Capacity-, system- and mission-oriented innovation policies in tourism – characteristics, measurement and prospects

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Abstract. Innovation policies for tourism are under-investigated and under-conceptualized. With reference to the ongoing innovation policy discussions, three distinctive public innovation policy paradigms - capacity-oriented, system-oriented and mission-oriented – are outlined, and the manifestations in the case of tourism are explained. Contemporary strategies and practices for tourism development tend to comprise elements of all three paradigms. Nevertheless, nowadays there tends to be a gradual evolvement towards an ongoing refinement of the instruments towards the mission-oriented approach, which addresses both societal challenges and economic opportunities. The complexity of goals and the number of actors involved increase when taking the mission-oriented policy approach. The EC-OECD innovation policy monitoring program STIP lists many instruments, but is still insufficient for tourism. The study refers to tests of innovation policy survey topics in Overseas Counties and Territories that demonstrate the significant ambiguity of innovation policies. In all types of countries and territories there is a demand for new frameworks, however most innovation policies still seem very traditional and fail to focus on future challenges.

Key words: Innovation policy; science and technology; innovation systems; transformative mission; measurement; STIP; European Overseas Countries and Territories.

Introduction
There is a relentless appeal for enterprises, organizations and destinations in tourism to be innovative, for example to deliver new experiences and comforts, to improve performance and efficiency, to take advantage of digitalization, to manage the millennials with new incentives, to involve tourists in co-production, etc. However, systematic surveys still show that tourism is below average in terms of its propensity to innovate (Camisón & Monfort-Mir, 2012; Divisekera & Nguyen, 2018; Pikkemaat & Zehrer, 2016), and innovation in
conglomerates of tourism actors such as destinations is also criticized for being slow and unoriginal (Marasco, De Martino, Magnotti, & Morvillo, 2018; Novelli, B. Schmitz, T. Spencer, 2006; Zach & Hill, 2017).

This discrepancy between market and societal demands on the one hand and the performance of the tourism actors on the other is a dilemma and a key incentive for policy makers to launch, sustain and refine innovation policies. But over time, the aims and ingredients of innovation policies are in constant flux. The purpose of this article is to examine the long-term tendency in innovation policies and to discuss paradigmatic changes in a tourism context. Based on a cross-section of recent theory and evidence, this article suggests that tourism innovation policies lie within three main paradigmatic archetypes: capacity-oriented, system-oriented, and mission-oriented. The article contributes in this regard, not only with a more comprehensive examination of past endeavor in innovation policies, but also with a conceptualization that may affect the way in which future innovation policies are instituted and researched. As no significant research attention has hitherto been given to the topic of innovation policy in tourism, this contribution attempts to widen the innovation policy discussion and to set the scene for future academic inquiries.

The article also contributes with a scale of questions designed for use in surveys among policy-making bodies. The aim is to substantiate the innovation policy frameworks and inquiries and help to bring policy agendas to the surface. This is also a much needed step for further academic inquiries in tourism innovation. Furthermore, systematic approaches may assist in the ongoing debates in regions and destinations about the reorganization of policy measures and key actors.

This contribution focuses on policy goals, measures and actors. By definition, innovation policies are governmental endeavors aimed at increasing the capacities and possibilities for businesses and other stakeholders to increase profitability, growth, job creation and life quality through the introduction of new products, processes, marketing methods, distribution systems, management systems and collaboration models. The aim of innovation policy is to stimulate firms and organizations to be able to meet different needs and demands, as timely action with regard to innovation and implementation creates value and competitiveness. Innovation policies strive to drive the development forward for the benefit of citizens, enterprises, investors and societies (Boekholt, 2010; Lundvall & Borrás, 2005; Smith, 2018).

A classic underlying assumption behind innovation policies is that enterprises will not innovate on their own account, and that they need assistance to overcome a range of barriers. More specifically, these barriers may consist, for example, of risk aversion, lack of funding, knowledge gaps or the existence of a variety of market failures, such as for example the lack of a market or society ready for a new category of products or services (Edler & Fagerberg, 2017). Innovation policies attempt to remove any critical barriers and risks and create appropriate incentives, thereby accelerating the innovation processes in accordance with wider policy agendas.

The article is structured as follows: Firstly, an account is given of the methodologies used for unfolding the tourism innovation policy paradigms and construction. Then, the paradigms will be outlined one by one, and argumentation about the touristic content will be provided. Knowledge specification through scale questions will then be justified with a test survey in Overseas Countries and Territories (OCTs). The discussion and conclusion reflect future paradigms in a world where tourism will have to address not only economic growth prospects, but also critical societal challenges.

**Working with innovation policy paradigms**

Hall (1993) defines a policy paradigm as: “a framework of ideas and standards that specifies not only the goals of policy and the kinds of instruments that can be used to attain them, but also the very nature of the problems they are meant to be addressing.” (p. 279). A paradigm is essentially comprehensive and cohesive
and integrates and assembles elements in complementary ways. A policy paradigm is also communicable and lends itself to a strong argumentation among followers in policy circles as well as among business actors.

However, over time there might be cracks in a mainstream policy paradigm as a result of changes in the social and economic environment. As time passes, the conceptualization of the problems alters, either because new challenges emerge, or because the understanding of who are the driving elements (the “heroes”) or who are the deserving underprivileged (the emerging, but struggling actors) alters. During a period of transformation of a policy paradigm, attention is drawn to how existing approaches fail to solve recognized problems, or how efficiency in problem-solving is declining. Doubts are raised about appropriateness with regard to focus and funding, and about the role played by the actors. Novel and emerging paradigms will rearticulate the overall goals of polices, and as a consequence remove many instruments, measures and implementation solutions and replace them with novel ones (Kern, Kuzekmo & Mitchell, 2014).

The study of policy paradigms and paradigm shifts has long been a major endeavor among innovation policy researchers. There is a substantial number of significant and seminal contributions from leading researchers in the field, for example Bengt-Åke Lundvall, Charles Edquist, Andrew Van den Ven, Jan Fagerberg and Ruud Smith. These and others have been consulted in connection with this study.

Mainstream innovation policy research sometimes addresses or gives examples from specific sectors in the economy, mainly manufacturing industries or knowledge-intensive services (Edquist, 2014), primarily those sectors that are regarded as decisive forces in the development or transformation processes at the business level. Tourism is not considered to be a key sector or phenomenon in the mainstream innovation policy literature.

This study relies heavily on the general thinking about innovation policy paradigms. Paradigmatic models with some resemblance to the three in this article are, for example, expressed by Dierchs, Larsen & Steward (2019), Edquist (2014) and Schot & Steinmueller (2018). In addition, the author has followed the innovation policy conversation in theory and practice for more than two decades (references to be added after review), and this personal insight has been influential in working with the three paradigms outlined in this article. In order to illustrate and to back up the tourism particularities, a large number of other academic books and articles have been consulted, the most important of which are referenced in the later sections. It has been important in this article to ensure a good understanding of the special features of tourism in connection with innovation policy, as there is a clear knowledge gap in this respect.

The study takes the process a step further and examines the STIP instruments as they appear in the EC-OECD monitoring (EC/OECD, 2019). The study also contributes information from a small test survey, developed in collaboration with and administered by the Overseas Countries and Territories Association. The innovation policy scale was used to qualify the discussion about relevant indicators for innovation policies in tourism-dependent geographies.

This study is mainly conceptual and delivers ideas about the transformation of innovation policies in tourism. Accordingly, the creation of an empirical body of substance is a task to be undertaken in further studies, as is the refinement of survey methodologies.

**Innovation policies under continuous transformation**

This contribution seeks to comprehend some of the chief underlying distinctions in innovation policies and to understand how they are manifested in tourism. Although we are gradually learning more about the
intrinsic details of fascinating innovations in tourism, and although there is significant publicity around managers and destinations who successfully launch processes and products, there is still a void in the accurate understanding of the driving forces of tourism innovations and how to affect them through policy. Public innovation policies might either impinge on or stimulate the renewal of the tourism sector, but much still needs to be scrutinized in terms of why, what, how and with what effects (Hall, 2009; Hjalager, 2010; Marasco et al, 2018; Mei, Arcodia, & Ruhanen, 2012; Rodriguez, Williams, & Hall, 2014).

This does not mean that public intervention with potential impacts on tourism innovations is non-existent. It is common for government bodies at all levels to attempt to encourage the renewal of the tourism sector and to aim to foster innovations, for example though the establishment of collaborative measures and financial support (Hjalager, 2012; Mei, Arcodia & Ruhanen, 2015; Novelli, Schmitz, & Spencer; 2006). Rodriguez et al (2014) address the commonplace difficulties of multi-level and polycentric policymaking, and they determine that innovation in policymaking and implementation is not a straightforward process. In addition, as also stated by Weidenfeld (2018), the complex process of competitive advantage enhancement has many steps and will often lead to unexpected discontinuities and setbacks.

This section sets the scene for innovation policy agendas and their progression, and in doing so outlines three approaches and provides tourism-related examples for each. A fundamental assumption is that tourism policies are responses to shifts in society and are continuously changing. The capacity-oriented model has been around for many decades, while the system-oriented approach was established in the late 1980s. Evolving fragments of mission-oriented thinking have also been seen for many decades, but have been framed more consistently and transparently during the last decade (Edler & Fagerberg, 2017).

**Capacity-oriented innovation policy**

Capacity-oriented innovation policies aim to facilitate the ability of the private sector and of individual enterprises to innovate and increase the speed and efficiency with which new products and services are brought onto the market. The main underlying goals are to increase competitiveness, growth and job creation. Public support is offered to ensure better, faster and more knowledge-intensive innovation endeavors, and to accelerate the development from idea to commercialization. Modern infrastructures in transportation and research and development in universities are among the background factors found to be of significant importance for the opportunities for corporate businesses to obtain access to resources and knowledge. Encouraging enterprises to invest further in R&D and take higher risks involves policy programs that subsidize the enterprises directly or indirectly, for example by offering tax exemption or subsidies for specified activities or expenses. Science and technology are principal driving forces. A well-functioning and efficient patent system ensures a protection and a possibility to profit from first-mover advantages. The capacity-oriented policy is apparently neutral in its approach towards the types of innovation and the sectors, given the assumption that the innovators will be better at assessing the prospects and profitability of the innovative ideas than will governments. Once formulated, framed and financed, the policy is implemented in arm’s length and neutral and technocratic structures. There is some focus on the potential long- or short-term negative side-effects of innovations (Diercks et al, 2019).

The capacity-oriented innovation policy was conceived and developed throughout the post-war growth period, and the measures were refined and fully demonstrated during the period from the late 1960s to the late 1980s.

When tourism is found to be largely invisible in the first generations of innovation policies (Hjalager, 2010), it is mainly a result of the composition of firms’ strategies and operating methods. On average, tourism enterprises are small and most of them do not have anything that resembles R&D departments and budgets (Camison & Monfort-Mir, 2012). Therefore, they are not likely to be able to comply with requirements in the
financially attractive and mostly rigidly structured innovation support programs. Another critical issue is that products and services from tourism are not easily patented or otherwise standardized, as the knowledge content cannot be codified (Cooper, 2014; Succurro, & Boffa, 2018). In addition, tourism innovations often change continuously and incrementally, and the product and service properties often differ from the original designs (Souto, 2015). The highly incremental nature of innovation is widely acknowledged in the tourism literature (Gomezelj, 2016; Marascho et al 2018; Williams & Shaw, 2011).

In line with the capacity approach and during the growth period of tourism after World War II, governments made a concerted effort to ensure the existence of relevant infrastructures that tourism enterprises can tap into. Innovation support through the provision of infrastructure is still a widespread policy approach. Tourism is highly dependent on “public goods” such as roads, harbors, airports, airlift capacity, promenades, waterfronts and beach areas, etc. (Korbee, Mol, & van Tatenhove, 2015), and the sector and its supporters emphasize the importance of well-functioning infrastructures both for attracting tourists, and to encourage private firms to follow-up with commercial investments. It is normal to see tourism trade associations lobbying for public funding in an expanded and modernized tourism infrastructure and mentioning the expected subsequent – and innovative - investments. The existence and maintenance of natural and cultural amenity values also determine the propensity for private tourism enterprises to invest in new facilities (McCool, 2016). Comprehensive land use, heritage, and sustainability planning may ensure a guided commercialization and creative spin-off from facilities that are mainly under public governance, such as, for example, trails and tracks in national parks, or museums and exhibition facilities which can be used for events, exhibitions, festivals, etc. (Ismagilova, Safiullin, & Gafurov, 2015). Legitimately, government bodies may, through a placemaking approach, stimulate particular types of innovative private-public interplay.

The capacity-oriented policy has attracted criticism for favoring mainly large enterprises and neglecting the potentials of SMEs and emerging sub-sectors. Infrastructure provision is also condemned for using taxpayers’ money with no or meagre pay-back to societies. While capacity-oriented policy instruments still play a role in tourism innovation policies (Knežević Cvelbar, Dwyer, Koman, & Mihalić, 2016), since the 1990s in many countries, there has been a gradual re-orientation of strategies and attempts have been made to supplement the portfolio of tools.

System-oriented innovation policy

System-oriented innovation policies emerge in parallel with increased insight into the dynamic of economic development and the importance of the institutional frameworks as contributing determinants of innovation. Enterprises are not solitary units, and their ability to innovate is heavily dependent on the extent and nature of their commercial and knowledge associations, not only with other enterprises, but also with a range of other bodies in the economy, such as public organizations and universities (Nootboom & Stam, 2008). Highly successful countries and regions are often characterized by a strong specialization in specific industries, such as, for example, Silicon Valley in ICT, Northern Italy, which specializes in garments and design, the focus on horticulture in The Netherlands, etc. (Lundvall & Borras, 2005). Analyses uncover the complex interlinkages with advanced knowledge transfer. Focus is placed on the creative business developments from originally strong industry bases leading to advanced levels of specialization. New institutionalization theories also include smaller enterprises and entrepreneurs as fundamental for comprehensive and trajectory-changing innovation processes (Etzkowitz & Zhou, 2017). Led by the OECD (1999), the innovation policymakers are becoming more concerned with the formation of innovations systems and clusters with synergetic impacts, predominantly after having identified the sectors with the most potential and the best prospects (Cooke, 2001; Weidenfeld, 2018).

The measures mentioned above under the capacity-oriented innovation policies are supplemented with other tools in order to add muscle to the innovation systems, particularly by stimulating alliances and
collaboration between enterprises. The universities played an increasingly dominant role in the innovation policies as knowledge providers and partners together with other public actors, forming so-called (regional) triple-helix systems (Etzkowitz & Leydesdorff, 2000; Nelson, 1993; Nooteboom & Stam, 2008). Government incentives are typically focused not on single and individual industry actors, but on partnerships of actors in more extended value chain systems. Increasing innovation activity is also promoted though sector-specific incubators in order to nourish new ideas and spin-offs and to give entrepreneurs more executing ability (Edler & Fagerberg, 2017). In addition, cluster policies include more selective emphasis on benchmarking and promoting the specialties of the region, attracting investments and skills to fit, but also to extend the capabilities already acquired by the system (Boschma, 2005). This field also includes the stimulation of highly profiled -generic and applied - university research, the aim being a more rapid diffusion of advanced scientific knowledge throughout the created alliances and institutions. The dynamic will move towards deeper specialization and intensification of the knowledge base (Asheim & Coenen, 2005). Side-effects are economies of scale and rapid spin-offs (Nelson, 1993).

Worldwide, countries and regions are making an effort to identify the particular sectors that could become driving forces in building stronger industry clusters and innovation systems. The origins of industry and the related economic resources and developments are often the primary indications for cluster policies, thus demonstrating that there is a level of path dependency in any regional economic evolution (Capello & Lenzì, 2016). For that reason, steel, metal works, machinery and cars were crucial for cluster building in parts of Germany, and timber became essential in parts of Finland. Perhaps as a result of the search for long-term trajectories in industrial development, the application of innovation systems and cluster approaches came quite late to tourism (Hjalager, 2000; Jackson & Murphy, 2002). Another issue is the lack of tradition in previous tourism policies of looking at tourism business from a more holistic perspective with potential significant knowledge components (Baggio & Cooper, 2010).

Tourism clusters are part of the implementation of the European regional and rural development programs (Dargan & Shucksmith, 2008). Policies tend to have a strong emphasis on spatially distinctive collaboration and partnerships, particularly with the inclusion of small and medium-sized enterprises. Accordingly, the building of institutional structures and the formation of action-oriented partnerships become major policy ingredients, including in tourism. Patience is essential in the policies, as it takes a long time to build systems and establish trust. Much emphasis lies on the identification of joint branding platforms that efficiently constellate recognizable features of the tourism industry. In addition, certification and related knowledge transfer mechanisms are elements in the pursuit of higher quality in the tourism product (Sardak, Dzhynzdzoian & Samoilenko, 2016). Joint learning facilities are also added to the system-oriented innovation policy portfolio, although evidence tends to report a lack of motivation by tourism enterprises for committing to more empowering forms of collaboration (Joppe, Brooker, & Thomas, 2015).

Looking more closely at regional and local development policies, they often select specific sectors that can be targets and beneficiaries of policy measures. If tourism is a major activity, it is often included, either as a sector in its own right or in combination with others. “Creative industries” programs, for example, can be allied with tourism, involving and benefitting from peripheral partnerships (Elche, García-Villaverde, & Martínez-Pérez, 2018). In more recent years, efforts to promote the gastronomy and food sectors also contain tourism as an actor in relation for example to marketing, festivalization, etc. (De Jong, Palladino, Puig, Romeo, Fava, Cañiero, & Sjölander-Lindqvist, 2018), and they are examples of evolving system-oriented innovation endeavors.

Cluster- and system-oriented tourism innovation policies have emerged over the millennial period, coinciding with a stronger emphasis on support given by universities to the tourism knowledge repository (Tribe & Liburd, 2017). In Europe, increased funding is encouraging the emergence of more experimental innovation policies, also aimed at renewing tourism products and processes (Benner, 2017). The weaknesses of the
system-oriented innovation policies are mainly that it takes time to build sustainable systemic structures, and that much of what is established might not have any permanence, as it depends on project financing (Björk, 2014). The effects of system-oriented policies are significantly harder to measure in a consistent way than capacity-oriented measures, leading to legitimacy dilemmas (Zapata & Hall, 2012). Versions of systems-oriented innovation policies have been in operation since the late 1980s, and still are, as the ideas align so well with the understanding of how tourism destinations are assembled in confined geographies.

**Mission-oriented innovation policy**

The mission-oriented innovation approach can be considered as a reaction to some of the shortcomings of both the capacity-oriented and system-oriented paradigms. In particular, some policymakers are impatient with the speed and depth of change, where developments and innovations are based on historical and existing industrial trajectories and on the inclinations of local businesses to participate in and work for the envisaged development. This might lead to a coincidental development, where powerful actors consolidate their influence and put a brake on radical forms of renewal (Uyarr & Flanagan, 2010). Hence, a strong path dependency may provide the business community with a possibility to earn stable profits, but may also lead to high risk aversion (Capello & Lenzi, 2016; Williams & Baláz, 2015). Another critical issue in the system-oriented policy approach is that vital transformational interrelationships between the local areas and the surrounding world tend to be overlooked in the more narrow focus on local networking and knowledge flows (Prats, Guia & Molina, 2008).

More fundamental transitions concern not only the direction, but also potentially the resource base and the core capabilities that, when activated, require other types of innovation policies. Movements in this direction can be observed in connection with the European introduction of Smart Specialization and Smart Growth as guiding principles for regional development (Benner, 2017; Foray, 2016 and 2018). Here the intention is to take into account entirely new and hitherto unnoticed entrepreneurial capacities, assets and ideas. Linking-up to the digital economy is critically envisaged as a method of creating new business models and upscaling innovative and entrepreneurial business prospects.

As suggested by Foray (2018) this is not just a return to the capacity-oriented policy, although now with a stronger digital component. The characteristic of this emergent policy area is that governments and societies will make more distinctive and visionary claims as to what needs to be achieved in the economy and with the contribution of the private business sector. The objectives of innovation policies challenge the well-known underlying intentions of economic growth. An additional key factor is that governments attempt to let societal “wicked problems” become key driving forces for the framing of policies (Wesseling & Edquist, 2018), assuming that enterprises that are successful in contributing to this aim will also be rewarded with access to new markets and wider business opportunities. “Wicked” problems are difficult societal challenges, where any answer is full of paradoxes, but where new solutions are needed for the sake of humankind in the long term. The financial crises raised new questions, and the 17 UN Sustainable Development Goals are to some extent becoming focus points for the innovative endeavor, such as outlined for tourism by Saarinen (2018). Thus, innovation policies that benefit the populations are expected to find creative solutions to climate change problems, the wellbeing of an ageing population, health and wealth disparity, resource depletion, over-urbanization, migration, increasing inequality, etc. In comparison with the system-oriented innovation policy, this mission-oriented approach has, at first sight, a narrower focus, but potentially also a more consistent and long-term commitment by public actors.

The mission-oriented innovation endeavor is conceptualized as a transformative path, which will change socio-technical systems across the public and private sectors, but also with the direct engagement of a diversity of “social partners” (Diercks et al, 2018). Throughout this process, new entrepreneurial resources will have
to be stimulated, both business-related and social, as well as new combinations thereof. Foray (2018) emphasizes the new entrepreneurial intelligence that emerges in the realm of digitization. Thus, advanced business opportunities tend to occur in places other than the traditional high-tech sphere. The sharing economy is often mentioned as an example of the disruptive economy, that creates market places for under-utilized resources, claimed to be of importance for an efficient use of space, equipment and local capacities (Gyimóthy & Meged, 2018), meaning savings in resources and the creation of employment opportunities and incomes. Despite criticism from many quarters of features of the introduction of the platform economy in tourism and the lack of well-timed regulation (Dolnicar, 2018), the development illustrates well the new mobilization of both local and external resources and alliances. Boes, Buhalís, & Inversini (2016) find that ICT is a critical enabler for many of the transformations and a critical issue in the innovativeness, but they also claim that ICT is insufficient on its own to introduce smartness.

Mission-oriented innovation policies are not neutral. They have a clear direction and prioritize wider goals than growth, jobs and business development, principal aims in the capacity-oriented policies and also imperative in the system-oriented innovation policies. In mission-oriented policies, no public funding is allocated, unless innovations simultaneously serve other critical success criteria. Among the tourism examples of the mission-oriented policies is the Swedish national strategic innovation program Vinnova that worked with the Aare winter sports destination, not only to improve and enhance tourism, but also with the intention of improving knowledge in sports medicine, including the development of treatments and equipment (Laestadius & Rickne, 2012). The process and the funding support from the Swedish government was highly and transparently controlled and guided by external specialists as well as local opinion leaders from all sectors. Other examples are found in pro-poor tourism, which mobilizes hitherto unseen demands and demonstrates genuine tourist sympathy and interest (Bakker & Messerli, 2017; Yu, Wang & Marcouiller, 2019). However, related innovation policy facets in pro-poor strategies are not yet well understood.

Tourism is crucially dependent on the quality of the environment, and many destinations are extremely vulnerable to natural disasters and climate-related negative impacts from flooding, storms and storm surges, water shortage, deforestation, etc. This is causing alarm, not only among many governments, but also among citizens, businesses and tourists (Hoogendoorn & Fitchett, 2018). Numerous destinations have actually inaugurated innovation policies that are partially or fully based on the mission-oriented approach. Costa Rica was among the first to work consistently with ecotourism, and to involve actors widely including supportive networks and funding from outside (Hunt, Durham, Driscoll, & Honey, 2015). Later examples demonstrate that there are many stakeholders with conflicting views, but nevertheless attention to the climate agenda can be considered an advancement towards a refined design of value-based innovation policies with an intensive involvement and stewardship (Liburd & Becken, 2017).

Mission-oriented innovation endeavors are often distinctively cross-industry and cross-sector-based. Tourism relates for example to food production, foodways and foodscapes, and thereby to the creation of fair living conditions for farmers and fishermen (Ambelu, Lovelock & Tucker, 2018). As seen above, meaningful linkages can be made with health and medical industries, and the alliances are designed to benefit both the medico-sector and tourism. Other areas of interest might be urban planning and the built environment, cultural spheres, and education.

What is particularly interesting about the mission-oriented innovation policies is the propensity to involve not only the locals, but also tourists in the development processes. The term transterritorial has been used to indicate that innovation needs inputs and meaning from other places, and that tourism inflows depend on human relationships much more than on simple marketing and branding (Fisker, Kwiatkowski & Hjalager, 2019). Giving back, paying homage to the destination are novel tourism features that emerge in many ways, such as for example working in waste collection, participating in farming, donating and participating in crowdfunding programs (Galdon-Salvador, Garrigos-Simon & Gil-Fechuan, 2016; Mariani, Cataldo, & Vastola, 2014),
or being ambassadors for the place at home. Social media is essential for transparency, and the design of mission-oriented approaches must work with an extended and compliant media and publicity strategy packed into a “collective morale” (Mkono & Holder, 2019).

There is also some skepticism around the mission-oriented innovation policies (Foray, 2018; Schot & Steinmueller, 2018). How can governments be certain that the chosen fields of intervention will pay back, and that the invited actors will seriously contribute? Can we be sure that the new focus will not lead to welfare loss, new types of social divide, or unintended knowledge outflows (McCann & Ortega-Argiles, 2013)? In addition, working on a mission might be more involving for governmental bodies, and for that reason a destination or country cannot simultaneously work on all thinkable missions. Much goodwill and many actors have to be put on ice. A feature of the innovation endeavor is that it is often highly experimental, and some experiments do fail.

**Conclusion on the outline of the paradigms**

Three paradigmatic generations of innovation policies are outlined above. The generations are not clear-cut, and in all types of societies, backlashes will occasionally be seen. However, the paradigms outlined are a way of thinking about the construction of strategies and transforming them into actions. They also deliver a framework within which shortcomings and dilemmas can be identified. When observing the summary in Table 1, it is obvious that complexity increases from the capacity-oriented to the mission-oriented paradigms. Policy goals and objectives become more comprising, and more categories of actors are taken into account, ranging from double helix to quintuple helix. Linear ways of progression thinking are replaced with more circular formats where prospects include both economic and social elements. There is no guaranteed success with innovation policies, but with an evolvement towards the mission-oriented polices it becomes even more difficult to establish firm and indisputable evaluation indicators.

Table 1 summarizes the features described above. The topic of tools and specific policy will be developed in the next section of this article.

**Table 1. Overview of innovation policies**

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<th>Capacity-oriented</th>
<th>System-oriented</th>
<th>Mission-oriented</th>
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<tr>
<td><strong>Main objectives</strong></td>
<td>Removing innovation and implementation barriers</td>
<td>Selecting and promoting prospective sectors and activities</td>
<td>Solving critical societal problems and simultaneously creating business advantages</td>
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<tr>
<td><strong>Interplay between government and business actors</strong></td>
<td>Double helix: Arms-length, neutral and (potentially) equality-oriented</td>
<td>Triple helix: businesses, governments and universities</td>
<td>Quintuple helix: business, governments, universities, NGOs and customers/tourists.</td>
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<tr>
<td><strong>Examples of instruments</strong></td>
<td>R&amp;D subsidies</td>
<td>Promoting university-industry collaboration</td>
<td>Targeted R&amp;D related to specific “wicked” problems</td>
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<td></td>
<td>Transportation and other infrastructures</td>
<td>SME-partnerships</td>
<td>Import of critical knowledge.</td>
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<td>Advisory services</td>
<td>Strategic public procurement</td>
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<td>Technology scouting</td>
<td>Testing with the assistance of NGOs, citizens, tourists.</td>
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<td>Incubators</td>
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<td>Training and education</td>
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<td><strong>Policy strengths</strong></td>
<td>Rapid progress</td>
<td>Involvement of many actors, a local mobilization, increased transparency. Knowledge based side-effects.</td>
<td>Wicked problems addressed. Social advancements together with economic transitions.</td>
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Policy weaknesses

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<th>Policy weaknesses</th>
<th>Time</th>
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Surveying innovation measures

There is a considerable academic interest in innovation policy and some of the main contributors are referred to above. Case studies are of importance in scrutinizing the nature and impacts of innovation policies, not least in the situation of transition, where goals, objectives, target groups, beneficiaries and success criteria shift. Deeper study also involves specifically surveying what countries and regions do to stimulate innovations in their areas.

A substantial resource is provided by the EC-OECD Science, Technology and Innovation Policy Survey (EC-OECD, 2019) which surveys the measures, themes and monetary investments in more than 5,000 policy initiatives in member countries. Tourism is not identifiable per se, but the database provides a detailed insight into the portfolios of instruments implemented, organized according to the following types:

- **Direct financial support**: Institutional funding for public research; project grants; grants for business R&D; centers of excellence grants; procurement programs; research fellowships; loans and credits for innovation; equity financing; innovation vouchers.

- **Indirect financial support**: Corporate tax relief for R&D; tax relief for individuals supporting R&D; debt guarantees and risk sharing schemes.

- **Guidance, regulation and other incentives**: Technology transfer and business advisory services; labor mobility regulation and incentives; intellectual property regulation and incentives; science and innovation challenges, prizes and awards.

- **Collaborative platforms and infrastructure**: Cluster and other networking and collaborative platforms; dedicated support for new research infrastructures; information services and databases.

- **Governance**: National strategies and plans; creation or reform of governance structures or public bodies; policy intelligence; formal consultation of stakeholders or experts; horizontal STI (Science, Technology, Innovation) coordination bodies; standards and certification for technology development and adoption; public awareness campaigns and other outreach activities.

The measures do not immediately deliver support for the three paradigms separately. However, there is considerable economic support for R&D, which is largely but not exclusively a capacity-oriented instrument. However under “collaborative platforms and infrastructure”, there might be openings towards the systems-oriented policies, and the government documents provided suggest that, nationally and particularly regionally, there is an emphasis on a variety of collaborative measures. The mission-oriented approach may be explicated in national strategies, agendas and plans and the enhancement of horizontal coordination, but is otherwise not very visible in this list of instruments. However, the monitored policies are also organized on a thematic axis which includes, among others, the following items of higher relevance for the mission-oriented innovation policies, and potentially tourism:
Research and innovation for society: research and innovation for society strategy; for health and healthcare; for sustainable development; for developing countries; multi-stakeholder engagement; science, technology and innovation culture.

Digitalization: Digital transformation of firms; near-to-market digital technology; high-performance computing; artificial intelligence.

Public-private knowledge transfer and linkages: Transfer and linkage strategies; collaborative research; cluster policies; commercialization of public research results; intersectoral mobility; intellectual property rights in public research.

A further search of the STIP-database comes up with only a few results for tourism, which might be understandable when observing the types of policy measures and the thematic areas identified. In the specific programs at county and regional levels, tourism is a sector for innovation in connection with digitization, and it is also observable in sustainable development endeavors. The limited existence in the database might be symptomatic of the intensity of innovation in tourism. It is incremental and goes under the radar of governmental financing and support. Among the more than 5,000 policy incidences, no innovation policy programs are found to be directly tourism-oriented.

A deeper study of innovation policies that affect tourism will therefore require a tailored survey. Such a scale was developed in collaboration with the Overseas Countries and Territories Association and tested on 12 members. In order to demonstrate the survey scale used, a short account is given below.

Overseas Countries and Territories and innovation policies

Overseas Countries and Territories (OCTs) are made up of 25 islands located in the Atlantic, Antarctic, Arctic, Caribbean, Indian Ocean and Pacific Ocean. They are not sovereign countries, but depend on four EU Member States: Denmark, France, the Netherlands and the United Kingdom. Economically and industrially, there are major differences between them. For many OCTs, tourism is a significant source of income and employment, and of critical interest for future developments.

Considering the special geographical features of extremely small-scale and institutional dependencies, the OCTs’ local governments strive to ensure consistent and positive economic and social development. In recent years, the OCTs have taken initiatives to consolidate and develop policies. OCTs are in different development phases of tourism, and they need to build capacity in terms of institutional structures, human competencies, physical infrastructures and collaborative mechanisms.

The OCTs and in general, innovation policies in tourism must address local strengths, potentials and challenges. Small communities with seasonality challenges and scale disadvantages might in particular choose to integrate and combine innovation in tourism with emerging activities in other services and economic activities, for example agriculture, welfare, public services, extractive businesses, etc. Under these circumstances, innovation policy will have to be cross-sectoral, but must also build on cross-territorial ingredients.

The OCTs demonstrate a clear commitment to tourism development issues, but they are also challenged spaces. Many of them are extremely vulnerable to climate change, experiencing increased incidences of hurricanes, extreme drought, flooding, land and beach erosion, declining biodiversity, etc. There is an increasing focus on local resources and potentials available in or in connection with protected areas or in the marine environment. The protection of environmentally vulnerable environments and nature areas is high on strategic agendas. Another issue is that OCTs are critically dependent on air transport, and thus sensitive to changes in environmental regulation and consumer attitudes. Opportunities to emphasize heritage vary
substantially across the OCTs. Development strategies often include museums and archeological sites and attractions, in participative animation models. Competency development is reflected in a variety of cultural, heritage and traditional gastronomy fields and is mentioned a number of times, despite the OCTs’ strong dependence on food imports. The attraction of a larger share of the cruise market represents an ongoing issue in the strategies and the innovation endeavor. This also concerns establishing a reasonable financial balance between infrastructure investments, promotional actions toward cruise companies and the internal development of visitor attractions (www.octassociation.org).

Innovation policy portfolio
The survey produced 11 responses submitted by innovation policy bodies. The low number limits the possibility for more advanced statistical analysis, and for this reason the study must be considered indicative. This section presents the weighting of policy instruments, normally considered of importance for the stimulation of innovation in private businesses and in a variety of public and semi-public institutions of importance for tourism.

Table 2. Over the past 3 years what policy instruments have the governance bodies in the OCT used to stimulate innovation in private/NGOs tourism businesses?

<table>
<thead>
<tr>
<th>Financial instruments</th>
<th>Average of scale of 4, where 4 is very high importance and 1 is very low importance</th>
<th>St. dev.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants or loans to innovative investments in the businesses</td>
<td>3.0</td>
<td>1.2</td>
<td>10</td>
</tr>
<tr>
<td>Provision of subsidized business advisory services</td>
<td>2.5</td>
<td>1.4</td>
<td>10</td>
</tr>
<tr>
<td>Subsidies for feasibility services, prototypes, tests, etc</td>
<td>2.2</td>
<td>1.4</td>
<td>10</td>
</tr>
<tr>
<td>Tax credits for innovators</td>
<td>2.0</td>
<td>1.1</td>
<td>10</td>
</tr>
<tr>
<td>Attracting external funding/investor from outside the OCT for innovative investments</td>
<td>1.9</td>
<td>1.1</td>
<td>11</td>
</tr>
<tr>
<td>Working with business angels</td>
<td>1.6</td>
<td>1.1</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge and skills provision</th>
<th>Average of scale of 4, where 4 is very high importance and 1 is very low importance</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting university research projects of relevance for business innovation</td>
<td>1.8</td>
<td>1.1</td>
<td>9</td>
</tr>
<tr>
<td>Training business actors in innovation methods and business development skills</td>
<td>2.4</td>
<td>1.0</td>
<td>10</td>
</tr>
<tr>
<td>Providing access to knowledge centers abroad/in mainland Europe</td>
<td>2.2</td>
<td>1.2</td>
<td>9</td>
</tr>
<tr>
<td>Codification of innovative best practice in standards, for example ISO, sustainability labels, certifications</td>
<td>2.3</td>
<td>1.3</td>
<td>10</td>
</tr>
<tr>
<td>Offering staff mobility programs</td>
<td>1.7</td>
<td>1.0</td>
<td>10</td>
</tr>
<tr>
<td>Organizing study trips and trips to fairs, exhibitions outside the OCT</td>
<td>3.0</td>
<td>1.0</td>
<td>11</td>
</tr>
<tr>
<td>Start-up training and advisory/mentor support to entrepreneurs</td>
<td>2.5</td>
<td>1.4</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Collaboration and networking</th>
<th>Average of scale of 4, where 4 is very high importance and 1 is very low importance</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment and facilitation of tourism business networks</td>
<td>3.2</td>
<td>1.0</td>
<td>10</td>
</tr>
<tr>
<td>Linking tourism businesses with community actors in other sectors</td>
<td>2.8</td>
<td>1.3</td>
<td>10</td>
</tr>
<tr>
<td>Linking tourism businesses with mainland-Europe actors</td>
<td>1.9</td>
<td>1.3</td>
<td>10</td>
</tr>
<tr>
<td>Creating public-private partnerships</td>
<td>3.1</td>
<td>1.0</td>
<td>10</td>
</tr>
<tr>
<td>Stimulating the establishment of cross-sectoral clusters</td>
<td>2.4</td>
<td>1.4</td>
<td>10</td>
</tr>
</tbody>
</table>

| Infrastructures and territorial management                                           | Average of scale of 4, where 4 is very high importance and 1 is very low importance |         |      |
The overview provided in Table 2 suggests that the OCTs do work with different measures. There is, however, an emphasis on measures that logically belong to the capacity-oriented paradigm such as the establishment of infrastructures. As island destinations, airports and harbor facilities adapted to the cruising industries are critical. The financial measures consist, for example, of favorable taxation agreements with investors. The activation of small-scale resources, such as guest houses, are crucial for some of the OCTs, and interventions are meant to expand the resource through the provision of favorable conditions for the proprietors. Private-public partnerships are stated as a way to deal with issues related to the investment climate and to joint and coordinated marketing and branding.

However, it also appears that some of the OCTs move into the more system-oriented innovation policy measures. The collaborative emphasis is mainly connected to the activation of new resources for tourism, such as, for example, nature resources, trails and tracks and culinary experiences. This type of endeavor requires collaboration with SMEs and NGOs. There is an acknowledgement of the knowledge needed to guide and accelerate such developments, and some of the OCTs work on acquiring knowledge and stimulating training. Collaboration across the OCTs and with mainland countries is not extensive, but co-operation is envisaged in different formats as a relevant factor in accelerating capacity. System-oriented measures tend to be new to the OCTs, and governments are working to find methods to progress along these lines.

Emerging climate change challenges mentioned by the OCTs in workshops and in policy documents provide indications that the OCTs may in future move towards more mission-oriented categories of innovation policies.

**Thematic fields**

The individual OCTs’ innovation portfolios outlined above are found to be fairly narrow. This is supported by another question in the survey, where the respondents are asked to rate the prioritized thematic fields over the past three years. On average, ‘increasing access to the destination’, ‘upgrading/expanding the accommodation capacity’, and ‘changing the destination image/brand profile’ are high on the list. However, some priority is also given to ‘ensuring environmental sustainability’, ‘creating jobs and educational facilities’ and ‘community responsibility’. Aligning with food, creating entirely new attractions, inventing nature activities and exploring ‘smart’ concepts are not given particularly high priority. This representation is understandable, as institutional capacity is limited and governance bodies are small. This may also help to explain the dominance of the capacity-oriented activities, which tend to be less demanding to pursue for the governance institutions. The respondents appear to be uncertain about concepts such as “smart specialization”, and other cross-sector thinking is not considered a priority.

**Table 3. When stimulating innovation in tourism enterprises and NGOs, what thematic fields and missions were, over the past three years, given as a priority (3 = high priority, 1 = low priority)**

<table>
<thead>
<tr>
<th>Thematic fields</th>
<th>Average of scale of 3, where 3 is high priority, 1 low</th>
<th>St. Dev.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrading/expanding the accommodating capacity</td>
<td>2.6</td>
<td>0.7</td>
<td>11</td>
</tr>
<tr>
<td>Reducing cost/increasing profitability</td>
<td>2.0</td>
<td>0.9</td>
<td>9</td>
</tr>
<tr>
<td>Ensuring environmental sustainability</td>
<td>2.5</td>
<td>0.7</td>
<td>10</td>
</tr>
<tr>
<td>Increasing access to the destination</td>
<td>2.8</td>
<td>0.6</td>
<td>11</td>
</tr>
<tr>
<td>Changing the destination image/brand profile</td>
<td>2.4</td>
<td>0.9</td>
<td>9</td>
</tr>
<tr>
<td>Developing entirely new attractions</td>
<td>2.1</td>
<td>0.7</td>
<td>11</td>
</tr>
</tbody>
</table>
Discussion

This article contributes to the theorization of the innovation policy field. It establishes a universal trend in the development of the policies in the three paradigmatic archetypes. The first type and generation consists of capacity-oriented policies, where policymakers attempt to stimulate innovation in the tourism business sector by impacting financial and infrastructural measures in general. The second generation, which consists of system-oriented policies, is a response to some of the weaknesses of the capacity-oriented policy intervention modes. Here the emphasis shifts towards collaborative mechanisms and a higher reliance on the importance of local resources and knowledge. In terms of tourism it promotes measures for further diversification of services and products. The third generation, the mission-oriented innovation policy phase, opens the perspective towards embracing wider societal goals and attempting to include measures that address, for example, environmental and social issues without compromising the need for an economically adequate future, potentially also with some growth perspectives. Here, individual local areas expand to embrace external collaborative relationships.

The literature review shows that even when talking about a general trend in the perceived legitimate and efficient ways to stimulate innovation in the business sectors, the individual generations tend to overlap. Some ideas and measures otherwise found outdated survive or are even occasionally restored. However, the overarching innovation policy agendas suggest that the policy ideas are in a progression from capacity-oriented policies towards system-oriented and mission-oriented policies, and that strong future trends and emerging wicked problems such as climate change and social and demographical mega-developments are the driving forces. The EU can be said to support the progression, by, for example promoting smart specialization strategies (Asheim, 2019; Foray, 2018; Weidenfeld, 2018).

The observations from the OCTs provided above indicate that these territories tend to be in favor of and practice the implementation of the capacity-oriented measures. This may well be due to the fact that the OCTs are small communities with limited powers of governance for more compressive and involving types of strategies. Many of the OCTs depend on beach and resort tourism and cruising tourism, where customers’ demands tend to be fairly conformist, and for that reason the OCTs may not experience any great pressure to be innovative in their general approach to the product. They are also dependent not only on their own limited capacities, but also on the goodwill of the mainland countries and the EU. The OCTs are “peripheral” in many senses, and what is observed in their innovation policy strategies is, among other issues, a consequence thereof (Amoano, 2017; Gay, 2012).

OCTs are not the only small, remotely located communities in the world. As mentioned in the research (Carlson & Butler, 2011; McLeod & Croes, 2018), similar challenges are present in many other areas, both in independent island countries and in territories that are constitutional parts of larger mainland areas. The pattern of dependency of small islands and communities translates into an entirely reasonable and explainable disinclination to move and expand innovation policies from the capacity-oriented towards the subsequent forms.
Conclusion
The main contribution of this article is the framing of innovation policies in three paradigms that embrace a
general development of ideas about how governments (national and regional) may stimulate innovation. It
can be seen that the framework also has significant relevance for tourism, where it might open and renew
the discussions about the future of tourism. Both media and academic research increasingly address the
“wicked problems” in society, where many have some associations to tourism, such as carbon footprint is-
sues, over-tourism, biodiversity degradation, health challenges, etc. These and other problems call for innova-
tions, where neither the tourism industry nor governments have so far delivered sufficient and appropriate
answers.

There are numerous examples of tourism innovation policies in the capacity-oriented and the systems-orien-
tated modes, many successful within their particular logics, and shown in the outline above. If countries and
regions aspire to launch more proactive categories of innovation policies and instruments identifiable from
the system-oriented and the mission-oriented policies, they will need to build new types of relationships with
governance bodies and knowledge institutions both inside and outside their communities. A contemporary
tendency in tourism is the increased reliance on the empowerment of tourists and the creation of intercon-
nectedness and loyalty that go far beyond the single holiday visit in terms of time and space.

In order to establish a consistent explanatory basis, studies of innovation and innovation policies often select
the most advanced cases. They seek best practice or first practice. In terms of innovation policy, this study
deals with some of the less advanced types of communities, and it seeks to explain the main trends and the
undercurrents of concerns that confront the governance bodies and the tourism business. Although the study
is limited in scale, it is a good illustration of the ways of thinking in the theoretical paradigmatic model.

Part of this academic endeavor addressed how to use existing and construct new useful and meaningful
scales for the analysis of innovation policies. The general and systematized STIP and EC-OCED studies have
advantages in terms of comprehensiveness, as mentioned above. This study took the opportunity to go a
step further and focus more closely on the innovation challenges in tourism. In future studies, versions of
this scale may, for purposes of better comparison, be applied to other types of territories, such as, for exam-
ple, regions, cities or entire countries. Supplementary analyses of this kind will be of importance for a further
examination of innovation policies in tourism, including answering questions about why, how, when, for
whom, and with what effects.

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