

# Co-creation of a tourist experience enhanced by technology, in the context of a Living Lab

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## Abstract

A destination marketing organisation (DMO) of rural Québec, Canada, wishes to actualise its tourism circuits by creating an experience enhanced by a mobile application that will meet the expectations of visitors. To overcome this challenge, the application will be designed in a collaborative mode by involving users in its conceptualisation. This approach, which has been generating increasing interest, is co-creation. The co-creative process will be supported by information and communication technologies (ICT), which will also add to the global experience. Conducted in the form of action research, this co-creation will take place within a Living Lab. This action research must allow to describe and evaluate the co-creative process in virtual mode (co-creation with a web-based platform) and the expected result: a tourist experience enhanced by technology.

**Keywords :** Co-creation, Technology Enhanced Tourist Experience, Living lab, User-center design, tourism

## Context

The *Office du tourisme et des congrès de Rivière-du-Loup* (the destination marketing organisation (DMO)) wishes to actualise the tourist experience it offers as regards the discovery of the natural landscapes and cultural/heritage sites of the villages of the Rivière-du-Loup region. The DMO wishes to create an experience that will meet the expectations of visitors. This experience would be enhanced by information and communication technologies (ICT). However, as the research partner, the DMO has little experience in co-creation processes, and even less in co-creation processes supported by ICTs.

## General description of the challenge to overcome

More and more, tourists consume experiences. However, bringing tourists "off the beaten track" represents a significant challenge for DMOs. The circuits developed must meet the expectations of promoters, host populations and tourists. The difficulty in transforming the experience of a low tourist density area, such as the one this project deals with, is to satisfy the needs, desires and representations of tourists, who are, by definition, third parties excluded from the territorial construction process. In this context, the risk of developing initiatives that are detached from the expectations of visitors and having little or no impact on tourist traffic is high. Furthermore, the traditional approaches based on marketing methods are costly and reduce tourists as territory users to mere consumers. This runs counter to the new expectations of tourists.

Indeed, they want to be partners and co-create with firms, locals and other visitors (Pralhad and Ramaswamy, 2004 and Binkhorst, 2009). However, the involvement of tourists in the development of experiences remains infrequent. While literature supports the idea of involving tourists in the co-creation of experiences, it is rather quiet as regards the socio-organisational phenomena that come into play in the co-creation process, from user involvement modes to the implementation of the final product (Neuhofner, 2012, Tussyadiah, 2013, and Pucihar et al., 2013). Co-creation is a way to minimise the risks of elaborating experiences that do not meet the needs of tourists or that do not suit the host environments. ICTs have the potential to support co-creation and enhance experiences. However, involving host populations, the public and private sectors, and users (tourists) is not an easy task. Hence the interest of using the well-tried Living Lab approach.

### ***ICTs and co-creation in the context of a Living Lab – the open innovation ecosystem***

By nature, Living Labs (LL) constitute both an environment (milieu, arena, group) and an approach (methodology, innovative approaches) (Ståhlbröst and Holst, 2012). LLs are "physical regions or virtual realities in which stake-holders form public-private-people partnerships (4Ps) 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 and Leminen, 2012). "LLs build around two main ideas: the participation of users as co-creators in the same way as other participants, and experimentation in real-life contexts" (Almirall and Wareham, 2008).

What are the potential advantages of using this approach? Co-creation seems to be a good way to meet the expectations of tourists and create value for them and for firms (Vargo and Lusch, 2004). It also seems to facilitate innovation (Westerlund and Leminen 2011, Almirall and Wareham, 2008). Using the methods and tools developed by LLs allows to get closer to the missing link between the tourist experience as it is perceived (co-creation of value associated with the experience) and the tourist experience as it is designed (co-creation of an innovative experience). The adoption of a product, service or technique is directly integrated into the process. This proximity not only allows to adequately understand the needs expressed by users, but also to identify their expectations and latent needs.

### ***Co-creation of a tourist experience enhanced by technology – theoretical frame and design of research***

This research takes on the process of co-creating a tourist experience enhanced by ICTs via an LL process. For a company, **co-creation** consists in developing products or services with the active collaboration of customers, and this, in a sustainable way. "Customers are no longer passive; they are informed and share information on products, services and their interactions with the company. Consequently, companies can no longer merely launch products on the market. On the contrary, they must work on

their interactions with customers (customer experience) and involve customers in the design of this experience by making co-creation platforms available to them" (Prahalad and Ramaswamy, 2000). The more recent development of the *customer-dominant logic* concept (Gronroos and Voima, 2012; Heinonen et al., 2010) allows to describe with a little more accuracy how tourists are in control of the realisation of the tourist experience and how tourists and companies co-create value. The value created can be of an economic nature, but can also be social (networking), emotional, cultural, educational, organisational or societal. However, to draw a parallel with cinema, the literature on the co-creation of a tourist experience accurately describes the concept as regards the "production" part of the experience (liminal time), (Neuhofer and Buhalis, 2012, Neuhofer, 2012, and Rihova, Buhalis and Moita, 2013), but does not provide as much information on the "pre-production" part or planning and design time of that experience. "The co-creation experience is observed in a variety of fields, but tourism is not yet mentioned as one of them" (Binkhorst, 2009). Although the co-creation concept started spreading to the field of tourism a few years ago, applied research has yet to be made to explain how destinations can identify and use the tourists' ability to innovate (Tussyadiah and Zach, 2013). One must look elsewhere, in other fields, to see co-creation involve users in the innovation, planning and design processes. LLs offer fertile ground for co-creation. Such is their mission.

*Information and communication technologies* (ICT) will be at the heart of the research as they act as both support to collaboration and support to the experience to develop. The co-creative work will focus on the implementation of a mobile application to enhance the tourist experience. Neuhofer, Buhalis and Ladkin (2013) propose a typology to present the various parameters on which to enhance the experience (needs, tools, processes and results) and the degree with which ICTs can enhance the experience (depending on the intensity of the co-creation and the use of technology). The role of researchers, in collaboration with the DMO, will be to prepare a co-creation approach which will include ICTs in the expected result and in the co-creation process. ICTs will also play a major part in the co-creation process. Indeed, stakeholders will be invited to get involved within an online community via an open innovation platform. The experimentations made by Nordic LLs on virtual collaborative modes will allow to avoid certain pitfalls and their success can be a source of inspiration (Følstad et al., 2013 and Ståhlbröst et al., 2013), as well as the works of a Slovenian LL on co-creation in a touristic environment (Pucihar et al., 2013).

### ***Research objective***

The research consists in accompanying and documenting this co-creation which will take place in an LL mode. More specifically, it will allow to identify, in the context of an action research, the recruiting, retention and user involvement conditions with a view to creating value for them and the organisation. This aims to determine whether the co-creation process yields the expected results in a touristic context. It will be a matter of documenting the collaborative innovation process of users and stakeholders. On this basis, the main question is: *What are the necessary conditions, in the context of the co-creation of a tourist experience enhanced by ICTs, to create value for users (tourists) and for the organisation?*

*Sub-questions:* What are the factors that influence (positively or negatively) participation in the co-creation at each stage of the collaborative process?; What are the success and failure factors relative to recruiting and involving users?; How do the participants get involved? Do the intensity and quality of involvement vary from one stage of the process to another?; What adaptations were necessary to ensure the retention and involvement of those visitors co-creating the experience enhanced by ICTs?; Did the process yield the expected results?

Since this research is rather exploratory regarding the explanation of the co-creation phenomena, the action research approach (Whitehead, J., & McNiff, 2002) was chosen. Indeed, there is no specific recipe to co-create. The context of the co-creation process will be a flexible one and the researchers will co-conduct the action while documenting the process and outcomes. In this action research, the "action" dimension is characterised by the implementation of the co-creation process (with stakeholders) and its facilitation. This entails the recruiting and involvement of actors, the mechanisms to involve them (meetings, open innovation platform), and an iterative co-creation process inspired by *design thinking*.

#### ***The actors involved - stakeholders***

This action research takes place within the open innovation Living Lab (Living lab en innovation ouverte, LLio) associated with a higher education institution of the Rivière-du-Loup region (*Cégep de Rivière-du-Loup*). In addition to being in a position to facilitate open innovation (at the heart of the "action" dimension of this research), the LLio becomes a public actor (being a research centre linked to the field of education) within the typical partnership of LLs. In this case, the private actor is a local company in the field of ICT/web development. The population is the users (tourists, host population and local tourism actors), who will be represented by the DMO, its members and an online community comprising over 25 tourists. The basic conditions for the recruiting of the community members are: experienced travellers having a smartphone or tablet and speaking French. They will be recruited via social media, which are a good means to promote the involvement of users (Tussyadiah and Zach, 2013).

#### **Expected results and next steps**

The action research will allow to document this collaborative process and to progress towards the expected results, namely the testing of virtual collaborative modes, expertise in the management of a user community, and the publication of a mobile application allowing to enhance the tourist experience of the circuits of the Rivière-du-Loup region.

This documentation of the co-creation process of the ecosystem's various stakeholders will allow to better understand the phenomena linked to co-creation in a virtual context. More specifically, the possibility to identify the factors which influence participation and the success of the co-creation process would allow to determine the factors that motivate, hinder or facilitate the participation of the users and various stakeholders. The research team also hopes to identify the success and failure factors in the recruiting and involvement of users, as well as the success factors in the achievement

of the expected results.

With this action research taking place over a period of two years, the second year will be devoted to analysing the observations made during the first year in terms of the mobile application and co-creation process. This will allow to reuse the iterations (discovery/research, ideation, refinement/prototyping, evaluation) with the same user community, with a view to migrating from a beta version, tested in the summer of 2015, towards a final version and the development of complementary experiences. During that second year, the research team plans to reuse the virtual collaboration mechanisms that worked well, correct those that were deficient, and perform a transfer of continuous expertise with the various stakeholders.

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