the mobile application for the Cider Route.

Introduction

A substantial amount of research has been conducted on wine routes and oenotourism (Brunori & Rossi, 2000; Correia et al., 2004; Hashimoto & Telfer, 2008; López Guzmán et al., 2014; Rainer, 2016; Telfer, 2001). In particular, the strategic potential of theme trails and routes to contribute to the development of tourism and regions across the world has been widely investigated (Peris-Ortiz et al., 2016). However, there appears to be no prior research on cider routes in spite of the growing interest for cider transformation and consumption in Quebec and elsewhere (Jolicoeur, 2013). This article examines how an action design research approach to the design and development of the artifact proposal (a mobile application), to be considered as a boundary object, can help foster both collaboration and innovation among stakeholders of the Cider Route in Quebec, Canada (Box 1; Figure 1).

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Box 1. Quebec's Cider Route

The Cider Route (or *Route des cidres,* in French) is located in the Montérégie region of southwestern Quebec, Canada. The region takes its name from the isolated Monteregian Hills, which are situated between the Laurentian and Appalachian mountain ranges, and provide a scenic backdrop to the region's orchards and cideries. Nearly 1.5 million people live in the region's 11,000 km2 land area, which features a mix of urban and rural areas. Agriculture and tourism provide the foundation of the region's economy.

The "terroir" of the region is particularly well suited to growing apples, and cider production has long been a part of the region's history. The cideries usually consist of small cider houses, or mills, located alongside the apple orchards. The various cideries produce a wide variety of unique, craft apple ciders (including sweet, dry, still, and sparkling), ice ciders, and apple spirits.

The Cider Route was established in 1998 in the course of implementing the Montérégie region's agrotourism strategy, so that it could help fulfill stakeholder's joint region's mission and vision: attract and extend visitors' stays in the region, establish the brand recognition of the craft cider makers, and grow sales volume of cider in that nascent industry at the time. The exact route can vary depending on which cideries participate in a given year, but it is designed to take visitors through key scenic, historical, and culinary landmarks in the region as they travel from cidery to cidery.

Image credit: Tourisme Montérégie

Figure 1. A visitor's view of the scenic Cider Route

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For the tourism industry, a theme trail makes it possible to organize product offers around a path, a route, or a trail to ensure tourism development and hence the economic development of a given region. If we consider the desirable characteristics of an agrotourism route, it must be anchored in a given territory and it ought to allow visitors to follow a path so they can enjoy a worthwhile experience and journey (Dumoulin, 2003).

The attractiveness of a theme route is typically the result of individual and collective stakeholders' joint efforts. In the particular case examined here, these stakeholders include participating cideries and the regional tourism association (*Tourisme Montérégie;* tourisme-monteregie.qc.ca/en). For the Cider Route, individual and collective efforts are associated with: i) the definition of a portfolio of quality experiences at the cideries; ii) enjoyable scenery, service infrastructure, and road signs along the route; and iii) relevant and appropriate marketing and promotion. In other words, stakeholders must work hand in hand to ensure that the theme trail is a success (Brunori & Rossi, 2000).

Many researchers have emphasized the frequent lack of collaboration among stakeholders involved in agrotourism trails and routes; in fact, it appears to be a ubiquitous problem in these types of collective efforts that involve multiple stakeholders (Brás et al., 2010; Brunori & Rossi, 2000). This problem also appears to be severe given that it represents a major obstacle to the feasibility of actions proposed to enhance the desirable evolving features of theme trails in general. As will be detailed below in the article, the challenges facing the Cider Route in Quebec are quite typical of what has been highlighted in the literature on agrotourism trails. Indeed, the current situation regarding the relationship among the stakeholders of the Cider Route is such that the traditional joint initiative or annual event could not be held or undertaken over the past two seasons. As a result, the situation has turned into a vicious cycle for which the lack of dynamism has led to low levels of membership as to threaten the very existence of the Cider Route.

Hence, the fundamental question raised in this article is: How is it possible to ensure that a theme trail's stakeholders (e.g., the cider makers and the regional tourism association) can collaborate to innovate, given that they may not necessarily have the same underlying interests, and that they may hold contrasting business objectives, which translates into difficulties working together? As will be seen, there are indeed many issues hindering collaboration between the main stakeholders of the Cider Route. That lack of collaboration substantially limits the innovative capability of stakeholders to contribute to the Cider Route's much-needed rejuvenation.

To address the collaboration issue among the stakeholders of the Cider Route, we applied the design science research paradigm. This paradigm belongs to the science of the artificial (Avenier, 2010; Simon, 1996), and serves to achieve a double objective: i) establish a process for organizational innovation; and ii) allow knowledge creation (Gregor & Hevner, 2013). Within the design science paradigm, the action design research approach (Sein et al., 2011) was precisely employed to support the collaborative innovation effort work process of all stakeholders involved, and the creation of the artifact proposal (i.e., the mobile application). The artifact proposal emerges from the interaction within the organizational context at the onset of the action design approach guided by the researchers' intent. The action design research approach helps conceptualize the research process which contains the inseparable and inherently interwoven set of activities required to build an IT artifact, to intervene within the organization, and to evaluate it iteratively and synchronously within feedback loops.

The action design research approach was selected for the following reasons. First, it is a notion that is widely used in the information technology/information systems literature, and it seeks to be relevant to the stakeholders' needs by responding to contextualized problem imperatives defined in collaboration. Second, it strives to be rigorous in process and outcome by conceptualizing, developing, and evaluating both the intermediate non-IT and the ultimate IT artifacts designed to solve the problem at hand. An IT artifact is a bundle of "material and cultural properties packaged in some socially recognizable form such as hardware and/or software" (Orlikowski & Iacono, 2001). The reason for adopting the action design approach as presented in this article is also based on the notion that IT artifacts developed as part of an action design research process can play a prominent role in improving a tourism experience, especially when available as mobile applications (Neuhofer et al., 2015; Wang et al., 2012; Wang et al., 2016).

The scope of this article covers the realization of Step 1 (problem formulation), and proposes a methodological framework for Step 2 (building, intervention, and evaluation) of the overall action design approach. Given the

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diagnosis of the problem affecting the Cider Route, which we documented as part of Step 1 with the involvement of existing stakeholders, it became apparent that the design and development of a mobile application was crucial for the future of the Cider Route. In other words, the creation of a *virtual* Cider Route using an innovation, such as designing and building a mobile application, could lead to the long-term survival of the *actual* Cider Route!

Thus, the methodological framework proposed through Step 2 (building, intervention, and evaluation) is the essential contribution of this article, for four reasons. First, considering the design and development of a mobile application as a boundary object (Star & Griesemer, 1989) would entice stakeholders to innovate through collaboration (Worley et al., 2010). Second, the design and development of the application require the intermediate step of building a well-crafted mission, vision, and strategy. Third, a well-designed mobile application stemming from the Cider Route's mission, vision, and strategy would meet visitors' needs for a quality planning and guidance tool that would help them plan a visit to participating cideries. Fourth, this intervention process essentially provides occasions for joint actions and interactions that support routine development collaborations among stakeholders.

Thus far, no mobile application for the Cider Route exists, although similar mobile applications are available for cider and wine routes elsewhere, such as mobile applications for *La comarca de la sidra,* in Spain (tinyurl.com/gm268t8) and a geographic information system for Bordeaux wines, in France (tinyurl.com/jgph99s).

The remainder of the article is structured as follows. The next section focuses on describing the basic fundamentals of action design research: in particular, what it consists of and what steps are involved. Then, we report on the outcomes from Step 1 (problem formulation) and Step 2 (building, intervention, and evaluation). Our discussion then documents the process recommended to design the Cider Route's artifact proposal. Finally, we offer conclusions.

Action Design Research: Methodological Fundamentals

This section introduces the basic notions of design science research and justifies its relevance and relationship to the action design research approach. Then, it introduces and outlines the research steps suggested by the action design research approach. In addition, it introduces the notion of a boundary object more formally, in order to motivate the use of an action design research approach as a means to foster collaboration for innovation in the tourism industry.

Action design research: A primer

Many different design science research approaches and implementation steps have been proposed by various researchers (Hevner & Chatterjee, 2010; Johannesson & Perjons, 2014; Peffers et al., 2007; Takeda et al., 1990). They consist of a set of steps and guidelines to be followed, and they are typically articulated around problem definition, conception, artifact development, implementation, and evaluation in context. However, Sein and colleagues (2011) insist that all these alternative design science research approaches neglect the key element in the success of the process: the organization or context within which the intervention takes place. And, the joint action of all stakeholders involved in the process contributes in one way or another to the design, development, and evaluation of the artifact: this is a joint effort! Action design research is a significant improvement when the end goal of the intervention process is to help an organization. That is why design science research is helpful in these collective and participatory processes; the action design research approach involves "(1) addressing a problem situation encountered in a specific organizational setting by intervening and evaluating; and (2) constructing and evaluating an IT artifact that addresses the class of problems typified by the encountered situation" (Sein et al., 2011).

Relevance and rigour are both key tenets of design science research that must be applied to the design, development, and evaluation of IT artifacts. IT artifacts must provide a satisfactory answer to contextual problems, while simultaneously being based on recognized scientific knowledge, research methods, and techniques. IT artifacts as research outcomes are often considered to be final artifacts. As solutions to practical organizational problems, they can take the form of constructs, models, methods, and instantiations (March & Smith, 1995) or design theories (Gregor & Jones, 2007). Nevertheless, it is important to note that intermediate artifacts are often produced at the various research steps (van Aken, 2005), and they form an invaluable set of critical artifacts toward the end goal.

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Action design research: The steps

The action design research process is a four-step process: i) problem formulation; ii) building, intervening, and evaluating; iii) reflecting and learning; and iv) formalization of learning (Figure 2). Problem formulation is the first step and it ensures that the problem is defined and integrated within an organizational context based on an examination shared by the researchers and the stakeholders. The second step includes processes of building, intervening, and evaluating, which are executed iteratively and continuously as the IT artifact is designed, developed, integrated, and evaluated within the host organization. The third step involves reflecting on and learning from the previous two steps. The objective is to obtain a theoretical construction from the iterations conducted at the first and second steps and leading to the final IT artifact, in order to elicit conscious theoretical knowledge. The fourth step concerns the formalization of learning points and lessons learned throughout the research process. This final step strives to formalize the knowledge produced from the IT artifact that was generated and to develop it so that a solution or a process, as the case may be, can subsequently be applied to other classes of analogous problems.

For each step shown in Figure 2, it is most likely necessary to use specific methods to collect and analyze data to define the production and analysis framework that meets both internal and external validity criteria. Thus, work conducted using the action design research approach may be based on different data collection and analysis methods, on the one hand, and may also be based on a coherent epistemological paradigm with specific theories or notions, on the other hand. While recognizing that conceptual, theoretical, and empirical frameworks may differ between steps, it is important to retain methodological consistency within each step. As such, it is possible to design an action design research process composed of sub-research steps articulated around the four basic steps.

Non-IT and IT artifacts as boundary objects: Collaboration for innovation in tourism

Boundary objects (Star & Griesemer, 1989) support collaboration between different stakeholders, social worlds (Strauss, 1978), or communities of practice (Carlile, 2002). Boundary objects are translation processes that can ensure coordination, cohesion, and collaboration in groups. They help establish a "shared syntax or language for individuals to represent their knowledge" (Carlile, 2002). "An effective boundary object at a semantic boundary provides a concrete means for individuals to specify and learn about their differences and dependencies across a given boundary" and it "facilitates a process where individuals can jointly transform their knowledge" (Carlile, 2002).

Boundary objects are sufficiently flexible to adapt to the local, constraining needs of stakeholders who will be using them and to maintain a certain collective unity.

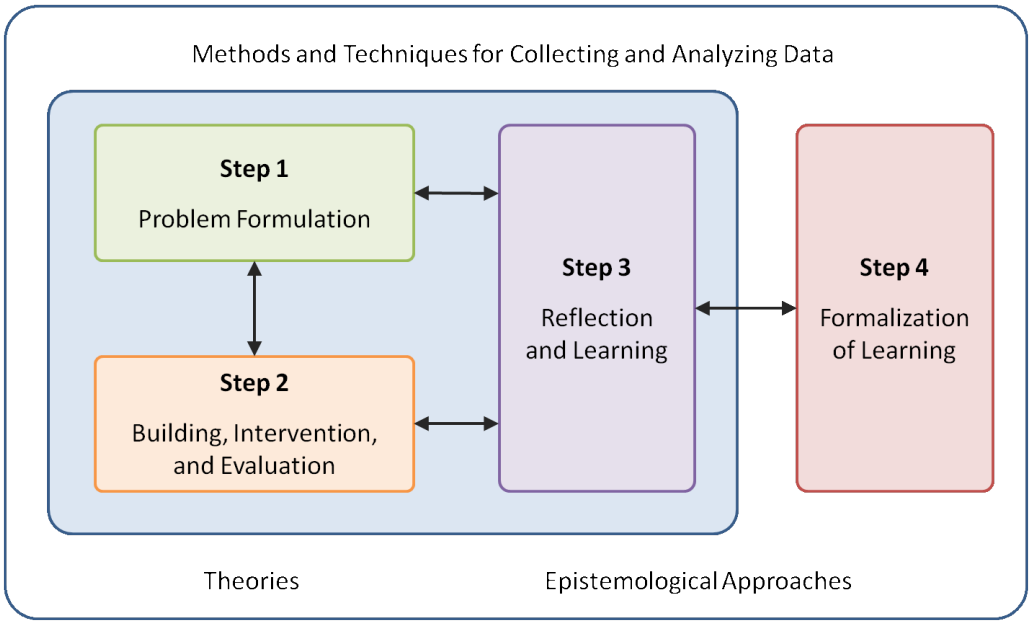

Figure 2. The action design research method framework (adapted from Sein et al., 2011)

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These objects can be artifacts in various forms: concrete, abstract, or both at the same time as on a continuum. "Their boundary nature is reflected by the fact that they are simultaneously concrete and abstract, specific and general, conventionalized and customized" (Star & Griesemer, 1989). Boundary objects have been examined in various contexts within different types of projects (Iorio & Taylor, 2014), such as in the study of virtual projects (Iorio & Taylor, 2014) and participatory IT process design (Rasmussen et al., 2013). Moreover, boundary objects can also exhibit specific properties such as being "conflict process mediators" (Iorio & Taylor, 2014). Boundary objects can be intermediary and final artifacts produced during or as an outcome of the research process. Moreover, considering intermediary or final artifacts as boundary objects consists of attributing them specific properties, as they were introduced above, because they are central to the collaborative process. They are boundary objects because they are both the process that initiates the collaboration and an output from it.

Step 1. Problem Formulation: Identifying Challenges Facing the Cider Route

This section includes three parts: first, the context of the Cider Route is briefly outlined; then, the evaluation process is described; finally, some key lessons or challenges are presented to justify the treatment of the IT artifact as a boundary object in order to foster collaboration among the stakeholders of the Cider Route.

Context of the Cider Route

As the map in Figure 3 shows, the distance from the southwestern to the northeastern section of the Montérégie region spans over 200 kilometres. The Cider Route itself follows about 120 kilometres of road from end to end. The Cider Route has never been a permanent geographic fixture; that is, its route tends to evolve and change based on the location of the cideries that participate in the regional tourism association's annual launch event. This changing nature can be seen in the two very different routes used in 2013 and 2016

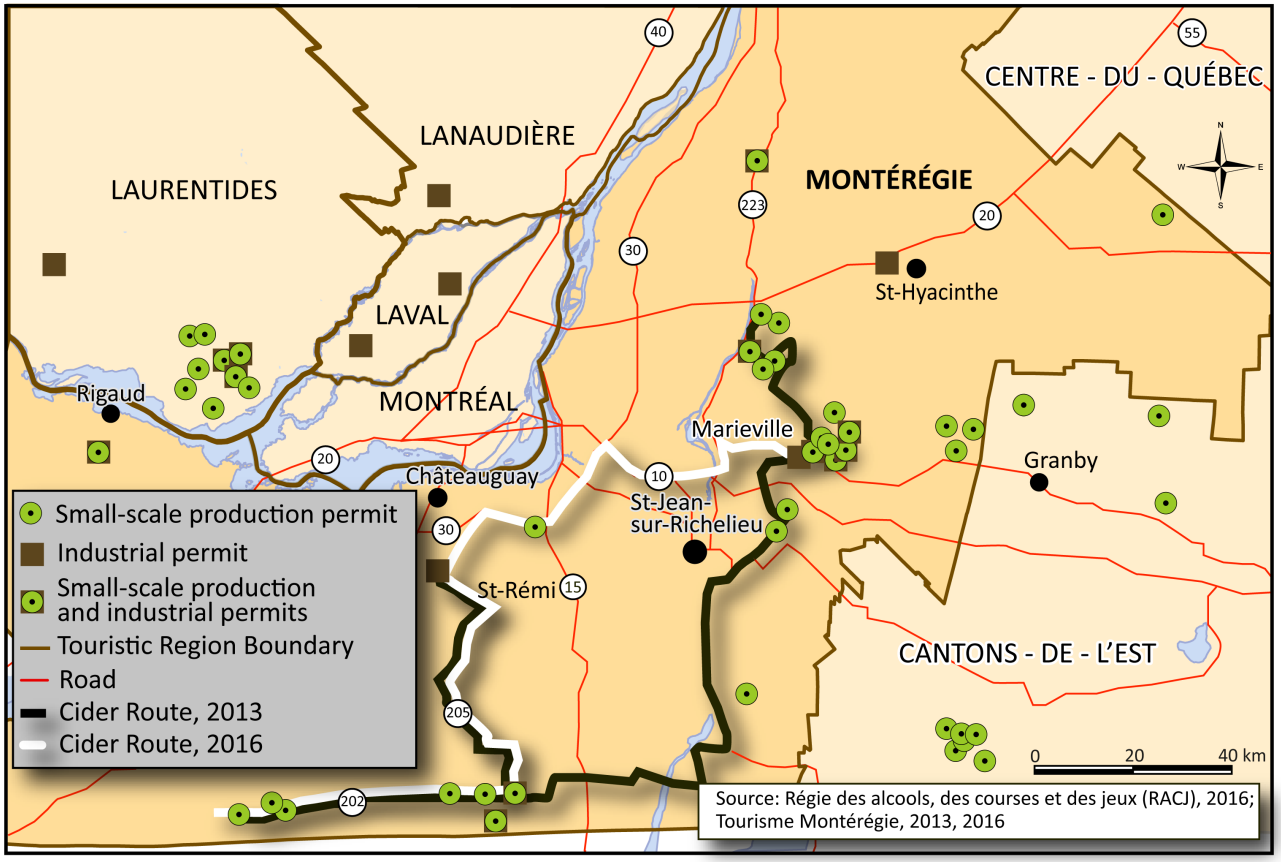

Figure 3. Map of the Cider Route showing the participating cideries and routes used in 2013 and 2016. (Cartography by Yann Roche and Mourad Djaballah, 2016)

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(Figure 3). Furthermore, one of the most important characteristics of the Cider Route is that it has never been integrated with the official road signage program for theme routes or trails established by Quebec's departments of Transport and Tourism because it does not meet certain criteria (e.g., the route overlaps with other officially recognized roads or trails or circuits, which is not allowed). For the cideries, the consequence is that the signs indicating their participation in the Cider Route can only be installed on their own property and not in the public space along the side of the road. Obviously, this restricts the visibility of the road signs, and hence of the Cider Route itself, quite substantially.

Methodological framework

As part of Step 1 in action design research – that is, addressing a problem situation – nine semi-directed interviews about 90 minutes long were conducted as part of a first round of interviews with stakeholders of the Cider Route (i.e., cider makers, representatives from the regional tourism association, and visitors). Secondary data were also collected (e.g., Cider Route roadmaps, web traffic data, debriefing memos of meetings held between the cider makers and the regional tourism association). The contents of the first round of interviews were analyzed using inductive inferencing. With a basic coding scheme, the information contents that emerged from that process provided materials to document the problem, that is: i) what the Cider Route is; ii) what the Cider Route does; and iii) what the Cider Route is becoming (based on the systemic framework of Le Moigne, 1994). The coding scheme based on these dimensions made it possible to reveal tensions between the stakeholders of the Cider Route and to suggest a diagnosis of the situation. The results obtained were presented and debriefed during a second round of three interviews with some of the stakeholders who had been interviewed in order to meet external validity criteria.

Key findings

The results of the work conducted with participating cideries and visitors of the Cider Route led to the conclusion that the Cider Route is faltering, as far as the cider makers' involvement is concerned, due to a decline in membership. Indeed, although the number of craft cideries with small-scale production permits in the region has grown, and they are operated by cider makers who are association members of The Artisans Cider Producers of Quebec (cidreduquebec.com/association-en.html), the number of Cider Route members has steadily declined over the past few years. Reasons cited include a perception of insufficient benefits from remaining a member of the route, the declining involvement of the regional tourism association in developing the route, and competing tourism alternatives for selling their products. The situation is such that many current stakeholders fear the Cider Route may be discontinued if membership dwindles to such a small number that there would be too few destinations to maintain a viable "route". However, both Cider Route members and representatives of the regional tourism association expressed a need to "shock the system" with a meaningful initiative in an effort to rejuvenate the Cider Route.

In addition, a few other challenges were identified. First, the Cider Route's governance should be reconsidered. The Cider Route is not owned by any of the stakeholders currently involved in its management – the cider makers and the regional tourism association – although it is jointly financed by both groups. However, a well-defined governance structure should clearly establish the leadership position and specify the roles and responsibilities of each stakeholder. Such changes would have a major impact on the capability-building process required to define a clear and coherent vision, mission, and strategy for the Cider Route.

Second, other Cider Route stakeholders, such as visitors, bloggers, sommeliers, tour organizers, and the like, have not historically taken part in the conversation between cider makers and the regional tourism association. It is vital to involve all potential stakeholders (including visitors, bloggers, sommeliers, and tour operators) in the process of defining a common product strategy to ensure proper project leadership and ownership (Smith et al., 2010). The process of defining a Cider Route vision, mission, and strategy would minimally include actions such as: i) mapping out the roles and responsibilities of all stakeholders; ii) identifying the actions of interest to be undertaken by all stakeholders; iii) conducting research work on the needs, expectations, values, and impact of all stakeholders; and iv) engaging all stakeholders in a process leading to a meaningful outcome (Smith et al., 2010).

Third, there is a challenge related to the lack of metrics about the Cider Route, such as: i) the number of visitors; ii) the experience or satisfaction of visitors; and iii) the Cider Route's economic impact on the region. For example, the visitor experience offered at the different cideries along the Cider Route has been described during interviews conducted with participants as "uneven", yet there are no metrics related to the measurement of the customer experience along the route. As a consequence, it is difficult to measure the economic impact of the Cider Route on the cideries,

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and more broadly on the region itself. As such, it becomes increasingly difficult to justify further investment without these metrics readily available to decision makers.

A fourth challenge relates to the uneven quality of existing artifacts for the Cider Route, including the design of websites for the cideries and the regional tourism association. The cideries websites are often criticized by visitors or tourists because of poor organization and a lack of practical information. The association's website is also problematic because it only includes a single map showing all the different trails and circuits that visitors can take in the entire region. For visitors interested in planning a journey focused on the Cider Route, the general map is more confusing than helpful.

Step 2. Artifact Building, Intervention, and Evaluation: A Mobile Application for the Cider Route

Following the dissemination of the results from Step 1, the regional tourism association has decided to take the lead in undertaking Step 2. Thus, Step 2 defines a currently ongoing process for the collaborative design and development of a mission, vision, and strategy aimed at developing tools for the Cider Route such as a mobile application.

This mobile application would help visitors plan a visit, choose a particular route, and participate in activities (e.g., interesting stops, main attractions, complementary activities, restaurants, and hotels) along the Cider Route using their mobile phones. For example, cideries could be geolocalized and a wide range of useful information about them could readily be made available (e.g., opening hours, tastings, types of ciders available for purchase, history of the location, complementary activities such as apple picking, and tours of the cider production unit) (Panahi et al., 2013).

It is also fundamental to consider that the conceptualization and development of a mobile application as a boundary object would allow stakeholders to collaborate as part of a coherent, cohesive group working together to meet a shared objective (Worley et al., 2010). When stakeholders engage in such a process, they are likely to produce different artifacts in the process, including intermediate, IT, and non-IT artifacts. These artifacts are means to engage, reinforce, enrich, and develop stakeholder collaboration in the design and development of the mobile application.

However, the design and development of a mobile application involve a set of steps that would mobilize diverse expertise, knowledge elicitation, and sensemaking techniques and methods, which could also include other types of boundary objects supporting the cognitive involvement of participating stakeholders (Healey et al., 2015). For example, Carlile (2002) states that, in the case of new product or process developments, categories of boundary objects include "repositories (i.e., cost databases, parts libraries, etc.)", "standardized forms and methods", "objects and models", and "maps of boundaries".

In addition, the initial step in the design and development process would be based on a vision, mission, and strategy that need to be determined to ensure the long-term sustainability of the collaborative effort to rejuvenate the Cider Route. To achieve this objective, the group concept mapping approach is being employed. Group concept mapping is a participatory, bottom-up, collective means of involving a group of participants in an evaluation or strategic process (Kane & Trochim, 2007). This approach makes use of the distributed knowledge (Rosas, 2016) of the participating stakeholders involved in the process, and has been used in various fields such as IT adoption and use, healthcare, and social program design (Cloutier & Spooner, 2016; Rosas & Kane, 2012). The group concept mapping approach is a mixed-methods approach that comprises six steps:

1. Preparation of the group concept mapping intervention with a steering committee

2. Idea generation about the vision, mission, and strategy during a group discussion leading to a list of action statements

3. Data structuring, which includes a contextual questionnaire to generate subgroup profiles, statement sorting to obtain a collective representation of individual representations, and statement rating on Likert-type scales to obtain perception measures (e.g., on the relative importance and feasibility of the action statements)

4. Concept mapping analysis (i.e., spatial and visual result preparation using concept map generation (i.e., multidimensional scaling analysis) (Kruskal & Wish, 1978) and agglomerative hierarchical cluster analysis (i.e., Ward algorithm) (Everitt et al., 2011), and the production of matching patterns and strategic "go zones" for results visualization. This step should also include the production of an anchoring and bridging

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index for the assessment of sorting consensus measures among participants, as well as internal reliability measures from the data.

5. Results appropriation by the group as part of a debriefing discussion. If conducted appropriately, this step could also contribute to the evaluation of the results' external validity.

6. Knowledge mobilization, uptake, and use

To sum up, the group concept mapping process begins within a collaborative group setting using qualitative data and information and also ends in a collaborative group setting. It produces the required qualitative and quantitative results and a clear renewed mission, vision, and strategy of the process moving forward.

Finally, the mobile application would help meet the needs of the Cider Route visitors. The stakeholders would have a tool that would help satisfy their needs for visit planning along the Cider Route by providing quality information on participating cideries. The mobile application also offers a "work around" for the Cider Route's ineligibility for the government program of signage for tourism theme trails and circuits. Although it will not have physical signs along the main route, visitors will instead benefit from enhanced virtual information. For example, the geolocalization of the cideries enables visitors to receive suggestions of specific itineraries linking them to one another.

Moreover, for the cideries participating in the Cider Route, the trips taken by visitors could be recorded by the application along with their assessment of their visits to the various sites. This will in return generate useful data to understand visitors' various needs and behaviours, which could be used to improve the proposed experience offerings and the customer experience at the cideries and on the Cider Route more generally. The functionalities of the mobile application would also be defined by conducting a second group concept mapping process, following the steps described above. However, this process would be strictly oriented toward the stakeholders' needs related to development of the mobile application, which could be integrated into the logic model.

For the Cider Route, this process would help define and fulfill the required vision, mission, and strategy. More concretely, the group concept mapping process produces a non-technological intermediate artifact, or a group representation, that is a concept map of its "internal model" or cognitive system (Trochim & Cabrera, 2005). This artifact can be restructured as a logic model for strategy design implementation with well-defined inputs, activities, outputs, outcomes, and impacts (markers for assessment) (Kagan et al., 2009; Yampolskaya et al., 2004).

Conclusion

One of the specific contributions of this article is to resolve a collaborative issue and build the capability to innovate among a group of stakeholders to rejuvenate the Cider Route. The action design research process enables the use of boundary objects as a means to induce collaboration among Cider Route stakeholders. Indeed, the work to be accomplished to create the Cider Route mobile application provides an ideal framework for redefining the route's mission, vision, and strategy using a bottom-up approach that will be integrative and create value for the stakeholders.

The lack of collaboration observed among stakeholders of the Cider Route in Quebec is not unique. For example, previous works have identified widespread collaboration issues in wine-related trails (Brás et al., 2010; Brunori & Rossi, 2000). Aside from holding promise for addressing the collaboration challenges along the Cider Route, the action design research approach suggested in this article could be applied to other contexts in agrotourism, in particular, and in tourism more generally, by stimulating and supporting collective innovation processes.

As Step 2 of the research approaches its completion, it is also important to look ahead to Steps 3 and 4 of the action design research process. In Step 3 (reflecting and learning), the stakeholder group should think about and document the path they took to rejuvenate the Cider Route. This debriefing process would have important implications for the stakeholders in developing a sustainable way to maintain their collaboration and to capitalize on their achievement, thereby providing a means to respond to future needs and ongoing involvement. It would be important to list key success factors that would allow them to leverage the organizational learning points generated as part of the debriefing process. In Step 4 (formalization of learning), researchers need to identify the key success factors to mobilizing stakeholders in the collaborative process. Theoretical propositions could be generalized or adapted more formally as to address analogous situations for resolving widespread problems associated with collaborations in agrotourism trails.

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Empowering Local Tourism Providers to Innovate through a Living Lab Process: Does Scale Matter?

David Guimont and Dominic Lapointe

> *"Why don't we scale up those things that do work?"*
>
> Tavis Smiley
> Broadcaster, author, and entrepreneur

A destination management organization looking to integrate technology into its tourism offering tasked a living lab with engaging tourists and tourism providers in the process. At the end of the two-year initial funding period for an action research project, the process is a success and stakeholders are engaged in the innovation ecosystem. But what is next? By observing participants and gathering feedback from stakeholders through a Policy Delphi panel, the outcomes of the project and the intentions and actions of the tourism providers and other parties were identified. Innovation capacity has increased: spin-offs were created and stakeholders have embraced open and collaborative innovation. Now, stakeholders are determined to make the process sustainable by finding other funding sources. But what should be the level of cooperation and intervention? What level can best foster innovation and knowledge retention? A case study combining a grid of characteristics and levels of analysis for living labs was used to identify one key question: for a living lab in tourism, does scale matter? This article will explore that question and will contribute to the understanding of the living lab as a model of socio-territorial action.

Introduction

To grow and develop, businesses must innovate (Schumpeter, 1934). The tourism industry is no different: it needs to innovate so that businesses and destinations can evolve and stand out. Because of its fragmented and multi-stakeholder nature, the tourism industry is particularly well suited to open and collaborative innovation (Egger et al., 2016). Some believe that the competitiveness of destinations is determined by their capacity to reinvent themselves by offering new products and services that recombine the partnerships between the various elements of the territory's tourism offering (Pikkemaat & Weiermair, 2011). Although destinations struggle to innovate (Najda-Janoszka & Kopera, 2014), opening up the innovation process by engaging stakeholders in a living lab project could stimulate innovation (Lapointe & Guimont, 2015).

Open innovation is about increasing and improving collaboration with an ecosystem's stakeholders and engaging users in the co-creation process. The living lab approach aims to promote and structure stakeholder collaboration, and its key feature is that users become fully fledged stakeholders in the co-creation process and are involved from the very beginning, in a real-life environment. Through living labs, "tourist service providers will obtain insight into what tourists actually want and will have an opportunity to improve and develop new services targeted to different customer segments"
(Pucihar et al., 2014). Such insight (from the living lab) could not only enable identification of new markets, but also spur innovation, development, and product improvement (Buhalis & Amaranggana, 2014) through more frequent interactions among stakeholders in a partnership. With interactions between users (tourists) and providers of technology and tourist services being a key catalyst for innovation (Hjalager, 2002), living lab could create increased collaboration opportunities through a common platform where stakeholders would share, discuss, assess, and design various solutions

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(Pucihar et al., 2014). In addition, living labs have the potential to become innovation facilitators (Lapointe & Guimont, 2015; Schuurman et al., 2013) and thus create what destination management organizations are struggling to build: an environment that promotes co-operation among tourism industry stakeholders to enable innovation (Najda-Janoszka, 2013).

The living lab under consideration in this article deals with a geography-based activity: tourism. A living lab is not only an innovation process (Bergvall-Kåreborn & Ståhlbröst, 2009); it is also a physical space, a place where innovation happens, a territorial development tool (Lafontaine & Gallant, 2013), and a form of socio-territorial action (Doyon et al., 2015).

Living labs often use a territory as a focus for development or innovation. However, few researchers have examined the matter of selecting a scale for intervention, although some authors have defined scales of concertation and intervention (Bergvall-Kåreborn et al., 2015; Doyon et al., 2015; Franz et al., 2015,). When living labs deal with strongly territorial industries, such as tourism (Lapointe et al., 2015) and agriculture, the need to reflect on scales and levels of action emerges.

To advance reflection on these matters, we used the three-levels grid of analysis proposed by Schuurman and colleagues (2015) to describe the case of a tourism industry living lab (Lapointe et al., 2015). We are attempting to highlight how the framework applies to the reality of the pilot project in order to identify gaps, particularities, and similarities that could provide insight into the scaling and sustainability of the implemented innovation ecosystem.

The article is structured as follows. First, we will review the literature on living labs and levels of innovation. Then, we will apply the three-level framework to an action research project in living lab mode with the tourism industry. Finally, we will discuss the relevance of combining levels of innovation process with socio-territorial geographic scales.

Literature Review

With the living lab approach, users must be at the centre of research or innovation efforts. Instead of attempting to understand users through studies, some organizations now prefer to directly involve users in their actual innovation process (Westerlund & Leminen, 2011). This co-creation approach stimulates innovation and delivers a number of benefits: better grasp of consumers' latent needs, lower risk of failure in product and service design, shorter lead times for new products and services, and higher profits (Westerlund & Leminen, 2011).

Living labs usually include the following features and principles (Bergvall-Kåreborn et al., 2009):

- a technology infrastructure
- an ecosystem of stakeholders who can interact to develop and assess products, services, processes, or systems
- an innovation process that is as open as possible (e.g., regarding intellectual property and types of partnership)
- users playing a key role as co-creators of the products, services, and technologies being developed
- a human-centric design approach that involves ethnographic observation, empathy, and rapid prototyping
- sustained and meaningful interaction and community involvement
- consideration of users' natural environments

Living labs also provide "physical regions or virtual realities in which stakeholders form public–private–people partnerships (PPPP) of firms, public agencies, universities, institutes, and users all collaborating for creation, prototyping, validating, and testing of new technologies, services, products, and systems in real-life contexts" (Westerlund & Leminen, 2011).

According to Schuurman and colleagues (2015), the living lab approach combines practices from both the open innovation and user innovation paradigms: "Open Innovation can be used to study the knowledge transfers on the constellation level, whereas User Innovation can provide insights into user contribution and user involvement methods." This observation stems from the three-level model proposed by the same authors: open innovation happens at the macro level (the living lab constellation) and user innovation happens at the micro level (user contribution and engagement methods), while the living lab project (innovation project) is between the two, at the meso level.

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With their three-level model (Table 1), they propose the following definition (Schuurman et al., 2015):

> *"Living Labs are an approach to innovation consisting of three separate, but interrelated levels of analysis. On the macro level, Living Labs are a Public-Private-People partnership organized to exchange knowledge and conduct innovation projects. We regard these Living Lab innovation projects, that are characterized by active user involvement, co-creation, multi-method and multi-stakeholder, as the meso level. These projects consist of different research steps that are aimed at generating user input and contribution to the innovation process, which we consider to be the micro level."*

This article will apply this three-level model to analyze a living lab project in the tourism sector, which is not technology intensive. We will combine this model with the territorial scales (macro, meso, and micro) to describe and understand how innovation level and territorial scales can be combined in a socio-territorial model of action.

We will use this grid to characterize the ongoing living lab project and to explore possible options for sustainable engagement. However, these levels refer to the processes implemented to stimulate innovation, not to geographic scales. Nevertheless, when the innovation process is integrated into an economic sector that is deeply rooted in a given territory, reflections on the correspondence between innovation levels and geographic scales can be fruitful.

Living labs and territoriality

In a paper demonstrating the transferability of the living lab approach as a model of socio-territorial action, Franz and colleagues (2015) argue that "living labs have the potential to be an instrument for the active inclusion of citizens in urban research projects investigating socio-spatial questions." They use the term "space of encounter" to describe the space where citizens converge naturally, and where the living lab is moved to take this natural tendency into account. They discuss spaces of encounter (meso level) as well as the time and nature of encounters (micro level).

According to Leminen, DeFillippi, and Westerlund (2015), who identified paradoxical tensions in the living lab approach, larger scales are better because they maximize stakeholder diversity and knowledge retention, and because larger user pools are easier to segment.

Table 1. Levels of analysis for living labs (Schuurman, 2015; Schuurman et al., 2015)

Levels	Description
Macro	Living lab constellation (ecosystem, public–private–people partnership)
Meso	Living lab innovation project
Micro	Living lab methodological research steps

However, local needs and contexts should be taken into account. These authors believe that combining several local contexts into a broader ecosystem is beneficial.

To integrate living lab characteristics into a territorial conception of innovation, we can say that a living lab is both an approach and a milieu/environment (Bergvall-Kåreborn et al., 2009), where the milieu is a continuum between the macro level (constellation) and the micro level (methodological research steps). This continuum of physical, social, and virtual spaces enables governance, concertation, and knowledge retention (at the macro level) as well as interventions, user involvement, co-creation, experimentation, and evaluation (at the meso and micro levels). In cases with a territorial dimension, such as the tourism industry, living labs would feature relatively broad concertation and cooperation territories roughly following official administrative space. It also encompasses, at a lower geographic scale, spaces of encounter and intervention (e.g., space of encounter, virtual community, real-life context) where people are in close physical or virtual proximity. These spaces following social and lived spaces at meso and micro geographic scales.

Methodology

We conducted action research to document the iterative co-creation process behind the design of a technology-enhanced tourist experience, which was conceptualized according to the needs and actions of tourists discovering a new destination. The living lab is used as "an approach to support and implement processes of open innovation in the context of academy-society collaboration projects" (Levén & Holmström, 2008). The role of lead researchers is to oversee the living lab process, prepare co-creation workshops, and facilitate co-creation both in situ and online. They lead the "experimentation" component. They describe how innovation capability is growing, and the drivers and

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barriers at play. The collaborating researchers support the co-creation process, deliver specific workshops on technology and the tourist experience, and help to document and characterize the growth in innovation capability. It is done using case study methodology (Yin, 2011).

In this case study, we captured user feedback iteratively and sometimes led to modifications of the processes. There were multiple opportunities for feedback and evaluation by users: before, during, and after activities; during workshops; and during field testing. Our action research in a living lab context relied on an adaptation of the FormIT approach (Bergvall-Kåreborn et al., 2009). The role of the lead researcher was to oversee the process, prepare co-creation workshops, and facilitate co-creation both in situ and online.

Two sources of data were used to describe the case and analyze the innovation processes. The first source was all the documents and notes produced by the partners involved in the process, which includes text data from a tourist panel and from an in situ observation of tourists using the innovations. The second source of data was a Policy Delphi (Linstone & Turoff, 2002) exercise run through 10 stakeholders involved in the process.

Case Study – When Technology Meets Territory: Co-Creation of a Technology-Enhanced Tourist Experience

Through this article, we continue our analysis of an innovation project in a living lab setting that included a higher-education institution, a destination management organization, a technology developer, tourism providers, and tourists. The destination management organization for Rivière-du-Loup in Quebec, Canada, wanted to improve tourists' sightseeing experience using technology. Its intention was to produce podcasts. The local higher-education and research institution, the Cégep de Rivière-du-Loup (cegeprdl.ca), offered support for living lab projects, and the destination management organization tasked the institution with bringing together all stakeholders listed above and launching an action research project. The intention of the project was then transformed by the stakeholders into getting creative distance by introducing the users' inputs into the project of co-creating a technology-enhanced tourist experience in a living lab setting (Guimont & Lapointe, 2015) for the discovery of the rural areas of the county.

The two-year project involved a community of tourism providers and tourists and used a combination of virtual and in situ collaborative processes to conceptualize, prototype, and test the tourist experience. The project provided an opportunity to achieve co-creation in a living lab setting. A mobile application (ICI Rivière-du-Loup) was conceptualized and prototyped during the first year of the project, and was tested and refined during the second year.

In terms of living lab characteristics, the project is a small, but typical living lab. The following subsections describe the levels of analysis.

Macro level: Living lab constellation

The macro level is where stakeholders in the innovation ecosystem come together and discuss the planning and governance of the area or industry where user-driven innovation is needed. The macro level is the group of stakeholders that choose the specific living lab projects to be conducted. It is where knowledge and expertise accumulate. In the ongoing project under consideration, the macro and meso levels overlap to form a single level, as is often the case in less mature living lab structures that work on a single project. Indeed, in this action research project, the governance, and the planning are done by the same key stakeholders who are leading the co-creation process at the meso level. These stakeholders include a technology provider, a destination management organization, and the local higher-education and research institution, which is also a living lab called LLio: *Living lab en innovation ouverte* (Living Lab in Open Innovation; llio.quebec).

For the moment, the research question of the living lab constellation (macro) is the research question of the living lab project (meso): *How can we create a technology-enhanced tourist experience – and how can we integrate this approach at the destination level?*

The macro level, based on the model by Schuurman and colleagues (2015), could improve transfer and retention of the knowledge accumulated through living lab projects (meso level). In the case under consideration, training could be offered to stakeholders outside the living lab project. Tools and documents could be circulated, and documents could be shared in a monitoring and curation context. In the three-level model, the macro level (the living lab constellation) is viewed as a structure that can accommodate various projects. Accordingly, the "co-creating a technology-enhanced

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tourist experience" project would be the first project, and others could follow, either in the same community or in a different territory or subindustry within the living lab constellation.

Even though the macro and meso levels overlap in the current living lab structure by having the same key stakeholders, some impacts at the macro level can be identified:

- increased strategic thinking/tourist intelligence (appropriation of the Destination 2.0 concept, which refers to the technological participation of the tourist destination in creating, marketing, and commenting on the destination and the tourist experience principles)
- greater capacity for innovation among tourism providers (Lapointe et al., 2015)
- knowledge retention (collaborative methods, tourist experience and co-creation concepts, and technology concepts and prototypes)
- transfer of knowledge and know-how to members of the destination management organization through technology demonstrations, document circulation, and training on technology, tourism, co-creation of tourist experiences and Destination 2.0
- identification of opportunities (e.g., technology-enhanced tourist experience concepts that the destination's stakeholders can experiment with)
- identification of research funding opportunities where the living lab engagement space becomes a forum for a national-scope project (e.g., climate change)

In the two rounds of the Policy Delphi exercise, all 10 participants rated the integration of all elements of the Destination 2.0 model (Neuhofer et al., 2014) into the destination strategy as very important or important. They identified the living lab as an enabler, but they also pinpointed the importance of extending their new capacities to the whole destination.

Meso level: Living lab innovation project
The meso level guides the innovation project conducted using a living lab approach. In the case under consideration, the meso level is the steering committee made up of representatives from three stakeholders (the teaching and research institution/living lab, the technology provider, and the destination management organization). The committee plans the key project stages and approves inputs and outputs at each stage. The lead researcher plans individual workshops in more detail. So far, the living lab project (meso level) has enabled the development of two mobile apps, has improved innovation capacity, and has provided a physical and virtual space for engagement and co-creation.

Micro level: Living lab methodologies
The micro level focuses on the timing and content of co-creation meetings and user interactions. At this level, through various in situ and online workshops and through observation, tourists' needs and expectations are identified and concepts are co-created, co-developed, and eventually tested by users in the field. These various types of interactions take place in spaces of encounter and interaction. In the living lab project under consideration, the following spaces were used:

- a collaborative space at the local college (used by the LLio living lab) for co-creation workshops and training sessions
- a tourist information centre and museum institution for field observations
- a secret Facebook group, SurveyMonkey, Google Drive, and a website for data collection and interactions

Discussion

In the project under consideration, the meso and macro levels overlap. In a more mature living lab structure, the meso level would likely be associated with a specific innovation project like the ongoing one, while the macro level – within a broader territory or industry – could supervise multiple innovation projects and optimize knowledge retention and transfer. The meso level would provide a reusable but adaptable template that could be applied to various individual cases and subterritories across the living lab constellation.

The starting point for the innovation project is local (a county), and so is the project's scale, with the local destination management organization, the regional higher-education institution, and a local technology provider. This is a meso scale of intervention. All tourism providers were also local. The tourist community was made up of people (users) from within and outside the region. Assuming that the research question and the living lab structure were applied at the macro level in order for

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the living lab to mature and to consolidate its operations, what would be the appropriate scale? Local, regional, supra-regional, national, or industry-wide ?

Although Schuurman and colleagues (2015) argue that knowledge and expertise retention happens at the macro level, and while Leminen and colleagues (2015) suggest that a very broad user pool increases opportunities for innovation, applying the macro level to a strongly territorial industry such as tourism raises the following question: What is the appropriate scale of intervention? Perhaps the overlapping in our case is due not only to the living lab's low maturity level, but also to the context, given that tourism practices are deeply rooted in a physical and social space. Nevertheless, the macro level could become more relevant by breaking away from the meso level and focusing on the micro level.

Accordingly, if the living lab structure were to be applied at a broader macro level, conditions for success would need to be reproduced at the micro level: spaces of encounter for co-creation and training, real-life user observation and engagement contexts, and a technology infostructure (information technology structure) to engage users remotely. Most expertise developed through the living lab project was at the micro level. However, the omnipresence of living lab coordination at all three levels of the current project raises the thorny question of transfer between levels. Such transfer needs to involve a wide range of stakeholders at the micro and meso levels while maintaining a measure of consistency at the macro level. In the current project, transfer happened organically, with stakeholders at the micro level appropriating techniques and processes in order to apply them to other projects they are involved in at the meso level. However, the ecosystem's low maturity level and the territorial specificities of the tourism industry prevent us from determining whether the macro level encompasses all projects that benefit from the spread of living lab processes.

We therefore believe that the question of territories and scales is extremely relevant when considering living lab interventions in a regional development context, especially in strongly territorial industries such as tourism. Although there is overlap in our case, such overlap does not hinder reflection. However, it is necessary to combine innovation process levels, geographic scales, and living lab characteristics to arrive at a descriptive grid that can guide reflection on both innovation and scales for a sustainable living lab process, eventually leading to the institutionalization of the living lab process at the appropriate territorial scale.

An institutionalization territory (Lévesque & Vaillancourt, 1998) is a territory where a body of social relationships can be maintained over time; it remains sustainable while continuing to evolve. The diversity of interventions and types of living labs calls for formal institutionalization levels that can promote sustainability of the relationships created by living labs. Table 2 summarizes the links between innovation process levels, territory levels, and living lab characteristics.

Table 2. Links between levels and characteristics of living labs

	Innovation Process Levels	Territory Levels	Living Lab Characteristics
Macro	Living lab constellation	Concertation / governance	• Ecosystems approach • Real-world context • Technical infrastructure • Lifespan • Scale • Level of openness
Meso	Living lab project	Intervention / steering	• Technical infrastructure • Community • Level of openness
Micro	Living lab methodologies	Socialization / encounter	• Real-world context • User role • Level of openness • Evaluation, context research, and co-creation

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Conclusion

By applying the three-level living lab analysis model to our tourism living lab project, we observed that the current project's micro level matches the micro level described in the literature. However, the current project merges the macro and meso levels into a single level, with no hierarchical or territorial distinctions. Returning to Schuurman and colleagues (2015), we can state that the two levels of innovation, macro and meso, are led by the same stakeholders in different processes but sometimes at the same time, with the territorial scale being the same: the scale of the local county. We also found that a broader scale at the macro level might be preferable, although the low maturity of the living lab under consideration makes it hard for us to determine whether the ideal scale would be regional, supra-regional, or national. These results raised questions about the appropriate territorial scale for ensuring sustainability and efficiency in a living lab. The overlapping of the macro and meso level raised issues of diversity in terms of the different points of view "at the table" but also in terms of the diversity of territorial governance at play in the project.

Living labs are not working in a neutral deterritorialized context; they work on a territorial context at a scale or another. Our analysis of the action research shows that, as a territorial model of action, the living lab acts at different territorial scales. We therefore proposed a descriptive grid that merges the levels of the innovation process with the scales of the territory associated with the living lab's areas of intervention. Future research will be required to test this grid and to probe deeper into the relationships between innovation, living labs, territories, and territorial industries involved in living labs.

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Keywords: living labs, tourism, destination management, innovation, scale, level, territoriality, socio-territorial action, action research

The Smart City Ecosystem as an Innovation Model: Lessons from Montreal

Mohamed Reda Khomsi

> *"Montreal is a marvelous city. A large beautiful city. We need to say it. We need to show it."*
>
> Dennis Martinez
> Professional baseball player
> Montreal Expos (1986–1993)

Innovations are not confined to new technologies designed to improve the manufacturing processes of a product or the provision of a service. In a context of postmodernity, the new innovation paradigm calls on organizations to choose the best innovation strategies for their broader purposes. Today, such strategies usually involve adopting organizational structures that enable better collaboration with the stakeholders of an ecosystem. This article focuses on the smart city of Montreal – selected as the 2016 Intelligent Community of the Year by the Intelligent Community Forum – as a model of innovation. The aim is to understand the distinction between "the smart city" and "the smart destination", despite the omnipresence of tourism projects in smart city development plans. Among the key lessons are the importance of engaging tourism stakeholders and the role of a dedicated organization to develop and implement the city's unique vision.

Introduction

Since the early 2000s, many cities around the world have undertaken initiatives to position themselves as "smart cities". Indeed, in the era of globalization and postmodernism, the smart city concept is well recognized as a means to increase the attractiveness of cities and the quality of life of citizens (Boes et al., 2015). In their efforts to engage in this initiative, cities generally seek to promote a dynamic of innovation that drives the development of products and the delivery of services through technology. However – and this comprises the main idea of this article – what is also needed are efforts to change organizational structures so as to create a culture of innovation among the various stakeholders. Indeed, some researchers consider the emergence of innovation to be highly dependent on the type of organizational dynamics at play (Enz & Siguaw, 2003; Jones, 1996).

It appears, then, that the main challenge for smart cities today is to develop and implement models of collaboration between the different stakeholders. This challenge involves mediating between many actors, including those who are in competition against each other, in order to arrive at an organizational culture that represents the common interest as much as possible. This challenge also calls on the stakeholders of a smart city to think of new ways of collaborating.

In Canada, Montreal's smart city ecosystem is an example of innovation in collaboration and cooperation. In 2014, the city launched its Smart and Digital City Office (*Bureau de la ville intelligente et numérique;* villeintelligente.montreal.ca/en), whose mandate is to oversee Montreal's 2015–2017 Smart and Digital City Action Plan, which was developed following consultations with various stakeholders (among them public organizations), the private sector, and citizens. However, at the midpoint in the implementation of this plan, despite the omnipresence of tourism projects in Montreal's smart city project, few tourism stakeholders are engaged in the initiative. Thus, there is not necessarily an overlap or alignment between the "smart city" and the "smart destination". A smart city is "a well-defined geographical area, in which high technologies such as ICT, logistic, energy production, and so on, cooperate to create benefits for citizens in terms of well-being, inclusion and participation, environmental quality, intelligent development" (Dameri, 2013). In contrast, the smart destination is one that uses technology to

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guarantee sustainable development of the tourist area and to improve the experience quality of visitor (Lopez de Avila, 2015). With the smart destination approach, stakeholders work together, through a integrated platform for example, to create and facilitate a real-time tourism experience (Buhalis & Amaranggana, 2014). However, in Montreal, tourism is considered as an economic activity like any other, due to which it is not considered to warrant its own sub-ecosystem. Thus, there is cause for reflection about how Montreal's current smart cities ecosystem may be improved.

To this end, this article pursues two objectives. First, it seeks to explain how a collaborative structure between the various stakeholders in Montreal's smart city project can, itself, become a source of innovation, given the services it might offer or its way of utilizing resources and tools. Second, the article seeks to show that the smart city concept is not necessarily interchangeable with the smart destinations concept, insofar as the intrinsic characteristics of their respective target populations, being the citizens and the tourists, are different.

The article is structured as follows. We begin by portraying the smart city ecosystem as an innovation model applied to the tourism context. Using an exploratory methodology, this perspective forms the basis for an analysis of the profiles of the stakeholders involved in the smart city project and their roles and missions. We then discuss the types of governance model and collaboration that could be envisaged between these stakeholders. Finally, we offer concluding thoughts and highlight the key lessons learned from the case.

Innovation in Tourism: The Smart City Ecosystem as an Innovation Model

Although the tourism sector has been a pioneer in the integration of new technologies, which were later adopted by other service spheres, the topic of innovation in tourism has received little research attention (Halkier et al., 2013). A literature review on tourism and innovation conducted by Hjalager (2010) demonstrated that research on the subject is still in its infancy. Nadja-Janoszka and Kopera (2013) likewise highlight, through the study of barriers to innovation in tourism, that knowledge on the subject is still fragmentary and that many issues are investigated in an exploratory manner only, including the topic of the role of institutions in innovation. However, it is this dimension – concerning the structures of collaboration among the different stakeholders (Hjalager, 2010) – that ultimately determines the effectiveness and efficiency of innovation processes (Lapointe et al., 2015). According to Nadja-Janoskza and Kopera (2013), this lack of collaboration can be attributed to several factors including: the weak culture of innovation among tourism stakeholders, the high turnover of staff, poor change management, poor knowledge of information technology, and, last but not least, the small size of most tourism businesses.

The importance of the institutional dimension also results from the fact that tourism innovation requires the involvement of all stakeholders in the development process, particularly between the traditional players and new players, as emphasized by Aldebert, Dang, and Longhi (2010). According to these authors, the diffusion of innovation in tourism is complex given the heterogeneity of stakeholders, who must find ways of collaborating that take into account their differences. This requirement becomes even more critical when the stakeholders are concurrently engaged in an international innovation project in which collaborative arrangements must reflect variables such as the cultural dimension or the public policies of each participating country (Williams & Show, 2011). In this context, several modes of collaboration between stakeholders have been proposed by researchers, among them Lapointe, Guimont, and Sévigny (2015), who point to a living lab as an effective way to bring together stakeholders around a common project with a view to achieving a common goal.

In the same vein, the smart cities ecosystem is also a good example of a mode of innovation through collaboration and adaptation of organizational structures at the city scale. Indeed, the institutional dimension is even a cornerstone in definitions proposed for the smart city concept. Nam and Prado (2011), for example, consider the smart city to revolve around three dimensions – technological, human, and institutional – and posit that innovation is crucial in particular for the institutional dimension. According to Komninos (2002), the smart city requires the implementation of good practices in a given territory with the aim of stimulating innovation, learning, and knowledge transfer between stakeholders. In the same vein, Glaeser and Berry (2006) and Nam and Prado (2011) believe that the dynamics of smart city projects can stimulate creativity, innovation, and knowledge development. For other scholars, such as Dameri (2013) and Lamfus and Alzua-Sorzabal (2013), a model of partnership between the stakeholders is, itself, one form of innovation in the smart city context. These authors argue that the new

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economy requires the stakeholders of a smart city to review their practices and partnership models. In tourism, such a model is even more important considering the number of players in this sector. In order to add value for users, citizens, and visitors, all tourism stakeholders should therefore be part of the ecosystem (Lamfus et al., 2013). To achieve its objectives, the smart city needs to implement an organizational structure for optimizing the use of data and to support the creation of a favourable context for tourism stakeholders.

The Montreal Smart City Ecosystem

Before embarking on its own smart city project, Montreal conducted a comparative analysis of seven other smart cities around the world (Arlington, Barcelona, Columbus, Eindhoven, Lyon, New York, and Toronto) in order to identify best practices in smart cities (BVIN, 2015). After this exercise, the committee in charge of this analysis identified six key areas that were to form the strategic framework for the Montreal smart city project: urban mobility, direct services to citizens, living environment, democracy, sustainable development, and economic development. The strategic framework was first presented at several public consultations attended by 203 people in total. At the end of this process, 70 projects were selected from five focus areas for the Montreal Smart and Digital City Action Plan developed for the years 2015–2017 (BVIN, 2015).

Although no one industry sector was prioritized, the projects thus far implemented as part of the 2015–2017 Action Plan have had a direct effect on the city's visitors and therefore on the city's tourism sector. One example is the project of deploying Wi-Fi terminals in the tourism district of Old Montreal. The project goal is to enhance the experience of citizens and visitors in order to boost tourism activity and accelerate the economic development of Montreal. The project will, in turn, allow the city to realize a larger app-based project called *Montréal en histoire,* which offers a trip back in time through 60 points of interest in augmented reality. The project will feature images of prominent figures who have contributed to the history of Montreal to be projected on the walls, ground, and vegetation in Old Montreal and to be accompanied with an audible soundtrack through the app. This app was also an important selling point for Montreal's selection as the 2016 Intelligent Community of the Year by the Intelligent Community Forum (ICF, 2016). The ICF is a nonprofit organization based in New York that studies the development of cities in the 21st century. Mainly centered on research, conferences, consulting services, educational services, and an annual competition, it identifies best practices in the development of smart cities (Mathys, 2016).

The international recognition of Montreal as a smart city model is also attributed to its unique and innovative ecosystem in which citizens are given the opportunity to participate. Indeed, whether through social networks, digital platforms or citizen forums, such as *Je vois Montréal* – a platform of dynamic tools to help citizens mobilize and collaborate to make Montreal an inspiring city – citizens do contribute very actively to the process. As described below, the Montreal ecosystem is built around the three dimensions: governance, districts, and entrepreneurship.

1. *Governance:* The Smart and Digital City Office, dedicated to Montreal's smart city, promotes a coherent development strategy and consistency of actions taken by the various stakeholders. At the administrative level, this separate administrative structure within the municipal bureaucracy is also one where decisions can be made relatively fast and with a certain degree of fluidity. Since its inception, the Office has been dedicated to making Montreal a world leader in the field by 2017 – the year when Montreal celebrates its 375th anniversary (BVIN, 2015).

2. *Districts:* Montreal is known for its theme-based city districts that position themselves as incubators of innovation. Among these are the *Quartier de l'innovation* (innovation district) (quartierinnovationmontreal.com) and the *Quartier des spectacles* (entertainment district). The innovation district is a living laboratory created in 2013 by three Montreal universities (McGill University, *École de technologie supérieure,* and Concordia University) and is a showcase of innovation, research, training, and entrepreneurship. A few months after its launch, the three universities that initiated the project created an organization that manages the initiatives generated within the district. The board of directors of this organization is composed of business people who add real value to the district, either through project financing or property management in partnership with other public or private partners. For managers of the district, the mission of the project boils down to three goals (QI, 2015): to attract more technological, social, and cultural companies; to foster the development of innovative initiatives; and to promote innovation with the targeted implementation of activities. From 2014 to 2015 alone, the

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innovation district saw the establishment of offices by several technology companies, including Google, with the district's companies also receiving investments of more than $46 million during that same time period (QI, 2015).

The *Quartier des spectacles* (entertainment district) (quartierdesspectacles.com) is a hub of cultural creation and entertainment that has more than 30 theatres; three squares dedicated to festivals and cultural events; and a number of larger buildings such as the Montreal Symphony House, the *Théâtre du Nouveau Monde,* and several luxury hotels – all within one square kilometre. In all, the entertainment district presents a diverse offering of over 100 shows every month, thereby contributing to the economic development of the metropolis and its international profile. At the organizational level, a non-profit organization called the Quartier des Spectacles Partnership was created in 2003 to coordinate the actions of the various players operating in this district. Eventually, and after the initial development work and obtaining site recognition from the public actors, this organization has seen its mission expand to include the coordination and management of the three squares, which are now considered tourism destinations.

3. *Entrepreneurship:* The dynamism of Montreal with regard to creativity, innovation, and an environment conducive to entrepreneurship allowed the city to attract several technology companies that make up the backbone of its smart city concept. Here, InnoCité (innocitemtl.ca), which is the first accelerator program in Canada focused on the smart city concept, has been instrumental in sponsoring projects that promise to bring an added value to the city. InnoCité mentors investment funds and employers with a view to providing comprehensive support to project leaders. In addition to InnoCité, the city can count on the contribution of the four universities on its territory, each of which has a mentoring program for a living lab and a structured business start-up support service.

Discussion and Conclusion

Despite the ubiquitousness of the tourism dimension in Montreal's smart city project, the city's tourism stakeholders are hardly engaged in the effort of turning the city into a true smart destination. For example, although Montreal's tourism bureau (*Tourisme Montréal;* tourisme-montreal.org) was, in 2009, among the first destination management organizations in North America to invest 100% of its promotional budget into its online presence (Ciotola, 2010), it was not directly involved in consultations aimed at developing an action plan for the smart city. Moreover, aware of the smart destination trend, Tourisme Montréal did take the initiative to redesign its digital infrastructure with the aim to, through the use of big data, find out more about the area's visitors. However, despite this project, commenced a long time before the founding of the Smart and Digital City Office, Montreal's tourism bureau has only a minor role in defining the new vision of the city. Thus, the tourism governance structure in Montreal is not in step with the shift undertaken by the city.

That said, this situation is not unique to Montreal. According to Giffinger and Gudrun (2010), Cohen (2011), Cocchia (2014), and Galoul (2015), the relationship between the concept of a smart city and that of a smart destination is blurred. In general, the scientific literature makes no distinction between the two, such that a smart destination is by default integrated in the smart city concept. However, as pointed out by Buhalis and Amaranggana (2014) and Boes, Buhalis, and Inversini (2015), technologies used in a smart destination are fundamentally different from those used in a smart city. For example, the authors state that tourists use technology before, during, and after a trip, whereas the technology implemented in a smart city revolves around its use within the city.

In addition to the technological dimension, we believe that the difference between the smart city and smart destination manifests on at least two levels. First, in the case of tourists visiting a destination for a limited time, temporal and informational needs play an important role. They want to enjoy themselves during their stay and need an application that can help them optimize the little time they have. The second difference is related to space. Indeed, the tourist visiting a destination for the first time does not have the same spatial references as a resident with regard to the use of the territory. In an urban setting, the tourist is often confined to a limited area. In Montreal for instance, as in many large cities, the main tourist attractions are concentrated in the downtown area (Pilette & Kadri 2005), where traffic is very dense. In this context, tourists' informational needs are high because they need to learn about places to visit, travel options, costs, and access times. By contrast, the needs and expectations of residents living in the city on a longer-term basis are much lower in this regard.

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In the case of Montreal, tourism stakeholders would do well to become more involved in the ecosystem of the smart city, or even to create their own system that would reflect the needs of visitors, as these often differ from those of residents. However, overall, and in comparison with other Canadian cities, Montreal's ecosystem can be described as innovative. For example, the creation of an organizational structure dedicated solely to the smart city helped to spawn initiatives within the innovation and entertainment districts and promoted entrepreneurship by linking up startups with funding bodies. Moreover, Montreal's Smart and Digital City Office also gives it an advantage over other cities in Quebec such as Quebec City and Sherbrooke. In the case of Sherbrooke, the municipal administration launched the smart city initiative in 2012 with the goal to create a dynamic partnership and to mobilize local stakeholders around a common vision (CEFRIO, 2012). These efforts have resulted in the establishment of a round table for Sherbrooke's smart and innovative city. However, the absence of a specific organization dedicated for developing the smart city project has resulted in postponement of the implementation of the smart city policy until 2017.

Finally, the case study of Montreal teaches us at least two key lessons. First, the existence of an entity dedicated to developing the vision of the smart city is a powerful accelerator for projects that may be proposed by the various stakeholders of the ecosystem. The dedicated structure helps coordinate the activities of different players and ensures that these projects fit in with the vision of the smart city. Second, despite the innovative nature of the Montreal smart city ecosystem, the connection with the vision for Montreal as a smart destination is not automatic. For others wishing to improve tourism experiences, this case reinforced the importance of engaging tourism stakeholders given that the needed tools, developed as part of the smart city, are promoted outside traditional tourism distribution channels.

About the Author

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A Process for Co-Creating Shared Value with the Crowd: Tourism Case Studies from a Regional Innovation System in Western Switzerland

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> *"Life can be much broader, once you discover one simple fact, and that is that everything around you that you call life was made up by people that were no smarter than you. And you can change it, you can influence it, you can build your own things that other people can use."*
>
> Steve Jobs (1955–2011)
> Entrepreneur, inventor, and industrial designer

Despite the presence of a regional innovation system, the gross value added attributed to tourism in the Swiss region of Valais is declining. Innovation policies fostering private initiatives and collaboration between companies, researchers, and coaching services have been reinforced recently, and policy instruments are in place to support strategic industries. However, no incitement instrument is dedicated to supporting the co-creation and the creation of shared value through local actors. This article presents a co-creation process of shared value and the lessons learned while implementing a new mode of innovation and entrepreneurship in two case studies in the peripheral region of Valais, Switzerland. The aim of the process is the co-creation of shared value-based business models, with an emphasis on the use of crowdsourcing to find new ways to create shared value.

Introduction

Tourism generates almost 11% of the gross value added of the canton of Valais, Switzerland, and almost 20% of the workplaces of the region in 2014. However, the tourism economy in the region of Valais faces a series of challenges such as aging infrastructure, the emergence of new competing tourism destinations, changes in customer behaviour and in the legal framework, and the high value of the Swiss franc. In 2014, the region welcomed almost 22 million visitors, who spent around 3.4 million Swiss francs; but this represents a decline of 4 million visitors from the level seen in 2000 (OVT, 2016). Hence, the tourism economy must now assert itself in a highly competitive international market. The small and medium-sized enterprises (SMEs) from Valais must therefore find innovative development approaches and new ideas that will be useful to not only tourism businesses and clients, but the local population as well.

Despite the presence of universities of applied sciences, a SWOT analysis of the French speaking part of Switzerland (Western Switzerland) realized by the Conference of the Heads of Department of Public Economy in the field of innovation policies for the period 2012–2015, revealed gaps in SMEs' cooperation with schools and research institutes, as well as in the innovation process of the region's firms. The analysis concluded that, despite the improvement of coaching services and technology accessibility through the regional innovation system, the innovation intensity declined in the region (CDEP-SO, 2015). Hence, the current interregional program aims to improve and to foster synergies and the convergence of actual innovation services. This program, promoting a regional innovation system that is able to reinforce the relations between firms, scientists, and institutions, aims to finance and to initiate accompanying innovative projects using sectorial (e.g., ICT, cleantech) and thematic approaches with the Innotour

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policy, which is dedicated to tourism. According to the broader New Regional Policy, the Swiss regional innovation systems refer to functional economic spaces, benefiting from the triple helix essential to the innovation process (firms, universities, and institutions) (CDEP-SO, 2015). But, except for the Innotour policy supporting cooperation actions such as bundling products, no incitement instrument is dedicated to fostering touristic activities using a tourism clustering approach, such as fostering the interconnections between companies and institutions involved in tourism activities, including suppliers, services, governments, higher-education institutions, and competitors (Capone, 2004).

This approach relies, however, on a new paradigm described by Porter and Kramer (2011) through the concept of creating shared value, which expresses that "societal needs, not just conventional economic needs, define markets, and social harms can create internal costs for firms". As formulated by Alia (2011), the argument of Milton Friedman expressing that "What is good for business is good for society" can be now reworded according to Porter's theory of creating shared value to "What is good for society is good for business". Indeed Porter and Kramer (2011) present three different levels of action enabling companies to create shared value: i) at the enterprise level, in the design of products and markets; ii) in terms of economic sectors, in defining (and redefining) productivity in the value chain; and iii) at the level of the interaction of companies with their environment (including research institutes), allowing the formation of clusters at local level. Moreover, Kramer and Pfitzer (2016) assert that "companies must sometimes team up with governments, NGOs, and even rivals to capture the economic benefits of social progress". Indeed, clusters constitute strategic regional resources in order to support innovation and to transform it into regional development and competitiveness by facilitating relations and canalizing knowledge (Alberti & Giusti, 2012).

Developing a competitive advantage requires consideration of the business environment, both in terms of resource management and adaptation of business value proposals to the market. These considerations are part of the concept of customer development proposed by Blank (2011) based on customer discovery, customer validation, customer creation, and company building.

Cadman and Bildfell (2012) report that important shared value initiatives have been implemented by more and more companies. However, until now, only about 10% of companies have integrated customer experience in their core strategy. According to Köpcke (2008), external collaboration such as through open innovation or crowdsourcing allows organizations to promote better public adoption of innovations in a context where the average rate of the innovation failure is between 30% and 70%. Some experimentation has been done in order to involve the public in the innovation process among tourism practitioners using open innovation or crowdsourcing approaches (Doctor et al., 2016) or with a living lab approach (Lapointe et al., 2015). However, according to our research, few studies have been undertaken focusing on the question of fostering innovation and growth in a touristic region through the creation of shared value or on improving local touristic clusters with the crowd (i.e., professionals, residents, and tourists).

Hence, this article presents lessons learned through the implementation of new modes of innovation through improved cooperation between local companies in the region of Valais, Switzerland. The aim is to use a crowdsourcing approach to co-create shared value-based business models and thereby find new way to create shared value.

Methodology

We chose the multiple case study method for its capacity, in a qualitative approach, to identify the effects of a phenomenon where the researchers have little control over the studied events; moreover, the multiple case study approach allows us to consider the phenomenon in recurrent situations (Collerette, 1997; Stake, 1994; Yin, 1984). Two regions were selected as cases, according to the need identified by our political and professional partners (i.e., local development agencies and the regional company association). The multiple case study approach enables us to test two distinct situations. The first case was realized with a group of beneficiaries belonging to the same enterprise, which is an entire resort of 100 chalets developed 35 years ago under the umbrella of one single enterprise (Fedo Tschuggen AG), and which was in financial difficulties. The second case was dedicated to a group of unbundled beneficiaries but based on a united territory: the Val d'Anniviers, which is facing a strong decline in visits by tourists.

In order to elicit new paths of innovation, we used crowdsourcing that, in opposition to outsourcing, refers to the crowd (Howe, 2006) for its ability to generate ideas without distinguishing between contributors and allowing professionals, the residents, and tourists

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to participate. Crowdsourcing is a quick and easy way to involve a large community to gather ideas in order to solve a problem (Mendoca & Sutton, 2008). Gassmann (2013) describes the crowdsourcing process as "interactive new knowledge transfer and problem solving to external stakeholders through public and semi-public call to a large group. Creative topics are typically at the center, but repetitive tasks are also possible. Typically, this call is made through Internet". In summary, Gassmann defines crowdsourcing as "an interactive innovation strategy based on the community." Operationally, this research relies on phases adapted from the five steps of crowdsourcing identified by Muhdi and colleagues (2011) (Figure 1).

Finally, in order to facilitate cooperation and co-creation among the local professionals, we used Osterwalder and Pigneur's (2011) business model canvas because of its ease of use and effectiveness as a brainstorming tool. Indeed, its nine building blocks enable participants to brainstorm about a business project, which then allows multiple stakeholders to co-create a new and common business model.

Although co-creation is commonly understood as joint value creation by a company and its customers, where value creation comes from outside of the firm and the traditional value chain model (Prahalad & Ramaswamy, 2004; Porter, 1980), we used a different position of fostering co-creation through local professionals using the inputs of the crowd in the idea-generation process. With this approach, we tend to reinforce the cooperation between local enterprises, according to the expectations of the public.

Project Details

In order to meet the expectations and needs of the population and the hosts, who are the end consumers of the tourism products and services, we chose to implement the steps of customer discovery and customer validation through a crowdsourcing process. Crowdsourcing enabled us to generate a "4P" process involving a partnership of people (population), private companies, and the public institutions and researchers. Indeed, the applied research at the basis of the innovation policy described in this article is based on a partnership between the Entrepreneurship & Management Institute and the Tourism Institute of the University of Applied Sciences of Western Switzerland (HES-SO Valais Wallis; hevs.ch/en/) and the local economic development agencies: the Valais Excellence company association (valais-excellence.ch/fr/amvs/), the regional brand Valais Wallis (valais.ch/en/), the Valais Tourism Observatory (tourobs.ch), and the Regions- und Wirtschaftszentrum Oberwallis (rw-oberwallis.ch/allgemein/home).

According to Muhdi and colleagues (2011), the five key phases of crowdsourcing (Figure 1) contain specific subtasks that we operationalized to foster the creation of shared value through crowd innovation, as shown in Table 1. The crowdsourcing process was realized with the iBrain (ibrain.atizo.com) online innovation platform, which is a branded version of the Swiss crowdsourcing platform developed by Atizo AG for the University of Applied Sciences of the Valais.

Results

By the end of the crowdsourcing process, the first case (the chalet resort) had attracted 88 ideas from 35 different people. However, despite the many novel ideas arising out of the crowdsourcing process, a lack of effective communication between the key stakeholders (i.e., the shareholders and chalet owners) – apparently related to the financial difficulties affecting the resort – meant that they could not agree on a new convergent business model. Hence, this case failed to reach its objective of improving the situation of a single enterprise because of the unwillingness of long-term partners to cooperate in a new project. It appears that, before any concrete work can begin, a fundamental discussion of objectives must be undertaken by the shareholders, who currently are unable to agree on a common goal.

The crowdsourcing process of the second case (Val d'Anniviers) collected 64 ideas from 34 different people. The stakeholders of this case are local professionals from this newly merged municipality, which is a regrouping of six ancient municipalities. The new muni-

Figure 1. The five phases of the crowdsourcing process

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Table 1. Alignment of this study's project phases with important crowdsourcing tasks of crowdsourcing identified by Muhdi et al. (2011)

Key Crowdsourcing Phase	Important Tasks	Process Alignment
1. Deliberation	1.1 Overall analysis of the crowdsourcing approach	The researchers conducted interviews and a SWOT analysis with partners separately in order to understand the innovation profile and capacity of each stakeholder.
	1.2 Reflection on how internal problems can be approached with crowdsourcing	
	1.3 Promote internal buy-in	
2. Preparation	2.1 Clarification of company expectations towards the crowdsourcing project	Workshop 1: Analysis of the interviews and discussion of the synthesis with all partners. Discussion and search for convergence of expectations with all partners. Formulation of the question and of the criteria to select the expected results. A communication plan was discussed in order to benefit from the contact lists of each stakeholder and of the researchers and in order to target the right people. The researchers guided the discussions.
	2.2 Definition of a question fitting to the crowdsourcing approach	
	2.3 Formulation of the question	
	2.4 Reflection on timing of the crowdsourcing project and the duration of the online aspect	
	2.5 Definition of the idea-rating criteria	
	2.6 Planning internal resources	
	2.7 Reflection on strategies to increase the participation in own crowdsourcing project	
3. Execution	3.1 Gradually reading and possibly clustering the received ideas	Crowdsourcing 1: This first crowdsourcing process was closed to the public and only open to the partners in order to allow a first round of propositions.
	3.2 Communication with community members	Crowdsourcing 2: During this second round of crowdsourcing, the partner propositions were disclosed to the public. People were invited to rate develop existing ideas or to propose new ideas.
4. Assessment	4.1 Tool selection for clustering and rating of received ideas	The partners, the public, and the researchers rated the best ideas through the application.
	4.2 Definition of an internal rating strategy	Workshop 2: The partners rated and selected the best idea and considered its business values.
	4.3 Rewarding best idea/ideas	The partners rewarded the winner. (The definition of a reward by the partners was made during the first workshop.)
5. Post-processing	5.1 Interpretation of the results and planning their implementation	Workshop 2: The partners, guided by the researchers, co-design the business model and the empathy map of the selected idea.
	5.2 Management of side-effects	

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cipality has already established a tourism commission to cooperate between political and professional persons in order to improve the attractiveness of the region to tourists. The participants represented local politicians and local touristic professionals such as hotels, cable car companies, real estate agencies, transportation organizations, and specialized shops. The participants selected a niche idea: the creation of a "stars park" for stargazing. For the professionals, this could be an opportunity to reinforce the attractiveness of the local area. For visitors, the project aims to offer a new experience by creating a pool of darkness that becomes an ideal location to view the night sky. For the municipality, the project aims to strengthen local skills and resources while incorporating best practices in energy savings at the municipal level. Figure 2 shows the corresponding business model co-created following the crowdsourcing process. This business model is based on existing local key resources: dark places (due to the location in a narrow valley) and the local sky observatory, as well as reinforced communication, specialized human resources (e.g., astronomers), and dedicated labels. Building on those resources, this model will propose values such as knowledge from the sky and the stars, discovery experiences (e.g., astronomy, local products, new activities, silence, or concerts in the mountains) to a varied public (e.g., local tourists, families, seniors, and workers). The relationship with customers should enhance experience with weekly sky maps, and channels should be improved by partnerships, such as with scientific camps, public transport partners, and craftsmen and economic associations. During this designing phase, the blocks of the model relating to revenue streams and cost structures were not addressed because of the time available for the brainstorming and the difficulties in building such financial plans in this co-creation phase and the visionary character of the discussions.

The next steps of the project will be led by a team of students specialized in tourism products and services design supervised by two professors specialized in business model innovation and in service design methods from the School of Business and Tourism of the University of Applied Sciences of Western Switzerland (HES-SO Valais-Wallis). The measurement of energy savings and public awareness will be achieved by a multidisciplinary team of researchers capable of measuring the energy savings and reductions in light pollution.

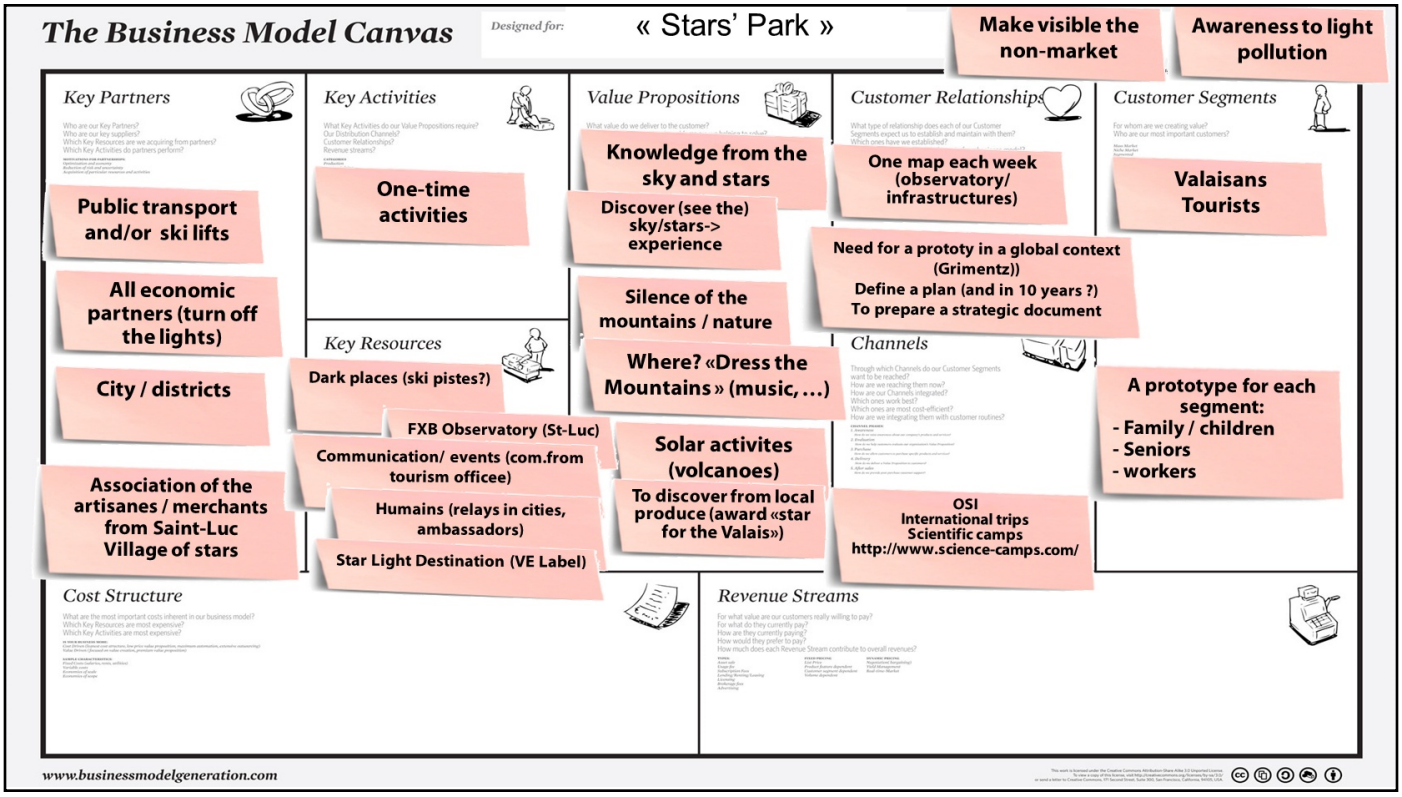

Figure 2. Co-created business model canvas for the Stars Park in the Val d'Anniviers

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Conclusion

The results of the case studies show different outcomes emerging from different situations. On one hand, when the shareholders were initially brought together, they had not been able to overcome their existing postures to benefit from the crowdsourcing approach to revealing opportunities. Indeed, the previous relationship and the challenge it represented was the main cause of the failure of the process. This case teaches us that a lack of existing conflicts between stakeholders can be seen as a necessary starting condition for success of the co-creation process. On the other hand, when a group of professionals was unbundled, the elaboration of a new idea to cope with a societal challenge reached the best results. The proposed "stars park" constitutes a new product and service relying on existing resources. Our results also show that the participation of the population, with all the creativity it can demonstrate, is not useful without a healthy collaboration between the stakeholders. Finally, this project includes all three levels of action enabling the creation of shared value according to Porter and Kramer (2011): designing new products and markets, redefining productivity in the value chain, and allowing the formation of clusters at local level.

We also realized a distinction between the creation of shared value, as argued by Porter and Kramer (2011), and the co-creation of shared value. The co-creation of shared value is based on crowdsourcing the original business idea and then co-creating business solutions with several actors. Furthermore, the distinction with the sharing economy concept is based on the aim of the project, seeking to create value for the society and the environment in addition to businesses. The sharing economy constitutes "a principle of maximizing the utility of assets and shareable resources by means of renting, lending, swapping, bartering and giving them away in order to avoid their idle existence, and is currently being facilitated by emerging collaborative business ICT infrastructures in the marketplace and society" (Romero et al., 2015).

The major limitations of this research are based on the provenance of the original needs that we intentionally sourced from the local professionals in order to facilitate our sectorial approach to tourism activities. This point will be addressed in a further research where the expression of the needs is based on a citizen dialogue at a municipal scale, aiming at eliciting societal and local challenges and looking for social innovation.

Regarding the improvement of the regional innovation system and the enhancement of the local cluster, the Valais Excellence enterprises' association recognized the utility of the process and will integrate and reproduce it in order to further fostering innovation through the co-creation of shared value in the region. They already plan to elaborate an indicator model able to measure the creation and the co-creation of shared value by future participants.

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Priority Systems at Theme Parks from the Perspective of Managers and Customers

Gilda Hernandez-Maskivker and Gerard Ryan

> *"People nowadays like to be together not in the old-fashioned way of, say, mingling on the piazza of an Italian Renaissance city, but, instead, huddled together in traffic jams, bus queues, on escalators and so on. It's a new kind of togetherness which may seem totally alien, but it's the togetherness of modern technology."*
>
> J. G. Ballard (1930–2009)
> Novelist, short story writer, and essayist

Waiting times are becoming an increasingly important customer-experience challenge in theme parks. The seemingly ever-present problem of long queues for rides and attractions is being tackled by the development of priority systems. These innovations allow customers to join an alternative queue that bypasses the congestion faced by regular customers. In other words, by paying extra, customers can purchase the right to be served sooner. Such systems are becoming prevalent, but there is a lack of empirical research into priority systems at theme parks in the academic and management literature, which suggests that in-depth empirical analysis is necessary in order to understand the consumer decision-making process when making this purchase. This article examines priority systems at theme parks both from the viewpoint of park management and of customers. To address this gap, we surveyed nearly 1,000 customers at a major theme park in Spain and conducted semi-structured interviews with 10 theme park managers to assess both customer and manager attitudes towards waiting generally and priority systems specifically. Our results reveal that these priority systems facilitate market segmentation. When theme parks offer this "wait or pay" option, different groups of customers are identified based on their attitudes: those who wait in regular lines and those who are willing to pay to avoid lines. Thus, this innovative system creates an important source of new revenue while also improving the customer experience by reducing waiting times and minimizing congestion. Following a discussion of our results, we offer practical recommendations to managers who need to address the challenges of waiting times in theme parks and wish to improve both profits and customer experiences by implementing a priority system.

Introduction

For more than 30 years, consumer waiting times have been analyzed in different contexts and situations. Tourism services are notably vulnerable contexts for long wait times, particularly at theme parks (Gnoth et al., 2006). As attendance increases in some of the major theme parks around the world (Heo & Lee, 2009; Milman, 2010), the problem of long queues for rides is ever-present and becoming increasingly urgent (Martin, 2013; Nip, 2014).

Long waiting times and queues are inevitable for theme parks due to operational reasons and the nature of the service. When attraction and ride capacity is exceeded by visitor demand, queues and delays are unavoidable (Dawes & Rowley, 1996; Heger et al., 2009; Heo & Lee, 2009; Matthew et al., 2012). Firms focus their efforts on designing and implementing innovations to solve the problem. Many authors have analyzed the phenomenon in order to provide solutions and practical advice to companies and marketers (Davis & Heineke, 1998; Durrande-Moreau, 1999; Hensley & Sulek, 2007). These

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range from operations solutions (to reduce actual waiting times), to marketing solutions (based on reducing perceived waiting times), to mixed solutions that include elements of both approaches.

However, in spite of these efforts, the problem has not been fully solved and remains a context of active study. Even Disney, the industry leader, demonstrates through its continued innovations aimed at reducing queues that waiting times are still a major issue each year. Despite implementation of innovations such as smartphone applications that help redirect people to less congested areas, games to pass the time while waiting and wristbands systems (that facilitate mobility, transactions and personalized services), people are still waiting. Time spent in queues is time that cannot be spent enjoying attractions: Brooks (2010) found that customers visiting a major theme park with over 40 attractions only have time to enjoy an average of just 10 attractions because of delays and queues. Additionally, when new attractions are launched, controlling waiting times is almost impossible (Cornelis, 2010).

Priority systems (also known as VIP queues, express-pass systems, or fast-line systems) have emerged as a means of overcoming these problems by giving customers an alternative to waiting. Consumers pay a premium to reduce their waiting time by joining a priority queue, thus becoming separated from regular paying customers (Martin, 2013; Milman, 2001; Rafaeli et al., 2005; Setoodeh, 2004). Although priority systems have been implemented worldwide since the early 2000s, and there are priority systems in use in many major theme parks such as Universal Studios, Six Flags, Port Aventura, Knott's Berry Farm, and Legoland, there is still little scientific literature on the subject (Matthew et al., 2012; Tone & Kohara, 2007).

There is some literature that examines priority systems from a customer's perspective, and it highlights a number of relevant issues. We know that waiting times and queues are one of the main reasons for complaints at theme parks (Martin, 2013). But, some customers are not really that bothered if they have to wait in regular lines, whereas others prefer to avoid waiting at all costs and purchase an express pass whenever the option is available (Sundström et al., 2011). Thus, customers play a key role in wait management and should not be treated as a homogenous group. However, few studies have deeply analyzed customer's attitudes toward express passes. Such systems are also of great interest to theme park managers. Indeed, there seem to be both negative and positive aspects of priority systems for theme park management, which present both opportunities and challenges for operations and marketing.

In this study, we consider the perceptions and opinions on priority systems from the perspectives of both customers and managers. We added the managerial perspective with the purpose of extending our knowledge of the dynamics of wait management from the point of view of a stakeholder that has largely been overlooked in studies on this subject.

This article is organized as follows. First, we examine the relevant literature on priority systems to develop our conceptual framework. Next, we describe our methodology, which included a large survey of theme park customers and in-depth interviews with theme park managers. Then, we present the results from both perspectives. Finally, we discuss the results and offer conclusions and practical recommendations for managers.

Conceptual Framework

Theme park priority systems

There are a number of different types of priority system in current use. For instance, a fast pass ticket may be priced according to:

- the number of rides it applies to (e.g., the Fast Lane at Knott's Berry Farm, which allows access to 10 rides)
- the relative amount of waiting time that it is avoided (e.g., the Flash Pass Platinum at Six Flags, which reduces wait time by up to 90%)
- the number of times a customer can repeat rides (e.g., Universal Express Unlimited, which allows unlimited access to attractions)
- access to specific positions in the attraction (e.g., the Port Aventura Express Premium Gold, which lets visitors ride in the first row on certain rides)

Existing implementations of such systems show that consumers may be willing to pay a considerable fee to jump the line (Wallop, 2010). In some cases, the price of the express pass is equal to or more than the basic entrance ticket. But beyond reducing waiting times and generating new revenues, such systems may also create new opportunities for innovation in theme park services. For example, many theme parks and hotels implement priority systems using smart bracelet systems that facilitate queue jumping via a radio frequency system (RF system). Therefore, the technology used in

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these systems can also be used to gather data about the customer experience and enhance it, for instance by improving the flow of visitors and offering personalized services (Hosteltur, 2015).

Customer attitudes toward express passes

Attitude may be described as a positive or negative feeling about something (Pizam & Mansield, 1999). The literature considers psychosocial variables such as attitudes when predicting customer behaviours such as purchase intentions (Kim & Hunter, 1993; Kraus, 1995; Robinson & Smith, 2002; Vermeir & Verbeke, 2006). Thus, positive attitudes towards certain products may be the starting point to stimulate consumption (Vermeir & Verbeke, 2006). In this sense, a positive or a negative attitude toward waiting (and the alternative offered by an express pass) may determine customer purchasing decisions.

A common need in contemporary society is the need to save time. Indeed, this need may go a long way in explaining the popularity of priority systems. Customers who would prefer to use their time efficiently (Lew & McKercher, 2006) tend to consider waiting as a waste of time (Leclerc et al., 1995). Indeed, Rafaeli, Barron, and Haber (2002) suggest that waiting can be associated with multiple attitudes such as helplessness, anxiety, complacency, agitation, or irritability. Those who have a negative attitude toward waiting times may be more willing to try to avoid them. Indeed, the literature suggests that saving time may be related to greater levels of happiness (Whillans et al., 2016). Thus, marketing innovations that help to allocate time in a more efficient manner and avoid the loss of time are greatly appreciated by some customers (Solomon, 2008).

Prior studies of attitudes to waiting in different service contexts suggest that certain customers may have a positive or relaxed attitude towards waiting (Bennett, 1998; Rose et al., 2003). As Mishra, Mokhtarian, and Widaman (2014) explained, there are customers that have a positive attitude toward waiting and consider it as an opportunity to relax. For some people, money can be more important than time (Friedman & Friedman, 1997; Heo & Lee, 2009). For others, time is more important than money (Fischer, 2016). However, there are no empirical studies that examine these assumptions in the specific context of theme parks. Given that attitudes are often considered a precursor to action (Fodness, 1994; Harrill & Potts, 2002), we assume that a visitor's attitude towards waiting times at theme parks are a key element in the decision to purchase an express pass.

Managerial attitudes towards express passes

The negative consequences of waiting times on customers are widely recognized by managers (Hwang & Lambert, 2005; Maister, 1985; Osuna, 1985; Rafaeli et al., 2002). For instance, waiting times may be associated with crowds, noise, and other characteristics that managers normally attempt to control in order to enhance the visitor experience (Solmaz et al., 2015). Waiting may sometimes result in customers abandoning a service (Carmon et al., 1995; Friedman & Friedman, 1997; Zhou & Soman, 2003) and may persuade them not to return in the future (Friedman & Friedman, 1997).

Thus, the management of waiting time becomes a key issue for many service-based companies (Davis & Heineke, 1998), including providers of tourism services (Dawes & Rowley, 1996). Hence, companies try to reduce both real and perceived waiting times (Hui & Tse, 1996; Maister, 1985; Yan & Lotz, 2006). They may attempt to improve the waiting experience by implementing new systems to reduce real waiting times (Davis & Heineke, 1994) or they may manipulate contextual factors such as music, information about waiting times, and the social environment (Davis & Heineke, 1994; Pruyn & Smidts, 1998). Thus, waiting times may be overestimated or underestimated by customers depending on the strategies implemented to manage the perception of waiting time (Hornik, 1984; Jones & Peppiatt, 1996; Katz et al., 1991).

Added to this, the literature on theme parks suggests that managers with a positive attitude to reducing waiting times at attractions also demonstrated a positive attitude towards customers as key actors in their future operation policies (Milman, 2001). This relationship suggests that those theme parks that strive to introduce innovations regarding waiting times, such as express passes, are also developing a more customer-oriented strategy. Thus, a customer-oriented perspective of theme parks must be related to new innovations to reduce lines and satisfy customer needs.

Given that managers are obliged to renew companies through constant innovation (Moore, 2003), innovations regarding queue management should act as tools to solve the problem of waiting times and their negatives consequences at theme parks. In addition, to be successful, innovations should positively influence the customer experience (Schumpeter, 1997; Weiermair, 2004). As the literature suggests, customer's attitudes play a determining role in the creation of the customer experience and retail performance (Puccinelli et al., 2009), and therefore must be a focus for innovation.

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Methodology

Given the lack of empirical enquiry surrounding express passes and priority systems at theme parks, we adopted a naturalistic approach in a field setting based on mixed methods. First, 971 survey questionnaires were completed in the surroundings of one of the largest theme parks in Europe (Anton Clavé, 2007). We measured attitudes toward waiting times through three questions about annoyance, stress, and frustration (Bennett, 1998). Each question was measured with a five-point scale. A factorial analysis was conducted in order to group items in a single quantitative variable. As Bennett (1998) suggests in his study of attitudes towards queuing at supermarkets, a control question (five-point scale) was also required: "In general, I really dislike having to wait in queues". Attitude to the express pass was also measured with a five-point scale. A logistic regression model was developed using SPSS software in order to understand tourist behaviour according to factors of influence, such as their attitudes towards waiting times and priority systems. The entry method was applied: explanatory variables are entered into the formula at the same time.

Second, semi-structured interviews were conducted to explore managerial perspectives. Ten managers of major theme parks in Spain were interviewed. The snowball technique was used to contact professionals based on their current activities and their wide experience in managing tourist and leisure services. Because waiting times at theme parks have not previously been analyzed in detail from the point of view of managers.

Results and Discussion

Customer perspective

In order to analyze customer behaviour regarding the priority system, a logistic regression model was developed (see Table 1). As Pallant (2013) states, "logistic regression allows you to assess how well your set of predictors variables explains your categorical dependent variable". The results were interpreted, compared, and discussed in relation with prior literature on the subject.

Overall, the results demonstrate the efficacy of the model to differentiate express pass holders from non-holders with an assurance of statistical significance. As Table 1 shows, the goodness-of-fit of the model is ascertained using a Hosmer and Lemeshow goodness-of-fit test, producing a Chi-square (x2) value of 14,484 (with a significance level of 0.07). The non-significance of this value at the 0.05 level means that the fit is appropriate as the observed and predicted classification lacked significant discrepancy. Next, the Ómnibus test of the model's overall Chi-square value (x2= 176,479) produces a significance of 0.000, meaning the overall fit is significant. Added to this, the model with the suggested explanatory variables correctly classifies 44.7% of the express pass holders and 88.1% of the non-express pass holders. The model has a general explanatory power of 74%: this is the predictive capacity of the model to correctly classify subjects in two groups (holders and non-holders).

The positive coefficient for the variable "Attitude toward express pass" indicates that customers with a more positive attitude toward the priority systems are more likely to be express pass holders (B: 1,027). This finding is consistent with prior studies explaining that a positive or negative attitude influence on purchase intentions (Kim & Hunter, 1993; Kraus, 1995; Robinson & Smith, 2002; Vermeir & Verbeke, 2006).

As for "Attitude towards waiting", the estimated parameters are positive (B: 0,432). Consequently, the greater

Table 1. Logistic regression model of customer attitudes

Variables	***B***	***Wald***
Constant	-4.390	146.108***
Gender	0.149	0.883
Attitude toward priority systems	1.027	111.579***
Attitude toward waiting times	0.432	27.421***
Ómnibus test	X^2= 176.479***	
Nagelkerke's R Square	0.249	
Cox and Snell	0.179	
−2 Log likelihood	953.230	
Hosmer and Lemeshow	X^2 14.484 df 8 Sig. 0.070	
Overall Percentage Correctly Classified	**74.0%**	

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the negative attitude towards waiting times, the higher the probability of customers being express pass holders. These findings are supported by results shown in previous research: customers have varied attitudes towards waiting times (Bennett, 1998; Durrande-Moreau, 1999; Rose et al., 2003). Thus, customers with stronger negative attitudes towards waiting are more likely to want to avoid waiting in queues. In contrast, people with a more positive attitude towards waiting may be more tolerant of queuing in regular lines.

Thus, our results demonstrated that there is a clear opportunity for market segmentation based on customer's attitudes. Attitudes vary towards time (Usunier & Valette Florence, 2007), waiting times (Mishra et al., 2014), and systems to avoid waiting. In this sense, customer's attitude toward the priority system and their attitudes toward waiting times are significant factors to take into account when characterizing both market segments. Thus, it is possible to segment customers before they purchase the express pass by taking into account those explanatory variables.

Managerial perspective

According to the data obtained from the interviews with managers, priority systems enable theme parks to satisfy a market segment that is willing to pay to bypass regular lines, thus avoiding unnecessary delays. Our interviews supported previous findings that fast lines reduce customer dissatisfaction with waiting (Heo & Lee, 2009), they help reduce congestion at theme parks (Tone & Kohara, 2007), and they improve queue management and customer flows throughout the premises (Heo & Lee, 2009). Moreover, priority queues contribute to the maximization of the service capacity, enabling operators to ensure demand is constant across service points (Matthew et al., 2012).

Despite the potential negative impact on customer experience, from the point of view of theme park managers, waiting may provide economic benefits to the theme parks. The interviewees explained that there is a positive relationship between long delays and sales of express passes and consequently more revenues for the theme parks, as highlighted by one theme park manager:

> *"Express passes provide a great amount of income. We can say that, thanks to waiting times, we can improve income. The sale of express products is directly proportional to waiting times. This is a great contradiction. It's a great source of revenues that today the theme park can't go without."*
> (Interviewee 1, Theme park manager)

Previous studies support this strategy of charging consumers to avoid the wait (Friedman & Friedman, 1997; Heo & Lee, 2009; Matthew et al., 2012). The system of fast line passes increases company profits (Friedman & Friedman, 1997; Heo & Lee, 2009; Matthew et al., 2012) while improving waiting management and minimizing congestion (Tone & Kohara, 2007). Indeed, it might be suggested that some theme parks take advantage of this situation. The prices charged for express passes continue to rise, as more people are willing to purchase the service:

> *"Due to the increased demand for this product, theme parks must raise the price, season after season. They have to do that for two reasons: on the one hand, if people increasingly value the service, it will cost more; and on the other hand, if companies don't raise the price waiting times for priority lines will be longer than waiting times for regular lines."*
> (Interviewee 2, Theme park manager)

Conclusions and Recommendations

Theme park managers are aware that waiting times and queues can overshadow the fantasy world of the parks that offer customers a break from the routines and monotony of everyday life by transporting them in time and space (Milman, 1991). Making guests wait may shatter this illusion and lead to substantial customer dissatisfaction (Brown et al., 2013; Wu et al., 2014). If waiting times and queues are present, that entire experience may be interrupted and fragmented. In spite of this, many customers accept and resign themselves to join long queues because they understand that waiting is unavoidable due to operational issues. Yet, it may be unwise to resign oneself to the suggestion that companies cannot improve their experience and provide value during waiting times.

In terms of managerial takeaways, we offer the following practical recommendations based on our study:

1. Managers should take into account customer's attitudes toward waits and priority systems in order to clearly identify the customer segments that are willing to pay extra to avoid queues and provide the necessary services. Express passes should be available for those who are willing to pay. However, both technological and marketing innovations are required to avoid non-express pass holders waiting during a considerable part of their time at theme parks.

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2. Theme parks should focus their efforts on eliminating queues and waiting times but also on reducing perceived waiting time. Companies should offer alternatives and services for both groups: for those who have positive attitudes and also for those who have negative attitudes toward delays.

3. Waiting times should be considered as one part of the global customer experience and not as residual and wasted time. Companies should manage the waiting experience so that customers do not feel they are waiting, by filling the waiting time with fun and entertaining activities.

4. Theme parks and tourist providers around the world should consider using technology to enhance the customer waiting experience. Thus, technological innovations should be applied to satisfy those who wait in regular lines, offering value to the customer during this time. And also, technology can help companies to design a better service for those who are willing to pay extra to avoid queues.

5. Service design thinking and co-creation approaches should be considered to help managers rethink the waiting time problem and develop tools to solve it. User needs and attitudes have to be taken into account to create value when delivering the service.

6. Theme parks should improve marketing strategies to increase sales of express passes. Marketing strategies should be also oriented to reduce negative connotations regarding the express pass, such as injustice or worthlessness.

This research extends current knowledge on waiting times and priority systems at theme parks. We found that not all visitors behave in the same way when face waiting times and systems to avoid queues, depending on the factors that influence them. There are customers more likely to wait in regular lines and there are others who are more likely to pay extra to avoid waits. However, deeper analyses are necessary in order to understand how customers interpret waiting and the systems used to avoid them. Future research can test other independent variables to advance understanding of the waiting experience and purchase decisions in theme parks. In addition, future studies can explore the customer's decision to pay or to wait in other tourism contexts such as airports, museums, nightclubs, theatres, and events. Future research can also examine issues surrounding equality, social justice, and fairness in services that offer priority queues or express passes.

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