

Coordination in a tourism ecosystem

Methods to tackle wicked problems

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Abstract

Integrating complex business networks in Tourism is a wicked problem. Many different business owners have various goals and management approaches. A tourist network is often managed through coordination and partnerships because the sheer complexity of trying to be competitive makes little sense when so many businesses have a common goal. In this paper we explore how thinking in network terms in tourist business networks actually sheds light on how to manage wicked problems in general. In particular, we focus on how the network approach to managing complex networks in business may produce leverage points for synthesising managerial tension points between partners and thereby facilitate innovation systems. We argue that the network approach may shed light on how to build platforms for gaining traction and synthesis in wicked problems. We conclude with suggestions for future research.

Introduction

Organizations in tourism increasingly compete through tightly integrated tourism supply networks, rather than between separate firms and supply chains¹. This has been evident in the Tourism Destination^{2,3,4} and the Tourism Supply Chain literatures^{5,6}. Network partners of such tourism network are defined beyond traditional supply chain boundaries and consist of a range of entities such as tourists, companies that act as service providers and intermediaries, government agencies, regulators, technology providers; communities; and consultants.

Enabled by emerging technology, process innovation and new management approaches, partners in tourism supply chain networks engage in new ways to achieve their commercial and non-commercial objectives. Several authors find evidence that the business network view is being extended and they introduce concepts such as the Tourism Value Ecology or Tourism Business Ecosystem (TBE)⁷. In a TBE the competition is complemented by an increased cooperation in order to boost agility, flexibility and efficiency, often leading to an environment of co-opetition⁸. A business ecosystem is a networked system which comprises the buyers, suppliers and makers of certain products or services, the socio-economic environment, including the institutional and regulatory framework (the business ecosystem defined by^{9,10}. It can be complemented by a process and technological infrastructure (platform) aimed at creating a business ecosystem environment for the networked organizations that supports the cooperation, the knowledge sharing, the development of open and adaptive technologies and evolutionary business models ^{11,12} introduce the platform ecosystem concept and post that these provide new governance mechanisms through shared standards, formats, and rules to support value co-creation in the network.

We adopt the view that tourism involves networked orderings of people, natures, materials, mobilities and cultures; production as well as consumption of those different elements ¹³. In a business ecosystem service is provided through a complex combination of organizational resources of many business partners ^{14,15} and increasingly through networks, that allow for flexibly restructuring and re-aligning resources of many partners (e.g. through outsourcing) toward common objectives¹⁶.

A tourism destination may be considered as a cluster of interrelated stakeholders (both public and private) embedded in a social network (Baggio et al., 2010b). In such a network, an individual company's performance depends also on the behavior of other companies and vice versa^{17,18}. The performance of a tourism destination as a whole depends on the web of connections between the various players and not only on the intrinsic characteristics of the destination¹⁹. Drawing the precise boundaries of an ecosystem is an impossible task. Rather, in a business ecosystem organizations whose futures are closely intertwined must determine the dependencies that are most critical. For example, a healthy TBE is shown by the network's ability to consistently align all required resources (technologies, accommodation, restaurants, entertainment, and nature) to transform them into a tourism experience and into innovation and lower costs and new products/services. Such alignment across multiple stakeholders is vital for the TBE's success, as it poses a range of challenges akin to a wicked problem.

A number of characteristics must be highlighted that differentiate a TBE from other governance models in business. Hearn²⁰ states that a viable paradigm shift under the value ecology system includes a transition from customer to co-creator, from product value to network value, and from simple cooperation and competition to co-opetition. .

Such a characterization of a TBE implies that stakeholders may not always be in agreement about goals and objectives, let

alone the processes to reach and implement them. Mutual understanding may not always be the case. The opposite may arise, where the implementation of tourism destination objectives may present themselves as 'messy', or indeed as a wicked problem.

A wicked problem is often classified as a complex interaction of perceptions that intertwine to form a mess²¹. It's considered wicked because it has: no definite solution that is likely to work, no shape or structure that be adequately justified or defended²² and it has no real way of being finished²³ or said to be completely solved. In TBE the notions of mutual understanding and multiple objectives are a case in point. How can so many structures that intertwine create a stable platform for problem solving? That is, if so many viewpoints exist and they need to be resolved into a contiguous structure, how can that be possible in such a complex environment? Seeing wicked problems as a web of possible connections is a starting point. In other words, if the problem situation is 'wicked' then it may be better to suggest a network perspective to gain some kind of traction²⁴. This is because it is easier to see the interconnections between parties, how they relate or are connected, as opposed to having a unified structure that can never been realised. The TBE presents an opportunity to manage a wicked problem by thinking about connections and tensions²⁵. By seeing the connections between parties, the ways in which they relate to each other, the influence of the problem can be revealed.

In fact, the TBE is a way of making sense (Weick 1995) of a complex problem environment through the theoretical lens of the network. It sidesteps the structure of the problem and instead structures it as a TBE concept. In this paper we explore why this may be useful for analysis. In particular, we are interested to see how the TBE creates a meaningful platform for making sense of wicked problems, such as coordinating a business network.

The paper is structured as follows: We first examine the characteristics of the business ecosystem. Then we discuss inherent coordination and decision making issues and challenges, and identify them as wicked problems. Next, we develop an approach for tackling wicked coordination problems, and illustrate this in the context of the Sunshine Coast Tourism Business Ecosystem. Finally we highlight areas for further research.

In the following section we describe the characteristics of the TBE and related issues of coordination.

Key characteristics of TBE

Emerging from consumption to co-creation

Consumers in tourism are seen as networked, active, informed, and involved in consumer communities, and co-creating their tourism experience; being transformed from "passive audiences" to "active players"²⁶ in consumer-driven value co-creation²⁷.

The tourism experience is evaluated by a visitor at a holistic level, and is comprised of a multiplicity of service encounters²⁸ and the tourist's own decisions. A visitor's evaluation is thereby a complex assessment as to whether the tourism experience has generated perceived value from visiting a destination²⁹.

In today's knowledge-based economy, the notion of value is inherently varied and multi-faceted. The customer becomes primarily a co-producer or co-creator, rather than a sales target, and tends to be involved in the entire value chain¹⁴. In tourism, value as a construct resides within an evaluation framework, in terms of time, space, and costs³⁰, whereby each of the value drivers do not originate from one single company's supply chain, but is composed of the contribution a number of ecosystem partners. Consequently, the value of a visitor's journey or experience resides in the sum of these experiences. Sheth³¹ suggest that consumers buy or use a certain product, service or experience rather than another, by integrating their sense of cost and benefits into their value concept. In a tourism sense, ³² found similar outcomes in that visitors assess the notion of value for money, as a cost, into a functional value component.

The fact that the consumer takes the role of a co-creator amongst a network of business ecosystem partners creates challenges in the coordination of activities. The role of the consumer, the businesses and the governing structures like council, create an interrelated network of interests. The problem of interacting through these different perceptions of what is important, creates tension between different parties, thus resulting in a wicked problem. The consumer view makes the problem even more complicated because it creates a problem of value co-creation. This means that businesses not only have goals to provide a service or deliver a product, but must be able to accommodate this emerging view of business. Such value co-creation within a TBE framework is illustrated in the recent research contribution of ²⁶, who investigated how a platform (in this case IT-based) enabled value co-creation in its TSC on the island of Sardinia. Portale Sardegna, an Italian online tour operator, launched a new product, Open Voucher, with the objective to prolong the tourist season on the island, that is, to create a Sardinian tourism product capable of attracting tourists to the island during the low season (October to May)³³. The new product allowed tourists to book the entire trip (including hotel and car rental) in real time and to plan a personalized itinerary allowing them to change hotels each day if desired. In particular, Portale Sardegna orchestrated resources (airlines, car rental companies, and participating hotels) to co-create value with customers who designed their itinerant vacation package.

Emerging from competition to co-opetition

Hearn²⁰ states that a viable paradigm shift under the value ecology system is an act of transition from simple cooperation or competition to co-opetition. Developing and managing networks presents considerable challenges for firms and organizations³⁴ in a network. Capabilities and corresponding relationships are not owned and controlled by individual actors, though some may exert considerable influence. Rather, they are co-produced by the actors involved and developed in productive ways (or not), based on the interactions taking place over time, including both economic and social dimensions¹⁹. The role of collaborative relations has been the subject of much research interest in management and marketing of late, as attention has focused on collaborative advantage as a key determinant of a firm's competitive advantage³⁵⁻³⁶⁻³⁷. Tourism networks are complex and mutable entities that develop and evolve over time in response to environmental and organizational developments and demands³⁷.

A limitation of current tourism network studies is the assumption that individual enterprises in the network have the same status and power. However, some hotels and tour operators have more market power than others³⁸. Tejada³⁹ observes the emergence of networks as a predominant form of governance between firms in the tourism value chain, and distinguish three types of network relationships. Focal organizations may play a crucial role in business ecosystems. They can improve the overall health of their ecosystems by providing a stable and predictable set of common assets. Focal organizations increase ecosystem productivity by simplifying the complex task of connecting network participants to one another, or by making the creation of new products by third parties more efficient. They can enhance ecosystem robustness by consistently incorporating technological innovations, and by providing a reliable point of reference that helps participants respond to new and uncertain conditions. Furthermore, they can encourage ecosystem niche creation by offering innovative technologies to a variety of third-party organizations.

As the movement of structure goes from a neat formation, as in typical business designs, to a loosely coupled network (see below), the problem of the TBE can be analyzed through the connections that are created. For example, when considering union action or large scale political problems in a war torn country, there is no single cause that can neatly explain the problem. However, stepping back and looking at the problem from the network perspective, one begins to understand that several key things are emergent. Firstly, that structuring what can't be structured results in a very simple pragmatic choice. One must look towards the connections that sustain the wickedness, instead of relying solely on a linear style of analysis. That is, an effective platform for understanding must be reached⁴⁰. Further, because the problem situation is unstructured, the platform, in this case the TBE, may create a broader view of the problem when considering how these actors are connected. The TBE perspectives offer a unique opportunity to build a platform for understanding how actors relate in wicked problems. In the following section we take this idea further by discussing how loosely coupled networks give rise to important relationships.

From hierarchy to loosely coupled network relationships

ansiti⁴¹ defines business ecosystems and assert that “[...] these loose networks—of suppliers, distributors, outsourcing firms, makers of related products or services, technology providers, and a host of other organizations—affect, and are affected by, the creation and delivery of a company's own offerings”. Business ecosystems achieve this by creating “platforms”—services, tools, or technologies – that other members of the ecosystem can use to enhance their own performance.

Ecosystem connectivity is recognized as a major benefit. Technology facilitates external collaboration with partners and customers, which can lead to improvements in productivity and increased innovation. Cloud-based platforms can bring together disparate groups of people who can collaborate and share resources, information and processes. This is illustrated through HealthHiway as to how a cloud-enabled business model can enable ecosystem connectivity. HealthHiway, a cloud-based health information network, enables the exchange of information and transactions among healthcare providers, employers, payers, practitioners, third-party administrators, and patients in India. By connecting more than 1,100 hospitals and 10,000 doctors, the company's software-as-a-service solution facilitates better collaboration and information sharing, helping deliver improved care at a low cost, which is of particular importance in growing markets, such as India.

From self-interest to shared objectives

The defining characteristics of business ecosystems are “orchestration” and “mutuality.” Enterprises in ecosystems operate out of mutual self-interest, rather than just individual self interest. By so doing, they are able to create more value within the ecosystem by acting together than they could by acting alone. “Mutuality” describes how much the ecosystem’s formally or informally shared ideals, standards or goals enhance coordination in the network. In the context of an ecosystem, “orchestration” describes the degree of formal or informal coordination of interactions or collaborations among participants within the system. Orchestration may be informal, exerting influence through cultural norms and imperatives, or it may be formal, enforced by explicit rules or the presence of an actual orchestrator—a focal entity that facilitates and manages ecosystem processes and interactions⁴², as depicted in Figure 1.

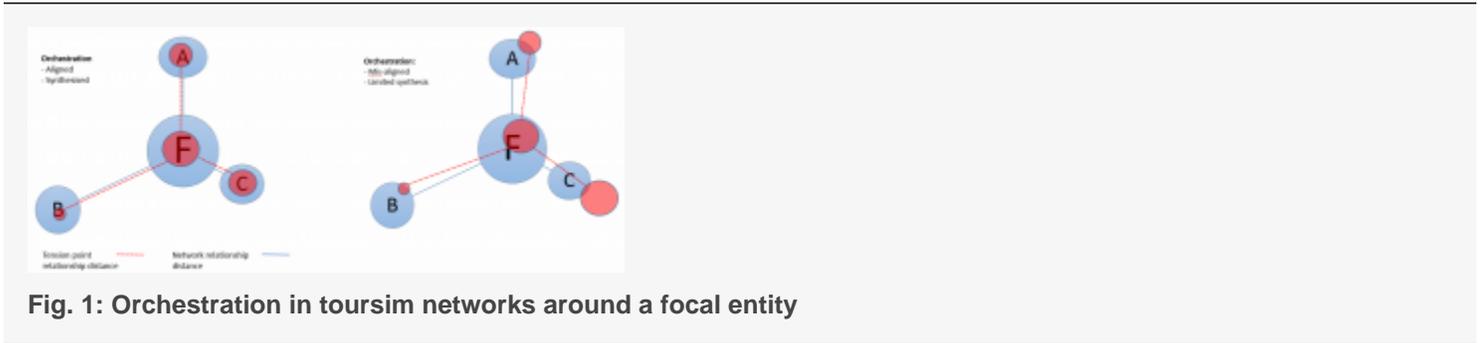


Fig. 1: Orchestration in tourism networks around a focal entity

The question then becomes how to manage the network of affiliated partners, operators, politicians, and government officials so that they are all aligned to the general ‘ecosystem’ of the tourism industry. How do we divide the attention, allocate the resources, and manage the infrastructure associated with such a complex group of partners? More to the point, how can the ecosystem of the tourism industry effectively be coordinated and controlled? This ‘wicked problem’ needs an effective way of management if it is to be harnessed. In this paper we explore how a council organized their approach to managing this problem through use of a network approach to wicked problems. This involves learning to integrate seemingly unrelated perspectives²⁵ and combining them into an aggregated network ecosystem model.

Next, a network approach is outlined as to how to tame such wicked problems, and illustrated in a short case study demonstrating how the council in question applied this thinking.

Tackling wicked problems in a TBE

Wicked problems are conceptualized as having no easy definition and are conceptually ill-defined. Coyne⁴³ discusses wicked problems as having loose definitions, no clear goals, multiple stakeholder involvement and an extreme amount of subjectivity. Coyne⁴³ argues that a wicked problem has no clear definition and relies on the actor’s interpretations of the problem to give it meaning. Grint (2005) states that a wicked problem is complex, often intractable, with no stopping point (a place to say it’s finished... see Eden 1987), no unilinear solution, no easy definition, no easy right or wrong answer, but only better or worse explanations (Metcalf 2005). Grint (2005) makes the point managers do not have the right not to make a decision. Wicked problem-solving research of the 1970s stated that the planner has no right to be wrong²² (Grint 2005) and has to act and invest time and energy into resources needed to solve the problem.

Grint (2005) argues that the more wicked a problem is, the more collaborative the resolution should be. Further, Grint argued that such complex problems require leadership and collaboration around possible points of agreement, which leads to exploring together, rather than moving apart. This kind of leadership is implied by the TBE model. It is important to note that Grint is not suggesting collaboration as a possibility, but rather stating that, without a collaborative resolution, it is impossible to get all of the disparate parties to the table.

Earlier in the 1970s, the wicked problem-solving theorists Rittel and Webber²² realized that some problems escape easy definition. Rosenhead⁴⁴ argues that management problems, those that involve coordination and control, often do not come with a clear definition. Further, he argues that when dealing with a management problem, the key issues of coordination and control overshadow the actual problem definition. So those dealing with problems often asked the question, ‘what is the problem?’ Rittel and Webber²² highlighted this in their original study, further suggesting that wicked problems escape definition, have no easy way to manage them, and are often further complicated by an interconnected social reality that reflects many different stakeholder viewpoints. This was further confirmed by the work of²¹, Checkland⁴⁰ and many others (Mingers and Rosenhead, 2004, ⁴⁵) who found that wicked problems occur in a social network, and are defined within the realities of multiple possible actors and many different stakeholder interpretations.

Recently research has suggested that problem solving in such context can best be managed through understanding of networks (Roberts 2000). Such insights emerged from political science literature, where the idea of solving a policy problem must take place through different stakeholders. Van Bueren, Klijn and Koppenjar²⁴ where amongst the first scholars to use a ‘network’ perspective to analyze wicked problems. Since this time, research about wicked problems has consistently drawn on the idea that wicked problems can be assessed and discussed as a series of networks interactions. This views the wicked problem as a

series of tension point **25** that make up a whole map of problem interactions. Put simply, in this view the problem is seen to be a complex interaction of smaller problems that form a network of bigger problems. That is, the social environment is so complex that it creates a network of related concerns that develop into a complex network of related issues.

Researchers have always contested two paradoxical points about wicked problems. Firstly, that a wicked problem has no linear solution and no place at which stopping it makes sense^{23·22·44}, but it still requires some kind of leadership in order for traction to be made in the issue (Grint 2005). To make matters worse, most literature in Wicked Problems spreads from management (see Ritchley 1979), to Operations Research (Mingers and Rosenhead 2004), to Design⁴³. There is a huge lack of consistency in methods, ideas and concepts for approaching the problem. It makes sense that the concerns would be interdisciplinary, but the paradox of the wicked problem remains: it can't be managed but has to be managed.

In this vein research recently conducted suggested that a possible methodology for managing wicked problems was to build a platform based on the notions of tensions **25**, leading to the possibility of synthesis **21**. That is, to dissolve a wicked problem, a transcendental approach must be undertaken, which we define as a network approach that visualizes and maps the tensions, tries to create elements of synthesis (new connections or new realities) that can dissolve the old, and aggregates or synthesizes a new model or models. In this way, the network approach to wicked problems sees the connections to a problem not as a synchronized 'machine', but as an asynchronous phenomenon. A tourism network may comprise a close relationship of operators, governments and business 'systems', but the people who make the decisions socially construct and develop a platform for integration and problem solving. To this end, this paper will illustrate how tensions can be explored and synthesized in a TBE. So far, the general approach to a wicked problem has been to identify it, but very little effort has gone into understanding how to facilitate it.

This research adds to our understanding and facilitating of wicked problems in networked business ecosystems by firstly, further exploring the idea of mapping tensions into a network and then systematically search for points of synthesis. This will be illustrated through a case study where we demonstrate how a network approach to wicked problems can create a sustainable control process that can be developed and enhanced. The case study shows how a wicked problem can be tamed by looking at connections in a business ecosystem. Secondly, this paper introduces the conceptual idea of developing a platform for managing wicked problems through network interactions. Both ideas are illustrated next in a case study of the Sunshine Coast Tourist Business Ecosystem in Australia.

Case study: Taming coordination problems in the Sunshine Coast business ecosystem

We are using an illustrative case study (Stake 1995) to demonstrate the application of a concept with the express purpose of gaining insights into phenomena and sharing concepts without the need for formal generalization (Yin 2008). The findings are induced from reading qualitative data from planning documents and from a few cursory interviews with key personnel in the council. The aim of these interviews was to understand how this plan was created. Such case study method allows for induced themes for further discussion and analysis, with the aim of building theoretical insights into these difficult phenomena. Taming wicked problems in the Sunshine Coast strategic plan implementation, we provide a practical example of how the Sunshine Coast-region in Australia as a business ecosystem is faced with the challenge of taming coordination problems in the implementation of its 20-year regional strategic plan. The plan highlights actors, suggested networked relationships, envisioned capabilities, and re-positioning of the region.

The Greater Sunshine Coast is a tourism destination, located 115 km north of Brisbane. With its natural features it is one of the top preferred tourist destinations in Queensland. In 2012/13, total tourism and hospitality sales were \$2.78 billion, or 11% of total value for the region and 13.5% of full time employment, as stated by the Australian Bureau of Statistics⁴⁶.

Recently, the Sunshine Coast (SSC) as a region established a 20-year Regional Economic Development Strategy for 2013-2033 that manifests itself on a business ecosystem-level; comprising development and collaboration across regional business, industry, and council; informed through contributions by SSC residents and community organisations. It is driven by a strategic vision for development of a "New Economy" for the region, expanding and re-focusing existing industries such as tourism and leisure to include seven highly relevant sectors with a possibility to contribute significant value to the destination. The seven sectors are health; education and research; tourism, sport and leisure; knowledge industries and professional services; agribusiness; aviation and aerospace; and clean technologies (Sunshine Coast-The Natural Advantage 2013). The following wicked problems are identified, and ways suggested to tame them, as we explore the implementation of the strategic plan for the region.

Leadership, collaboration and identity

The strategic plan stipulates that regional leaders be identified to champion the direction of the Sunshine Coast towards the New Economy. It highlights that collaboration and partnerships between regional business and industry groups, and government is critical. This includes ensuring the region's planning frameworks and regulatory regimes are aligned with the strategy's goals and priorities.

Implicit in the plan is an intent to develop a new competitive and dynamic economic identity that will overcome perceptions of the Sunshine Coast being solely a lifestyle or tourism destination. It is stated that such new regional identity needs to be aligned with the vision for the New Economy. As such, the Sunshine Coast business ecosystem will have to adopt appropriate governance structures, for example the establishment of a regional economic leadership board, to guide the transitions to, and build the identity of, the future Sunshine Coast region.

Given that leadership is no longer reserved for the council or the representative parties of the tourism destination, we find a wicked problem in that the coordination and prioritization of activities needs to be implemented using new, inclusive approaches. Leadership becomes distributed between the connections of the nodes of the network. The TBE in fact manages the wicked problem by not creating a new concept, but by allowing the connections to determine effective ways of managing the problem. Leadership and problem solving is now distributed to smaller, or larger, parts of the ecosystem as required. As each connection in the TBE makes another connection, a network hierarchy for the wicked problem emerges. Such an approach allows the wicked problem of coordination to be shared and distributed through key partners. This is a wicked problem because various members of the network will have different ideas of what type of leadership is required. The TBE, however, facilitates a distributed form of leadership that requires cooperation, and not competition. A lot of time and effort will be needed to build metrics around collaboration to ensure its success.

Capital investment

In order to implement the vision for the future of the region, all partners will have to work towards securing investment in appropriate capabilities that include tourism, digital, transport and community infrastructure. Such challenges require that the partners converge to develop relevant infrastructure through "game changer" projects that have transformational effects on business, employment and investment growth, and the business ecosystem overall. For example, the aim of the plan is to develop seven high value industries, focusing on addressing impediments to growth, workforce requirements, supply chains, market opportunities and the identification of key investment targets. Other initiatives include the creation of an investment-friendly regulatory environment and recognize that there is a defined Enterprise Corridor (EC) where high-value industries will be established, expand, and mature; enhancing connectivity between urban centers; investing in niche tourism and leisure experiences outside the EC; and promoting innovation, research, and digital participation.

Given that decisions related to attracting capital investment is no longer confined to a selected few partners, but needs to be considered holistically in the ecosystem, we find a wicked problem. Traditionally, investment is related to a singular business model that is presented from a financial point of view, is linear and relies heavily on the aspects of traditional ideas. Even in today's crowdfunding model, it is a difficult value proposition to sell the concept of an 'ecosystem'. Instead, the actors within the TBE will have to find ways to fund group initiatives where the value is clearly identified. Without this clarity around the pockets of value in the network, it is unlikely that a clear value proposition will emerge. Put another way, this is a wicked problem because the TBE creates an on-going source of value through its partnerships that is not immediately obvious to investors. For example, a person who invests in Silicon Valley does so through clearly identified enterprises where a return is forecast and predicted. For the TBE to work, there will need to be several key players that create value that can be easily distributed amongst key partners. A likely scenario is that attracting investment to the region might have to be through a shared offering with multiple partners. This creates a very complex legal model that is almost impossible to manage without serious expertise or financial, legal and political ability. This wicked problem of attracting money and investment into the TBE will be very difficult and cumbersome to manage.

Local-to-global connections

The Sunshine Coast business ecosystem intends to create a regional network and inventory of existing international expertise and relationships to help drive stronger commercial linkages outside the region and leverage new business models, including new public and private investment. In order to achieve momentum, this will require the involvement of a larger number of business and non-business partners, rather than a selected few.

While some activities may require an inclusive approach, others may be driven by a focal organisation. For example, the establishment of an annual program of business excursions and export missions may be led by Council. The same may apply to the promotion of distinct capabilities, as well as products and services of the region's export-ready businesses and suppliers to key foreign markets.

In another instance the Queensland Government Trade Commissioners may facilitate by providing access to up-to-date information on the strengths, opportunities and competitiveness of the Sunshine Coast. Similarly, the utilization of government

grants, and links with government agencies that can reach into target markets to assist Sunshine Coast businesses to enter new markets nationally and globally, may be enabled.

Given that decisions related to building a network of relevant local, regional and global connections is initiated by a range of different organizations, we find a wicked problem in the question how to focus seemingly disconnected networking activities towards a common goal. In particular, the local environment is used to a cognition of competition that is perhaps collaborative (as in the Scottish Knitwear Industry—see Porac, Thomas and Baden-Fuller 1989). The TBE relies on a partnership model where a common metric or goal is pursued. Being in competition with someone usually negates cooperation. However, the ecosystem idea usually requires that parties unite around a core concept like recycling (see Stewart, Gapp and Houghton 2014), in which the common goal architecture subsumes competitive behavior. This is a hard sell for a lot of businesses that are still embedded within traditional ideas of competition. It is a wicked problem because it will require a change of mindset towards a different metric about a greater (TBE) goal that transcends traditional competitive thinking if the TBE is to be effectively implemented.

Investment in talent and skills

The Sunshine Coast strategic plan calls for the following investment in talent and skills:

Nurture and develop entrepreneurial talent through the Innovation Center Sunshine Coast and enable skills and mentoring programs. Promote options to attract skilled migrants through federal and state government programs to attract specialist skills and business expertise. Encourage government, industry and business to work collaboratively on innovative measures to retain skills and talent within the region. Recalibrate aspects of the education and training sector's offerings to ensure they are clearly targeted to address critical gaps in the region's workforce profile.

Decisions related to the above stated activities to build talent and skills, a wicked problem emerges in the question of how to focus seemingly disconnected networking activities towards a common goal. This is a wicked problem because it is hard to imagine how so many disparate actors, with a different set of intentions, can successfully manage such a huge operation. In particular, the wicked problem of maintaining a common goal when competition is present, will provide a challenge. This is a paradox for key actors in the network, but if the common goal is reached and managed through partnerships, the TBE will be able to create lasting value for all involved. Yet, accomplishing this within an environment of fierce internal competition between partners will be a massive challenge. It provides no real guarantee for actors that they may not lose out. Moving them from a competitive environment to a cooperative environment with a different set of goals provides the entire project with a wicked problem.

Further considerations around the strategy implementation in the Sunshine Coast business ecosystem

Coordination will be key for the implementation and relates to inter-organizational linkages that are directed to a course of action to achieve an intended set of goals in the TBE. Effective TBE coordination may help maximizing return on investment, achieving competitive advantage, and providing direction and flexibility to react to challenges and opportunities.

The nature and number of stakeholders included in strategy processes varies depending on whether a political economy view or a functionalist view of tourism development is adopted⁴⁷. While the former view suggests that planning bodies will generally make decisions about stakeholder engagement based on self-interest (instrumental stakeholder theory), the latter holds that all interested stakeholders should contribute to strategies (normative theory)⁴⁸.

In terms of governance structure, a destination business ecosystem can either be market-led (tourist demand focused)⁴⁹, or product-led (destination resource based)⁴⁸. Furthermore, in terms of dominance of stakeholders within the business ecosystem, one can distinguish a community-driven approach, where no particular stakeholder is dominant; or a corporate approach where the network of partners is dominated by either a powerful business or a corporatized government agency. A market-led mind set, in which sustaining visitor numbers or market growth dominates, is in line with a corporate stakeholder style. On the other hand, a product-led perspective, which focuses on sustaining the destination on economic, social, cultural and environmental values, may be more closely aligned with a community-driven approach.

The example of the SSC displays a product-led perspective, with a community-driven approach to strategy making and functionalist view to stakeholder engagement. Yet, one also notices that the Sunshine Coast Council seems to take a firm lead (focal organization role) on many of the activities to be coordinated across numerous stakeholders, including the positioning of the business ecosystem to the market. This raises an issue of whether the proposed approach to include relevant stakeholders as part of the strategy making may be better served through a true community-driven approach, where such dominant structure is absent. This could include the use of crowd-sourcing technologies to capture input from all stakeholders, as well as emerging smaller innovators in the ecosystem. Furthermore, the ecological literature highlights that it is important for business ecosystems to exhibit variety, and that they are able to absorb external shocks, and foster productive innovation⁴¹. This is best

facilitated in a business ecosystem that aims beyond sustaining visitor numbers or market growth, and instead extends the focus to include sustaining the destination on economic, social, cultural and environmental criteria. As such, strategic alignment in a destination business ecosystem manifests itself in a destination resource-based environment, without any dominant stakeholders, and a functionalist view of stakeholder engagement that states that all stakeholders should strive to achieve such joint strategic objectives.

It is envisioned that effective strategic alignment across partners of the business ecosystem may improve coordination, communication and strategy setting across national/state/regional levels, particularly in the development stage. Furthermore, it may make funding across the business ecosystem more identifiable, accessible and/or equitable; and facilitate a coordinated economic approach to development and allocation of the use of facilities across public/private sector partnerships. Finally, a key stakeholder database would need to be developed to build networks, clarify roles, and encourage coordinated activities. The above highlights the preliminary stages and insights of strategic alignment across a business ecosystem, which will be further empirically investigated in future research, which is ongoing.

Conclusion and areas for future research

Wicked coordination problems within a Tourism business ecosystem were explored, using a novel network approach that tackles or tames the wicked problem as a complex interaction of smaller problems that form a network of bigger problems, resulting in a network of related concerns that develop into a complex network of related issues. Such an approach was applied to the implementation process of the regional strategic plan of the Sunshine Coast (SSC) as a region in Australia, which manifests itself on a business ecosystem-level; comprising development and collaboration across regional business, industry, and council; informed through contributions by SSC residents and community organizations. While suggested network approaches for taming wicked problems were suggested, wider considerations concerning governance and alignment were discussed that may further facilitate the wicked coordination problems into implementable action.

This opens up a number of areas for further research. First, a single case study was used in an exploratory phase to illustrate a network approach for taming wicked problems. Future research may address comparative case study analyses across and within business ecosystems to further validate our suggested approach for taming wicked problems within such ecosystems. Second, another area of research may look into varying forms of governance of business ecosystems and how this impacts on the taming of wicked problems within such systems. Finally, further research is needed to map wicked problems in business ecosystems as a series of tension points that make up a whole map of problem interactions, which can subsequently be analyzed for further taming strategies.

References

1. Ketchen, D. J., Crook, T. R., & Craighead, C. W. (2014). From Supply Chains to Supply Ecosystems: Implications for Strategic Sourcing Research and Practice. *Journal of Business Logistics*, 35(3), 165-171, ISSN 21581592.
2. Beritelli, P. (2011). Cooperation among prominent actors in a tourist destination. *Annals of Tourism Research*, 38, 607-629, ISSN: 0160-7383.
3. Bhat, S. S., & Milne, S. (2008). Network effects on cooperation in destination website development. *Tourism Management*, 29(6), 1131-1140, ISSN: 0261-5177.
4. Pechlaner, H., Bachinger, M., Volgger, M., & Anzengruber-Fischer, E. (2014). Cooperative core competencies in tourism: Combining resource-based and relational approaches in destination governance. *European Journal of Tourism Research*, 8, 5. ISSN: 1994-7658.
5. Song, H., Liu, J., & Chen, G. (2013). Tourism value chain governance: Review and prospects. *Journal of Travel Research*, 52(1), 15-28, ISSN: 0047-2875.
6. Zhang, X., Song, H., & Huang, G. Q. (2009). Tourism supply chain management: A new research agenda. *Tourism Management*, 30(3), 345-358, ISSN: 0261-5177.
7. Del Chiappa, G., & Baggio, R. (2015). Research Paper: Knowledge transfer in smart tourism destinations: Analyzing the effects of a network structure. *Journal of Destination Marketing & Management*, ISSN: 2212-571X.
8. Kylänen, M., & Rusko, R. (2011). Unintentional co-competition in the service industries: The case of Pyhä-Luosto tourism destination in the Finnish Lapland. *European Management Journal*, 29(3), 193-205, ISSN: 0263-2373.
9. Moore, J. F. (1998). The rise of a new corporate form. *The Washington Quarterly*, 21(1), 167-181, ISSN: 0163-660X.
10. Moore, J. F. (2005). Business Ecosystems and the View From the Firm, *Antitrust Bulletin*, Fall 2005, pp. 31-75, ISSN: 0003-

11. Stanley, J., & Briscoe, G. (2010). "The ABC of digital business ecosystems," <https://arxiv.org/ftp/arxiv/papers/1005/1005.1899.pdf>
12. Thomas, L. D. W., Autio, E., & Gann, D. M. (2015). ARCHITECTURAL LEVERAGE: PUTTING PLATFORMS IN CONTEXT. *Academy of Management Perspectives*, 3015(1), 47-67, ISSN: 1558-9080.
13. van der Duim, R. (2007). Tourismscapes an actor-network perspective. *Annals of Tourism Research*, 34, 961-976, ISSN: 0160-7383.
14. Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: continuing the evolution. *Journal of the Academy of Marketing Science*, 36(1), 1-10, ISSN: 3133-4809.
15. Cova, B., & Salle, R. (2008). Marketing solutions in accordance with the S-D logic: Co-creating value with customer network actors. *Industrial Marketing Management*, 37, 270-277, ISSN: 0019-8501.
16. Helfat, C. E., & Eisenhardt, K. M. (2004). Inter-temporal economies of scope, organizational modularity, and the dynamics of diversification. *Strategic Management Journal*, 25(13), 1217-1233. ISSN: 0143-2095.
17. Freeman, R.E. (1984). *Strategic Management: A Stakeholder Approach*, ISBN 978-0521151740.
18. Presenza, A., Del Chiappa, G., & Sheehan, L. (2013). Residents' engagement and local tourism governance in maturing beach destinations. Evidence from an Italian case study. *Journal of Destination Marketing & Management*, 2(1), 22. ISSN: 2212571X.
19. March, R., & Wilkinson, I. (2009). Conceptual tools for evaluating tourism partnerships. *Tourism Management*, 30(3), 455-462, ISSN: 0261-5177.
20. Hearn, G., & Pace, C. (2006). Value-Creating Ecologies: Understanding Next Generation Business Systems. *Foresight*, 8(1), 55-65, ISSN: 1463-6689.
21. Ackoff, R (1979) *The Art of Problem Solving with Ackoff's Fables*, ISBN: 9780471858089.
22. Rittel, H and Webber M (1973) Dilemmas in a General Theory of Planning, *Policy Sciences*, 4(2), pp. 155-169, ISSN: 0032-2687.
23. Eden, C (1987) Problem Solving or Problem Finishing? In: Jackson, ME and Keys P (eds) *New Directions in Management Science*, Gower-Hants, pp.97-107, ISBN 9780566050947.
24. Van Bueren, E. M., Klijn, E., & Koppenjan, J. F. M. (2003). Dealing with Wicked Problems in Networks: Analyzing an Environmental Debate from a Network Perspective. *Journal of Public Administration Research & Theory*, 13(2), 193, ISSN: 1053-1858.
25. Houghton, L and Tuffley D. (2013) Towards a Methodology of Wicked Problem Exploration through Concept Shifting and Tension Point Analysis, *Systems Research and Behavioral Science*, 32(3): 283-297. ISSN: 1092-7026.
26. Cabiddu, F., Lui, T.-W., & Piccoli, G. (2013). Managing value co-creation in the tourism industry. *Annals of Tourism Research*, 42: 86-107, ISSN 0160-7383.
27. Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, 18, 5-14, ISSN: 1094-9968.
28. Otto, J. E., & Ritchie, J. R. B. (1996). The service experience in tourism. *Tourism Management*, 17(3), 165-174, ISSN: 0261-5177.
29. Oh, H., Fiore, A. M., & Jeoung, M. (2007). Measuring Experience Economy Concepts: Tourism Applications. *Journal of Travel Research*, 46(2), 119-132, ISSN: 0047-2875.
30. van Raaij, W. F., & Crotts, J. C. (1995). Introduction: The Economic Psychology of Travel and Tourism. *Journal of Travel & Tourism Marketing*, 3(3), 1-19, ISSN: 1054-8408.
31. Sheth, J.N., Newman, B.I., & Gross, B.L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research*, 22(2), 159-170, ISSN: 0148-2963.
32. Williams, P., & Soutar, G.N. (2009). Value, satisfaction and behavioral intentions in an adventure tourism context. *Annals of Tourism Research*, 36(3), 413-438, ISSN: 0160-7383.
33. Cabiddu, F., & Piccoli, G. (2010). Open Voucher and the Tourist Season in Sardinia. *Communications of the Association for Information Systems*, 27: 437, ISSN: 1529-3181.

34. Ritter, T., Wilkinson, I.F., & Johnston, W. J. (2004). Managing in complex business networks. *Industrial Marketing Management*, 33, 175-183, ISSN: 0019-8501.
35. Davis, E. W., & Spekman, R. E. (2004). *The extended enterprise: gaining competitive advantage through collaborative supply chains*, ISBN: 9780130082749.
36. Dyer, H. (2000). *Collaborative Advantage: Winning Through Extended Enterprise Supplier Networks*, ISBN 9780195130683.
37. Wilkinson, I. (2008), *Business Relating Business: Managing Organizational Relations and Networks*, ISBN: 9781849800228.
38. Huang, S. H., Sheoran, S. K., & Keskar, H. (2005). Computer-assisted supply chain configuration based on supply chain operations reference (SCOR) model. *Computers & Industrial Engineering*, 48(2): 377-395. ISSN: 0360-8352.
39. Tejada, P., Santos, F. J., & Guzmán, J. (2011). Applicability of global value chains analysis to tourism: issues of governance and upgrading. *Service Industries Journal*, 31(10), 1627-1643, ISSN: 0264-2069.
40. Checkland, P.B. (1981) *Systems Thinking, Systems Practice*, ISBN: 9780471986065.
41. Iansiti, M., & Levien, R. (2004). *The Keystone Advantage: What the New Dynamics of Business Ecosystems Mean for Strategy, Innovation, and Sustainability*, ISBN: 9781591393078.
42. Davidson, S., Harmer, M., & Marshall, A. (2015). Strategies for creating and capturing value in the emerging ecosystem economy. *Strategy & Leadership*, 43(2), 2, ISSN: 1087-8572.
43. Coyne, R. (2005). Wicked Problems Revisited: *Design Studies*, 26(1): 5–17. ISSN: 0142-694X.
44. Rosenhead, J (1996) What's the Problem? An Introduction to Problem Structuring Methods, *Interfaces*, 26(6), pp. 117-131, ISSN: 0092-2102.
45. Ritchey, T. (1998). General Morphological Analysis: A general method for non-quantified modelling, 16th EURO Conference of Operational Analysis Proceedings, pp. 1-10.
46. Wardner, P. (2015). Evaluating Employment Centres in Master Planned Communities in South-East Queensland, <http://eres.architexturez.net/doc/oai-eres-id-eres2013-8>.
47. Sautter, E.T., & Leisen, B. (1999). Managing stakeholders a Tourism Planning Model. *Annals of Tourism Research*, 26, 312-328, ISSN: 0160-7383.
48. Stokes, R. (2008). Tourism strategy making: Insights to the events tourism domain. *Tourism Management*, 29(2), 252-262, ISSN: 0261-5177.
49. Weaver, D., Hughes, M., & Pforr, C. (2015). *The Practice of Sustainable Tourism: Resolving the Paradox*, ISBN: 9780415749398.
50. Basile, A., & Faraci, R. (2015). Aligning management model and business model in the management innovation perspective: The role of managerial dynamic capabilities in the organizational change. *Journal of Organizational Change Management*, 28(1): 43-58. ISSN: 0953-4814.
51. Wong, C., Skipworth, H., Godsell, J., & Nemile, A. (2012). Towards a theory of supply chain alignment enablers: a systematic literature review. *Supply Chain Management*, 17(4): 419-437. ISSN: 1359-8546.
52. Wu, T., Jim Wu, Y.-C., Chen, Y. J., & Goh, M. (2014). Aligning supply chain strategy with corporate environmental strategy: A contingency approach. *International Journal of Production Economics*, 147(Part B): 220-229. ISSN: 0925-5273.
53. Yu, K., Cadeaux, J., & Song, H. (2012). Alternative forms of fit in distribution flexibility strategies. *International Journal of Operations & Production Management*, 32(10): 1199-1227. ISSN: 0144-3577.