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CURRENT ISSUES IN METHOD AND PRACTICE

The tourism knowledge translation framework: bridging the canyon between theory and practice

David A. Fennell

Department of Geography & Tourism Studies, Brock University, St. Catharines, Canada

ABSTRACT

The purpose of this conceptual paper was to develop the Tourism Knowledge Translation (TKT) framework, which is positioned as a possible solution to the critical disconnect that has for some time plagued tourism theory and practice. It is adapted from state-of-the-art thinking in healthcare, and acts as a roadmap for managing a sizeable base of knowledge from academic studies; massaging this knowledge into a format that policymakers and practitioners can understand; developing specific methods and tools for use that are held in a knowledge repository; choosing the best studies for inclusion in the system; and making sure this knowledge gets into the hands of industry people quickly. The two principal domains of the TKT framework, Knowledge Creation and the Action Cycle, are applied to the current over-tourism situation in Corsica, and the effects the tourism industry is having on the breeding success of osprey.

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Knowledge translation; innovation; application of knowledge; tourism practice; Corsica

1. Introduction: whom do we serve?

The Tourism Research Information Network (TRINET) provides a forum for tourism scholars to engage in current and long-standing issues of relevance. The COVID-19 crisis is a case in point, which precipitated one of the lengthiest discussions in recent memory due to the monumental impact that the virus had on tourism at all scales. Closed borders and quarantines led to risk perceptions and travel cancellations (Neuburger & Egger, 2020), diminished revenue and lost employment (Mariolis et al., 2020), supply chain disruptions (Veselovská, 2020); the ripple effects of which are almost too difficult to conceive. The TRINET discussion on COVID-19 reminded us that times of crisis often compel us to ask new questions and to seek new answers about research relevance and legitimacy for the practical domain (Bohdanowicz-Godfrey, 2020) in bridging the canyon between theory and practice (Jafari, 2020). Consequently, if tourism scholars are unable, or unwilling, to connect with tourism practitioners in a meaningful way, or if our research fails to prepare better policymakers and practitioners to be more resilient because it does not translate, we have a problem. Whom we serve, and how we serve, should be topics of ongoing deliberation in tourism studies.

The primary recipients of scholarly research are other scholars and students in efforts to advance the frontiers of knowledge. We do this in tourism on the strength of 350 journals that publish some 14,000 papers per year (Jafari, 2020). The other chief aim is to assist tourism industry policymakers and practitioners on how to be more effective at what they do (e.g. to gain competitive advantage). Part of this raison d'être, therefore, must be to have relevance beyond the walls of the academy. However, as Frechtling (2004) argues, 'relatively little transmission of knowledge

CONTACT David A. Fennell dfennell@brocku.ca
This article has been corrected with minor changes. These changes do not impact the academic content of the article.

is taking place from leading journals to industry practitioners.' (p. 100). Academic research in tourism studies is having little impact on the industry, with tourism performing even lower than other social sciences (Thomas & Ormerod, 2017). This is problematic because there is the perception on the part of practitioners that research is overly sophisticated when what is needed are uncomplicated tools kits or quick answers to solve industry problems (Ryan, 2001; see also Duxbury et al., 2019). Our focus, however, appears to be more heavily weighted on a neoliberal audit culture that emphasises the number of citations, where scholars publish, and with whom (Fennell, 2013), a practice that might serve to widen the gap between knowledge creation and industry needs.

While knowledge is typically viewed as a form of intellectual capital that improves and sustains competitive advantage (Grant, 1996; Yiu & Law, 2014), it must also be about improving people, places and planet. Such will necessitate will, on the one hand, and novel innovation on the other (Van de Ven et al., 2008; see also Van de Ven, 2017). Bridging dichotomous contexts is not new to tourism. Budowski (1976) argued that three relationships exist in the connection between tourism and conservation: conflict, coexistence, or symbiosis. He argued that the relationship was one of coexistence moving towards conflict. Using the same analogy, this paper argues that in the absence of a widely accepted knowledge translation framework, the current relationship between the tourism industry and tourism research will continue as one of conflict with little chance for coexistence, and with symbiosis a far-off dream.

The purpose of this paper, therefore, is to take aim at the historically entrenched divide between scholarly research and tourism industry practice through the development of a framework—a bridge—to improve tourism knowledge-practice ties. The proposed Tourism Knowledge Translation framework uses state-of-the-art tourism knowledge; develops specific methods and tools that are understandable to policymakers and practitioners; harnesses these methods and tools in a knowledge repository; and gets this knowledge into the hands of stakeholders quickly.

2. How should we serve?

Discussions centred on moving knowledge into action are not new. Aristotle felt that humans engaged in three different but related activities. These included facts (*episteme*), skill (*techne*), and practical wisdom (*phronesis*) (Aristotle, 1893). Two of Kant's main treatises, Critique of Pure Reason (theoretical reason, or reasoning about questions of explanation), and Critique of Practical Reason (action) explored many of the challenges around the role that reason plays, through critical reflection, in deciding the right course of action, i.e. what one is to do (Wallace, 2020).

Contemporary scholars argue that there are two types of knowledge (Tribe, 1997). The first, Mode-1, is created in higher education from disciplines and fields. The second, Mode-2, is generated by industry, government and consultants, and is designed to address practical problems and issues (see Fayos-Solà's Bridging Tourism Theory and Practice book series on this second type of 'knowledge', e.g. Fayos-solà, 2012). The applied nature of knowledge is especially crucial for the social sciences because this type of theory is said to be marked by counterarguments that make the prediction of human behaviour difficult (MacIntyre, 2007). What further challenges social science fields, like tourism, is fragmentation of the industry itself characterized by a series of interrelated parts (Laws & Scott, 2015), and the amorphous (MacCannell, 2012) and mosaic (Laws & Scott, 2015) nature of tourism studies scholarship. These theoretical and practical realities continue to stimulate discussions around how tourism knowledge can be better used in theory and practice (Jafari, 2007). An emerging body of literature is centred on two main themes in tourism: knowledge management and knowledge transfer, with some studies that examine both (e.g. Shaw & Williams, 2009; see Graham et al., 2006 for a review of definitions on different forms of knowledge, such as knowledge translation, knowledge transfer, and knowledge exchange).

2.1. Knowledge management in tourism

To date, the most frequently used concept in knowledge-practice research in tourism is knowledge management (KM), starting with Cooper's (2002a, 2002b) work based on studies from outside our field (Chase, 1997; Wiig, 1997; see also Hallin & Marnburg, 2008). Defined, KM is 'the encouragement of people to share knowledge and ideas to create value-adding products and services' (Chase, 1997, p. 83), with KM models developed for a variety of purposes.

Grant (2005) developed a model of knowledge management based on several stages, including identification, measurement, storage and organization, replication, sharing, and integration of knowledge (Yiu & Law, 2014 in the context of tourism). Ruhanen and Cooper (2004) used Weggeman's (1997) knowledge value chain framework to suggest how destinations and organizations can be more competitive in the tourism marketplace. The communities of practice approach (see Wenger et al., 2002) has also been linked to knowledge management in tourism. Embedded in this approach is the connection between knowledge, community (people), and practice. Knowledge networks based on formal and informal networks, partnerships and collaboration can be essential in heightening competitive advantage and performance in tourism (Baggio & Cooper, 2008; see Crow, 2020, regarding how collaboration in research can be counterproductive).

These knowledge management frameworks have been used almost entirely for strategic management and competitive advantage in tourism organizations (see Zehrer, 2011). Other examples include combining KM with business strategy and marketing (Tzortzaki & Mihiotis, 2012); the knowledge needs of tourism destinations regarding climate change (Nacipucha et al., 2017); crises (Orchiston & Higham, 2016; Paraskevas et al., 2013); the role of information technology (Kasemsap, 2016); sustainable community-based tourism planning (Ruhanen, 2008; Sontiwanich, 2015); benchmarking usable knowledge for attractions (Pearce & Benckendorff, 2006); and work by Beesley and Cooper (2008) on a common vocabulary of KM terms.

2.2. Knowledge transfer in tourism

'Knowledge for its own sake,' or the creation of knowledge intrinsically to know more about the world is not the same as knowledge that has a specific applied purpose. While some decry the loss of the former as a new state of 'anti-intellectualism' in the university environment (The Conversation, 2017), others argue that knowledge must have a use. In arguing for the latter, Cooper (2015a) observes, 'knowledge transfer processes underpin innovation, which in turn are the key to competitiveness for tourism organizations and destinations' (p. 312). Scholars in tourism have also questioned the potential problems of knowledge transfer from a cross-cultural perspective (Xiao & Smith, 2007); inter-organisational transfer of knowledge in tourism for competitive advantage (Varkani, 2019); and a combination of the latter two (Scott & Laws, 2006). Czernek (2017) found that the opportunities for knowledge transfer in the Beskidy Mountains region of southern Poland were subject to five key determinants: the domination of small and medium-sized enterprises, fragmentation and diversity of supply, vocational reinforcers, ownership specificity (high rotation of enterprise owners creating knowledge transfer problems due to lack of contact with owner), and the regional and local character of tourism.

Inefficiencies and ineffectiveness around knowledge transfer between tourism research and industry have been underscored recently by Hardy et al. (2018). They define knowledge transfer in tourism as the 'sharing of knowledge and ideas between groups that results in the creation of innovative tourism products and services.' (Hardy et al., 2018, p. 34). Hardy et al. (2018) argue that one of the key hurdles to overcome in the transfer of knowledge is communication—speaking the same language from conceptual and operational standpoints. The establishment of peripheral (having researchers able to communicate with industry stakeholders) and central cues (research questions, data collection and use) were evident at problem, action-taking and evaluation stages.

Scholars in tourism have also configured knowledge-practice models that transfer knowledge during the process of conducting research. Duxbury et al. (2019) argue that closer ties must be built between researchers and practitioners through a reflexive and reciprocal process of (1) developing new spaces for collaboration; (2) allowing practitioners to be co-researchers in knowledge creation; and (3) paying close attention to how research can help at implementation stages. As such, practitioners can play an essential role in filling gaps in knowledge in achieving organizational objectives. Crossing over into the realm of research is a topic that demands further scrutiny in tourism. However, care must be taken to ensure that the motivation for practitioner involvement in research is not driven to satisfy an organizational agenda at the expense of some greater societal good.

Hudson (2013) describes an innovative model of knowledge transfer in South Carolina, where the state government has created Centres of Economic Excellence in areas of that advance the economy. Three public universities in the state receive between $2 - 5 million in education lottery funds to be matched with non-state government funding. A proliferation of research activity has taken place from this program resulting in the development of several centres, 1.4 billion in non-state funding, 8000 new jobs, all to transfer knowledge between researchers and industry in moving away from the 'ivory tower' approach to practice (Hawkins, 2006).

3. Knowledge translation

Knowledge translation (KT) has been discussed as far back as the beginning of the twentieth century on why some innovations are used in society and others not (Tarde, 1903). During the 1940s, KT adopted the vernacular of 'the dissemination and utilization of scientific knowledge' (Huberman, 1990), emphasising a vital link diffusing knowledge into practice. Several knowledge-practice frameworks emerged in the ensuing years configured in different ways. Jacobson et al. (2003), for example, developed a knowledge-practice framework based on five domains: user groups, issues, research, the knowledge translation relationship, and dissemination strategies (see also Graham & Tetroe, 2007; Pathman et al., 1996).

A KT approach that is used to significant effect in the healthcare field (Canadian Institutes of Health Research as well as the World Health Organization) is one developed by Graham et al. (2006) on the back of several other knowledge and education theories and frameworks. The argument follows that knowledge creation, distillation and dissemination, alone, are not sufficient enough to ensure that the right type of knowledge is available to make the best decisions possible (Straus et al., 2009; see also Straus et al., 2011). Defined, KT is 'a dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the healthcare system' (Straus et al., 2009, p. 165).

KT in healthcare was developed to overcome two major issues in the knowledge-to-practice connection (Choi, 2005). First, the volume of scientific research being published rendered new science inaccessible to healthcare practitioners. Seventeen thousand new biomedical books published per year, along with the existence of 30,000 biomedical journals, has made it almost impossible for practitioners to keep pace with new developments in healthcare. Second, the complex nature of scientific works in the form of 'complicated designs, high power statistics, and technical jargons' (Choi, 2005, p. 93; see, also, Hardy et al., 2018) are frequently beyond the comprehension of practitioners. The objective of the KT framework, therefore, is to place new knowledge into the hands of policymakers and practitioners as quickly as possible in avoiding research and practice gaps. The knowledge-to-action framework used for the present study (Figure 1) follows closely from Straus et al. (2009). It is organized around two principal domains: (1) knowledge creation, in the middle of the figure represented by the inverted triangle, and (2) the action cycle.

The first part of the knowledge distillation process involves knowledge inquiry, which includes the broad landscape of primary research in the form of qualitative and quantitative studies, and other forms of knowledge, as the bedrock of the framework. These 'other' forms of knowledge include

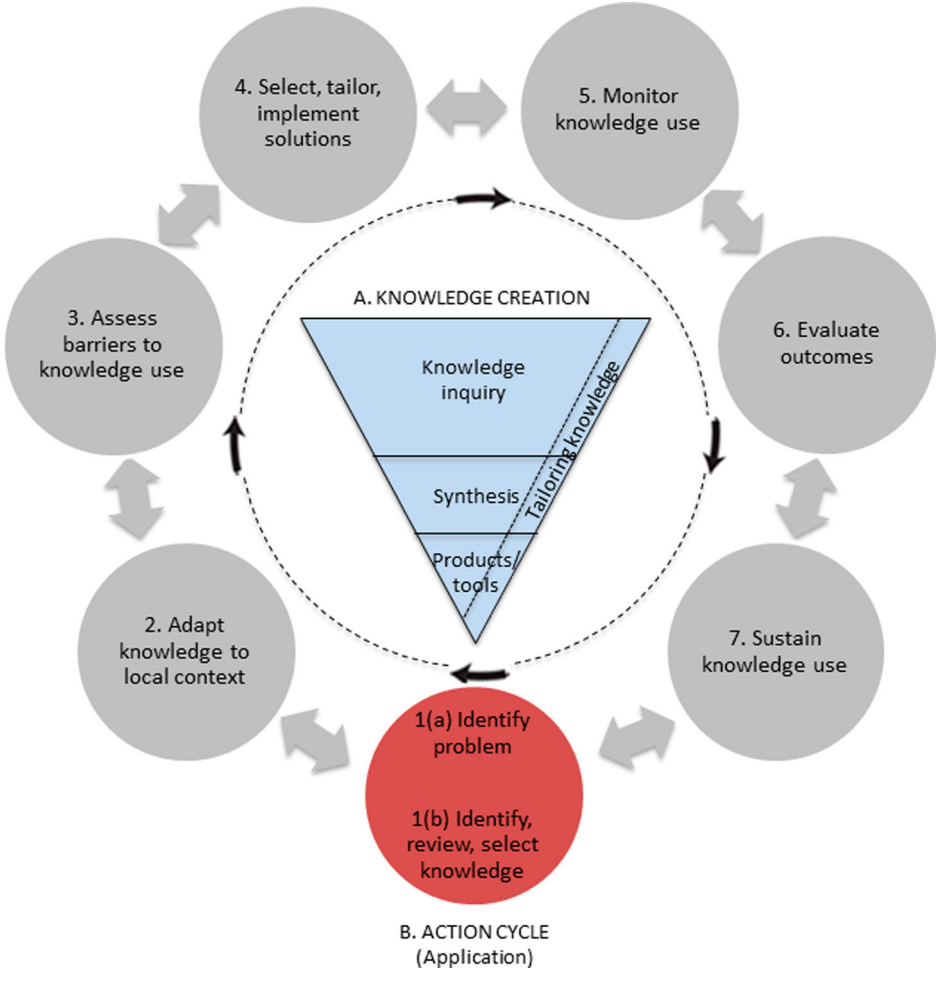

Figure 1. Knowledge-to-action Model. Source: Adopted from Straus et al. (2009).

stories as the foundation of the knowledge generation process (Smylie et al., 2004), philosophy, and conceptual frameworks. Fluidity in and between different types of knowledge has been discussed by Gabbay and le May (2011) from the perspective of 'mindlines'—internal states that are flexible and incorporate a diversity of different approaches that physicians can draw upon in treatment. These qualities include experience, reading, lifelong learning, scientific data, and the sharing of stories between physicians on different approaches to healthcare. Furthermore, Kitson (2009) argues for a systems theory approach (systems as organic and inherently complex, not linear) that create new, innovative knowledge to speed up the knowledge translation process. Such an approach will be successful if it supports local autonomy based on practitioner and group (team, unit) experience, and if it involves the expertise of many key stakeholders.

The synthesis stage of Figure 1 involves pooling the full potential of global research in striving for 'the totality of the evidence … rather than the results of individual studies' (Straus et al., 2009, p. 167), and with a focus on research quality (e.g. randomized trials, or adequate observational studies). The final stage in the knowledge creation domain is a process whereby the best studies are synthesized into decision-making tools such as practice guidelines. Straus et al. (2009) caution against the belief that all forms of knowledge should be translated, and instead advocate a system of priorities for studies in producing the best evidence for policy and practice possible (Straus et al., 2005). Furthermore, knowledge should be interdisciplinary (Davis et al., 2003) and, as stated earlier, should

stimulate interprofessional collaboration between similar professional bodies striving to solve similar problems (Zwarenstein & Reeves, 2006). Barriers to the uptake of evidence in KT occur because of a lack of familiarity and awareness with knowledge (volume of information, time to stay informed, and access to resources); lack of agreement with evidence (uncertain interpretation, methodological weakness, perceived bias); and external barriers (Lang et al., 2007). This last barrier includes lack of time, resources, organizational constraints, and various institutional factors including peer influences, and barriers to change from departmental pressures.

The second domain of Figure 1, the Action Cycle, follows a traditional systematic action planning model format (Rahimaly et al., 2019) that moves from problem identification and knowledge acquisition (determined in the Knowledge Creation domain of the figure) to several key steps to follow. (Refer to Health Canada (2017) for a comprehensive breakdown of each step.) Knowledge is adapted to a local context in recognition of the fact that unique situations and settings require different applications of knowledge. Barriers to knowledge may include political or economic conditions or the lack of resources to access properly access knowledge. These two stages intersect with the process of developing interventions that have been adequately selected, tailored and implemented to address a specific issue or set of problems. These interventions are monitored, evaluated, and carefully managed to sustain knowledge use over more extended periods. The arrows connecting the various steps of the section cycle indicate a dynamic relationship between stages, and the dashed line between the Knowledge Creation and the Action Cycle suggests a high degree of permeability between these domains.

3.1. Evidence-Informed Decision making: putting knowledge into practice

The KT framework described in Figure 1 is operationalized through the Evidence-Informed Decision Making (EIDM) model managed by the National Collaborating Centre for Methods and Tools (NCCMT), hosted by McMaster University, Canada, and funded federally by the Public Health Agency of Canada. It is one of six National Collaborating Centres for Public Health in Canada. The NCCMT is responsible for the support of public health organizations through the use of 'innovative, high-quality, up-to-date methods and tools to put what works into practise and policy across all domains of public health' (NCCMT, 2020a; NCCMT, 2020b). Collaboration is a critical operational objective of NCCMT both within Canada (the other five National Collaborating Centres) and with public health and knowledge translation units around the world.

The EIDM process is the engine that finds, uses, and shares knowledge in public health (NCCMT, 2020c), and places this knowledge in a Repository. Users can refine their search through a process that contains seven steps in obtaining the information they need. These steps include: Define, Search, Appraise, Synthesize, Adapt, Implement, and Evaluate (NCCMT, 2020c). The user simply has to click on one of the seven steps to access the KT Repository, which is a 'searchable, online collection of evidence-informed methods and tools for knowledge translation in public health' (NCCMT, 2020e). 'Methods' are defined as 'a process or series of steps to organize a knowledge translation activity, for example, a framework to create a dissemination plan. 'Tools' are products or instruments 'to carry out the steps of a knowledge translation activity, for example, a checklist for your dissemination plan.' (NCCMT, 2020e). Table 1 illustrates how Methods and Tools interlink with the EIDM diagram and knowledge translation activities. There are two criteria for a method or tool to be included in the Repository: the source must be relevant to public health practitioners, and it must be relevant for KT (NCCMT, 2020e). Practitioners can use tools and methods from the Repository for:

- Communicating new knowledge to clients and colleagues;
- Supporting innovation uptake in their organization;
- Synthesizing and appraising public health-related research;
- Applying new techniques for working with community partners; and
- Summarizing relevant evidence for public health policy decisions (NCCMT, 2020e).

Table 1. How to find resources in the KT Repository.

Type	☐ Method ☐ Tool
EIDM Step	☐ Define ☐ Appraise ☐ Search ☐ Synthesise ☐ Adapt ☐ Evaluate ☐ Implement
KT and Related Activities	☐ Communication ☐ Consensus building ☐ Economic evaluation ☐ Knowledge brokering ☐ Knowledge dissemination ☐ Knowledge exchange ☐ Knowledge management ☐ KT evaluation ☐ KT plan ☐ KT theories ☐ Leadership ☐ Organisational capacity and management ☐ Organisational change ☐ Partnership development and maintenance ☐ Partnership evaluation ☐ Policy brief ☐ Policy development ☐ Priority setting ☐ Program planning ☐ Situational assessment ☐ Stakeholder analysis and engagement

Source: Adapted from NCCMP (2020e).

Sources submitted to the Repository are subject to prioritization and review. After being accepted for inclusion, the source must be reviewed three times. The first reviewer writes a summary statement for the Repository, followed by a second review for verification independent of the first review. The original author checks the source review for accuracy before being posted. Furthermore, a useful section of the EIDM process is the development of learning modules, which allow practitioners to obtain competencies in the various stages of the evidence model. Examples of these modules include 'Introduction to Evidence-Informed Decision Making,' 'Quantitative Research Designs 101,' and 'Critical Appraisal of Qualitative Studies.' Healthcare practitioners receive a certificate of competence from the NCCMT after each module is completed (NCCMT, 2020d). Various learning network resources can be developed that have different intended roles. For example, the Centre for Research & Education on Violence Against Women & Children (2020) includes several resources that provide breadth in the dissemination of knowledge, including backgrounders, briefs, glossary of terms, and infographics (see Table 2 for a full description of these options).

In summary, several features of knowledge translation have relevance to the theory-practice problem that exists in tourism. If we are to apply state-of-the-art thinking and practice that has been successful in healthcare to tourism, several elements will need to be adapted:

- An adapted definition of KT;
- managing and synthesizing the sheer volume of academic studies, and putting this knowledge in a format that practitioners can understand;

Table 2. Learning network resources.

Backgrounders share practice guidance, essential research facts, and intervention approaches.
Briefs discuss emerging and/or complex issues and summarize primary research findings in clear language.
Glossary offers accessible and evidence-based definitions of frequently used GBV terms, in addition to resources for further learning.
Infographics display information in a concise and engaging graphic manner.
Issue-based newsletters highlight relevant research, promising practices, and online resources on GBV issues.
Reports consist of knowledge exchange papers, research results, technical reports, and peer-reviewed publications by team members.
Resource spotlights share presentations on online resources and tools.
Videos & podcasts present presentations on important topics and recordings of survivors sharing their lived experience.
Webinars share presentations on topics and include companion materials (e.g. slides). Connect with us on the webinar day to interact directly with the presenter(s) or watch webinar recordings.

Source: The Centre for Research & Education on Violence Against Women & Children (2020)

- using several different types of knowledge;
- developing methods and tools for use;
- following the seven stages of the Action Cycle in Figure 1 moving from problem identification to how best to sustain knowledge over the long term;
- developing a knowledge repository that is easily accessible to users; and
- putting this knowledge in the hands of practitioners promptly to avoid knowledge gaps.

4. The tourism knowledge translation framework (TKT)

To address the elements listed in the previous section, I adapt the knowledge translation framework used in the field of healthcare to tourism in a model referred to as the Tourism Knowledge Translation (TKT) framework. Following Straus et al. (2009), knowledge translation *for tourism* can be defined as 'A dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve policy, planning, development, and management of tourism at all scales.'

Advances in knowledge and practice will demand new innovative pathways. Innovation has been conceptualized according to many stages that represent an innovation journey (Van de Ven, 2017; Van de Ven et al., 2008). Based on several years of investigation of new technologies, products, programs, and services, in and between different sectors, Van de Ven and colleagues found that innovation follows a uniform pathway of evolution according to three periods: Initiation, Development, and Implementation/Termination. In Initiation, there is a long gestation of issues over several years setting the stage for innovation—a merging of factors that create a shock in the system and a flurry of activity to turn innovations into practical realities. The recent COVID-19 pandemic represents a new shock to the tourism industry and has called into question the ability for knowledge to aid practice. We can assume that (1) our existing models are not sufficient to address the problem, or (2) they are sufficient, but that there has not been the willingness to engage these models or the proper structures operationalize them.

4.1. Knowledge creation

While the TKT framework itself represents an innovative change, I wish to go one step further in showing how it applies to a real-world tourism problem. I use the example of overtourism in Corsica, specifically the sharp increase in boat traffic to see osprey in a marine protected area (UNESCO World Heritage site).

As the fourth largest island in the Mediterranean Sea, Corsica occupies a prime geographical location between southern France and northwestern Italy. Originally an Italian possession, Corsica was annexed by force in 1769 as part of a pledge of debts between Italy and France (Encyclopaedia

Britannica, 2020). Corsica's prime location and abundant cultural and natural beauty have made it a top 10 European tourism region with 29,837 bed nights per 1000 inhabitants, and 1,649 bed nights per km^2 (Alexis, 2017). Furthermore, seasonality is a problem in Corsica as 75% of the 3 million people who visit the island per year come in the summer months (Cofflard, 2019). One of the prime tourist attractions in Corsica is Scandola Marine Protected Area established in 1975, and later as a UNESCO World Heritage Site in 1983. Increased levels of tourism have had significant impacts on seagrasses and some fish species, with impacts on the osprey population most notable. Breeding success (nearly zero) is much lower in the marine park compared to other places in Corsica because of higher levels of stress, and feeding success has diminished (Monti et al., 2018). Conservationists argue that this is because there is no limit to the number of vessels that can visit the MPA and because there have been no established approach regulations. While Monti et al. (2018) note that better integrative collaboration with the tourism industry is imperative, they also argue for evidence-based scientific data to address the situation.

Figure 1 illustrates the process of tailoring tourism studies knowledge, as well as other knowledge domains, how it ought to be synthesized, and which products and tools might be developed for policymaker and practitioner use. Figure 2 shows how this can be done based on three main categories. Category 'A' (Industry Sectors & Products), has two subcategories. The first includes the primary sectors of the tourism industry (accommodation, food & beverage, transportation, travel trade, and tourism services). The second contains a list of the main product categories and subcategories (examples with each broader category) identified in the tourism literature (McKercher, 2016). The problem identified, above, in step 1, has relevance to ecotourism as a tourism product, as well as transportation within the Primary Sectors category.

How the TKT framework begins to address this issue is through an understanding of how different disciplines of knowledge are organized (Column 'B') according to three tiers. Primary disciplines like geography, economics, psychology and anthropology can be combined to provide a greater depth of knowledge. The example used in Figure 2 is the sub-field of Business and Ethics (BE) nested within the discipline of Business. For convenience, I used the organizational framework of the *Journal of Business Ethics (JBE)* to illustrate the diversity of research themes that are organized in *JBE*, and

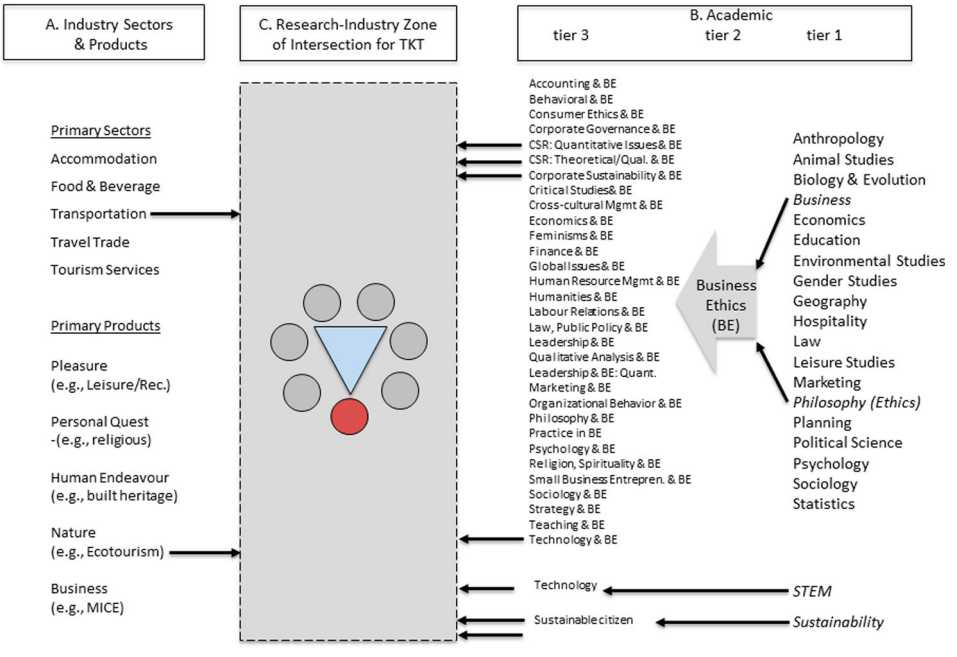

Figure 2. Intersecting Academic & Industry Interests for TKT.

which have potential to provide guidance in attending to tourism industry problems from a business ethics standpoint (tier 3 Academic). Furthermore, I identified four research themes from Business Ethics (CSR: Quantitative, CSR Qualitative, Corporate Sustainability, and Technology) to attend to the issue in Corsica. I identified two other tier 1 academic fields (STEM and Sustainability) to help with this problem (space prevents a fuller breakdown of these research themes which could be organized in the same way as Business Ethics). Technology from STEM, and the sustainable citizen from Sustainability Science, were selected to inform this process.

The problem identified by the industry (column A in Figure 2), and the organization of knowledge in category B, merge in column 'C' ('Research-Industry Zone of Intersection for TKT'). This knowledge synthesis will enable the creation of several innovative Methods and Tools to 'put what works into practice and policy across all domains of tourism' (adapted from NCCMT, 2020a). In tourism, Methods may include the development of policy plans for regional tourism development, while Tools may include tool kids, best practice guidelines, codes of ethics, and certification schemes. Methods and Tools are located in a Tourism Knowledge Translation Repository, which is a searchable, online collection of evidence-informed methods and tools for knowledge translation in tourism (adapted from NCCMT, 2020e). Practitioners and policymakers can use Methods and Tools from the Repository to:

- Communicate new knowledge to service providers and tourists;
- Support innovation in tourism organizations and the destination in general (e.g. poverty measures, biodiversity conservation);
- Synthesize and appraise tourism research;
- Apply new techniques for working with community partners; and
- Summarize relevant evidence for tourism policy decisions (adapted from NCCMT, 2020e).

As noted above, sources included in the Repository must be prioritized and subject to review. After an initial written summary statement, the source is reviewed again by a second independent reviewer, as well as by the original author before being posted. Review teams for this process could be a blend of academic and industry experts in a specific area. Furthermore, there may be several such teams as part of a broader network of participating TKT entities positioned in specific countries around the world.

A novel instrument included in the EIDM is the ability to refine a knowledge search through an interactive diagram that contains seven steps, allowing users to get solutions based on specific needs. These steps are identified in Table 3 and Figure 3 as Adapt, Implement, Evaluate, Define, Search, Appraise, and Synthesize (easily modified to be more specific to tourism attraction and destination needs). The user clicks on one of the seven steps to access all of the resources contained within the TKT Repository. This system also includes a series of learning modules for different types of knowledge. Participants can achieve a certificate of competence after each module is completed. Examples of modules might include 'Introduction to Evidence-Informed Decision Making,' 'Understanding Ecological Impacts', Quantitative Research Designs 101,' and 'Implementing TKT Strategies in Tourism.'

4.2. Action Cycle

In this section, the Action Cycle emphasized in all three figures of this paper is the focus based on the problem identified above, i.e. overtourism in Corsica as the issue, and ecotourism as the product. Each stage of the cycle is discussed, moving from problem identification through to sustaining knowledge use long term, using hypothetical stop-gap measures. It is essential to realize that while these various stages and sub-stages are introduced as discrete entities, Graham et al. (2006), argue that these action phases, 'may occur sequentially or simultaneously, and the knowledge phases may influence the action phases.' (p. 18). As such, complexity, dynamism and fluidity within and between major and minor stages of the KT model is commonplace (Bennett et al., 2016).

Table 3. How to find resources in the TKT Repository.

Type	☐ Method ☑ Tool
Action Cycle (see Figure 1)	☐ Adapt ☐ Assess barriers ☑ Select, tailor, implement solutions ☐ Monitor ☐ Evaluate ☐ Sustain
Sectors & Products (Column "A" in Figure 2)	Primary sectors ☐ Accommodation ☐ Food & Beverage ☑ Transportation ☐ Travel Trade ☐ Tourism Services Primary Products ☐ Pleasure ☐ Personal Quest ☐ Human Endeavour ☑ Nature ☐ Business
General & Specific TKT Resources	General Knowledge Resources ☐ Planning ☐ Development ☐ Management ☐ Marketing ☐ Policy ☐ Sustainability Specific Knowledge Resources (Column "D" in Figure 2) *Business Ethics* ☐ Accounting ☐ Behavioural ☐ Consumer ethics ☐ Corporate Governance ☑ CSR: Quantitative Issues ☑ CSR: Theoretical/Qual. ☑ Corporate Sustainability ☐ ✂ ☐ Small Business Entrepreneurship ☐ Sociology ☐ Strategy ☐ Teaching ☑ Technology *Sub-fields from several other disciples/fields...*

Source: Adapted from NCCMP (2020).

4.2.1. Problem identification

Ecotourism is defined by four core elements. It is nature-based, focusses on learning, is sustainable through biodiversity conservation and community economic development, and is ethically planned, developed and managed (Fennell, 2020a). Overtourism can lead to a decrease in sustainability, fewer opportunities to learn because of the high numbers of ecotourists, and an erosion of ethics because

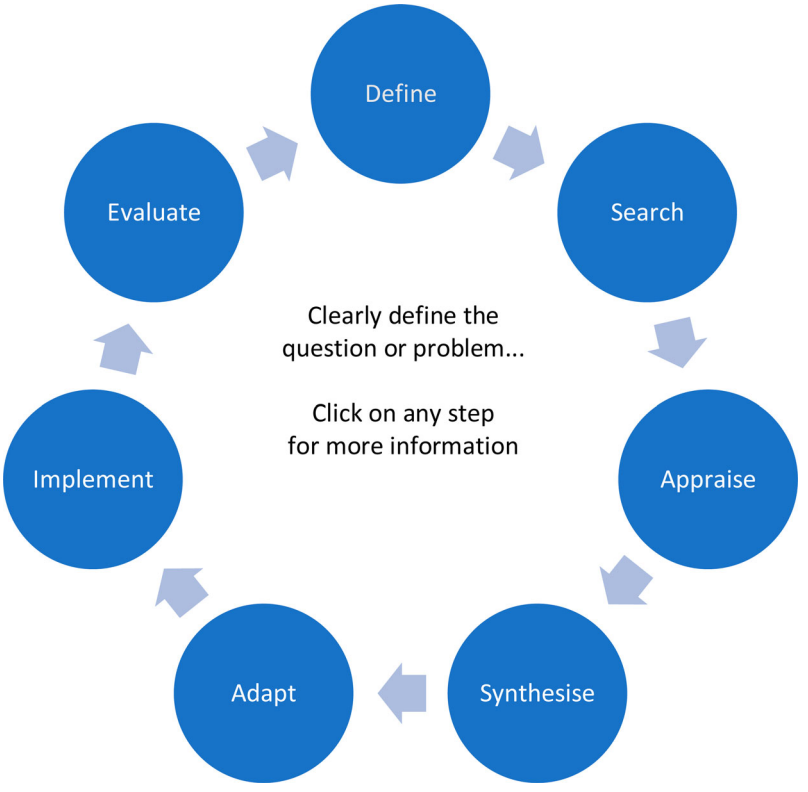

Figure 3. Model for evidence-informed decision-making. Source: Adapted from NCCMT (2020c).

of poor planning and management. The problem is an overabundance of ecotourists in Corsica (too many motorboats, making too much noise, too close to the birds) leading to an adverse impact on osprey reproduction, and causing stress for those individuals, and pairs, nesting within the protected area.

4.2.2. Identify, review, and select knowledge

There are three sub-steps in this process. According to Health Canada (2017), these include engaging organizations that can contribute to success and might be most affected; establish the validity and scope of the issue(s) addressed; confirm that knowledge is grounded in evidence.

The first step is to identify stakeholders, identify the various roles they play in the overtourism issue in Corsica, and how they can be used to address the issue. Sub-step two is a review, with stakeholders, over the legitimacy and causes and effects of the issue. This includes involving park staff, tourism operators, tourists, DMOs, and other stakeholders. Discussions should also focus on the expected outcomes of the potential of various interventions implemented. It is suggested that a combination of a lottery system to see the birds, demarketing, and a secondary osprey attraction experience for those who cannot get out to see the birds is a viable option (i.e. a smaller fee to see birds via webcams, virtual reality tours, and interpretation—see stage 2, below). Finally, a process of knowledge selection should take place to address the need, whether the proper evidence informs this knowledge, and if the knowledge is in a such a form that it allows for clear, concise and user-friendly application—a stepping down of knowledge for communication to the industry in a more appropriate way (Choi, 2005). In this case, a reliance on the comprehensive study by Monti et al. (2018) would be one form of knowledge that would be used to inform the TKT process. Other studies could be sourced on similar bird species, ecological impacts in marine protected

areas, stress responses in animals from ecotourism, the use of lottery systems in tourism, and demarketing efforts to curtail ecotourism and tourism more generally.

4.2.3. Adapt knowledge to the local context

Knowledge on overtourism may have been generated in other protected areas contexts, so the task would be to source knowledge in the Repository and adapt it to the problem that exists in Corsica. Questions should also be considered regarding how to document adaptations to the local condition and the processes to update knowledge.

Gauging the success of the mitigating factors selected for this issue is of significance. For example, the task would be to determine whether or not new technology could be useable in the Corsican protected area setting. A change in how we consume tourism attractions includes the use of 5G streaming in real-time using 360° view cameras, webcams, drones, with appropriate infrastructure as Personalized Interactive Real-time Tours (Fennell, 2020b). Such an approach may be an attractive option to environmental citizens who wish to minimise their ecological impacts on attractions. Linking with the previous stage, the use of knowledge from Table 2 provides a structured process of refining the search for knowledge applicable to the problem at hand. The table shows the selection of a tool (Type) for implementation purposes (Action Cycle), for a natural product like ecotourism (Sectors & Products), and how knowledge about corporate sustainability, technology, and poverty alleviation (Specific TKT Resources) may aid policymakers and practitioners to help solve the problem.

4.2.4. Assess barriers to knowledge use

Barriers will be identified according to individual (e.g. skill sets), organizational (e.g. weak leadership), and systems (e.g. legislation) gaps. Such will include an assessment of external factors like legal, administrative, political, natural resource, economic, and sociocultural conditions that dictate policy for this protected area. Indeed, Monti et al. (2018) argue for better collaboration between the tourism industry and conservation organizations. In reference to the TKT framework itself, barriers might include lack of familiarity and awareness of knowledge, and the lack of agreement with evidence that type of evidence that is appropriate for the case study (Lang et al., 2007).

This stage may identify a lack of skill in demarketing techniques. There may also be barriers to the implementation of a lottery system for political and economic reasons. Furthermore, as above, there may be challenges to the implementation of a secondary attraction system around resistance to the use of virtual reality, webcams and interpretation, even at a reduced cost. The Action Cycle in the TKT Registry would provide examples of Methods and Tools to help identify potential barriers in similar settings according to, for example, ecological, economic, and sociocultural impacts.

4.2.5. Select, tailor, and implement solutions

Based on the results from previous steps, a strategy for the selection, refinement, and implementation of steps to resolve the issue is needed. For example, critical questions around the availability of resources for implementation, the involvement of stakeholders, and who should be involved in implementation are essential at this stage. It will also be necessary to validate outputs and outcomes, as well as the potential practicality of indicators used.

A strength of the TKT framework is that it is interdisciplinary and inclusive and therefore allows consideration of the needs of as many stakeholders as possible (Davis et al., 2003). Who benefits, and how, from the implementation of the mitigating factors is of considerable importance. It is not important not only to increase the success and welfare of ospreys, but also to balance the often-competing commercial demands of the tourism industry and enjoyment of ecotourists. New skill sets, training, and human resource demands will necessitate flexibility in stakeholders in order to execute the primary objective of a healthy osprey population, while at the same time facilitating commercial activity.

4.2.6. Monitor knowledge use

Monitoring is essential for the many resources used in implementation as well as for the collection, storage, and analysis of information on the osprey issue. This means monitoring the type of knowledge used (e.g. quantitative versus qualitative data versus other forms of data like storytelling), as well as the outcomes of knowledge use. Tourist-to-local density markers could be established, accommodation nights, vehicular traffic inside and outside the park, restaurant congestion, tourist-local conflict, environmental impacts on osprey as well as other flora and fauna, the impacts of demarketing, and at different times of the year (peak seasons versus shoulder seasons).

4.2.7. Evaluate outcomes

Several positive results may emerge from the implementation of the measures developed throughout the Action Cycle (Figures 1, 3; Table 2). Providing a secondary attraction option may emerge as an appealing option. On the other hand, it may catalyse those participating in the secondary attraction to seek ways to see the birds in the conventional manner (up close). Perhaps most meaningful, apart from a reduction in tourist density and disruption, may be the development of key collaborative relationships based on trust and cooperation for the sustainable development of osprey tourism in the future. Furthermore, given that the TKT framework is dynamic and iterative, problems that have not been solved in the first cycle may demand a different review and selection of knowledge in future cycles. As new Methods and Tools are added to the Repository, policymakers and practitioners will be better prepared to address the issue based on an expanding base of knowledge.

4.2.8. Sustain knowledge use

In this final stage of the Action Cycle, questions may emerge regarding whether knowledge, innovation, and efforts to effect change can be sustained for the future. Questions include which aspects of the initiative should be sustained, who will be empowered to sustain the initiative, and barriers to sustainability. The completion of the TKT process provides a foundation for the continued implementation of the knowledge-to-action framework. Furthermore, there is a recognition that knowledge provides the key to the long-term management of osprey tourism in Corsica, and the types of benefits that are most meaningful to return the population to a healthier state.

5. Conclusion

This paper has taken aim at the historically entrenched divide between research and practice. It was argued that too much information, which is too sophisticated, from a field that has quickly become amorphous (MacCannell, 2012), and in a climate of linear instrumental thinking based on the neoliberal audit culture (Fennell, 2015), has made the chances for cooperation even more remote (see Budowski, 1976). Such was reinforced recently by the detailed conversation on the COVID-19 crisis on TRINET (Bohdanowicz-Godfrey, 2020; Jafari, 2020).

Like the KT example of healthcare illustrated here, the TKT framework should be free for industry use based on public funding. Attaching a cost to such a model would not attract industry brokers, especially those working from thin margins. Inclusivity and the removal of as many barriers as possible in the pursuit of industry excellence should be the ultimate goal. This type of open-ended approach would hopefully stimulate local, regional, national, and international relationships that work towards a spirit of cooperation, trust, and sustainability reflective of the communities of practice mindset (Cooper, 2015b; Wenger et al., 2002). Such may necessitate the involvement of TKT Knowledge Brokers who possess specialized skills in different areas of tourism (Phillips et al., 2020; see also Fennell, 2013) to mobilise knowledge from the halls of academia to the fields of practice.

What would be the significant challenges of implementing the TKT framework? The success of knowledge translation in the healthcare field is likely a function of the importance of health and medicine as a primary concern for individual citizens (one's health), and governments and healthcare

organizations (the health of the citizenry). It is arguable, and almost universally defensible, that tourism is not nearly as important as healthcare. Nevertheless, when we examine tourism from the perspective of the health of an industry—people losing their livelihoods temporarily, long-term, or forever, there is much more at stake. The COVOD-19 crisis brought this reality into sharp focus more than any other disruptive influence in recent memory. The COVID-19 crisis had massive implications for both health and tourism, which makes the implementation of a framework like the one discussed here that much more critical.

Furthermore, challenges to implementing the TKT framework will be numerous and situated according to many critical concerns. Different industry stakeholders will have different priorities; researchers may place more emphasis on sustainability and responsibility and less on profit than industry; research may disrupt power asymmetries in efforts to support equity, inequality and justice; and there are questions around older research being 'rediscovered' and its relevance to industry several years later. How tourism research and practice can overcome conflicts of interest, different priorities, and polarized value judgments will be a considerable task. Scholars have recently responded to the need to bridge the canyon between theory and practice through efforts by Hardy et al. (2018), Duxbury et al. (2019) on knowledge transfer, and the present work on knowledge translation. Other efforts might include new evaluative structures that reward scholars on their ability to provide evidence-based outcomes for industry. Additionally, perhaps new versions of TRINET will evolve that have the objective of better connecting scholarly research to industry needs. Finally, journals may demand that scholars provide a synthesis of research findings that allow for easier communication with policymakers and practitioners.

This paper has taken aim at the inability of research, and researchers, to have their work play a more meaningful role in practice. However, just like any relationship, good or bad, 'it takes two to tango.' While it is acceptable to question scholars on their commitment to industry matters, the present work stands as an opportunity to induce a 'research-averse' (Ruhanen & Cooper, 2004) industry to open their eyes to a broader horizon of possibilities in moving from conflict to coexistence—or even symbiosis.

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