

Applying a Knowledge Management Framework to Tourism Research

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Increasingly it is being recognised that a nation's competitiveness in the global marketplace depends on its ability to capitalise on its intellectual and knowledge-based assets, as opposed to the more traditional commodities. As a consequence, the diffusion and commercialisation of research and intellectual property has emerged as a key issue for governments, higher education institutions, research centres and private enterprise. These are recent developments that represent the recognition of knowledge as a key competitive tool for the private sector and a determinant of economic growth for governments. Tourism, as one of the world's major economic sectors will ultimately be required to adapt to these changes. Therefore it is suggested that if tourism organizations are to remain competitive in this changing era, the adoption of a knowledge management approach will be required to transform tourism research and intellectual property into capabilities for the sector. This paper presents an overview of the relatively new concept of knowledge management and the issues in applying such an approach to a sector such as tourism. Finally the efforts of one tourism research organisation attempting to transform knowledge into capabilities for the tourism sector will be discussed.

Knowledge Management

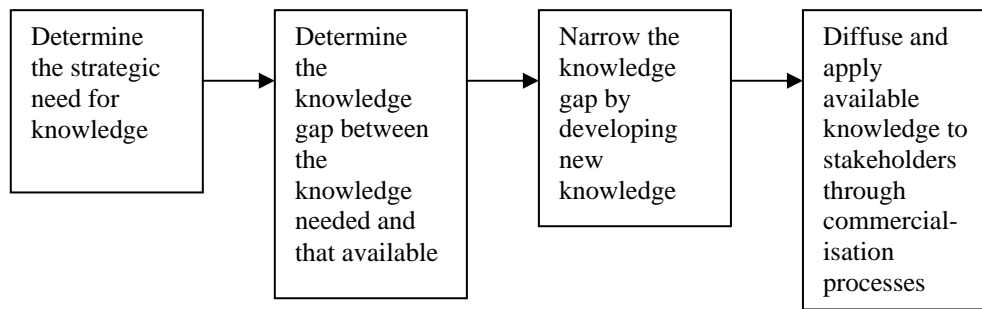
The realisation that knowledge-based commodities will be the export of the future has given rise to the notion of 'knowledge management'. The concept of knowledge management (KM) arose in the 1980s and is defined as, "the encouragement of people to share knowledge and ideas to create value-adding products and services" (Chase, 1997: 83). Essentially KM is a process by which intellectual property (IP) and research outcomes are transformed into capabilities to assist enterprises to act as intelligently as possible to secure long-term viability and success (Wiig, 1997). In an organisational context, KM might encompass: customer-focused knowledge; intellectual asset management; innovation and knowledge creation; and most importantly; use research to understand the processes and practices for the generation, identification, assimilation and distribution of knowledge (Shariq, 1997). Such investigations will allow organizations to use knowledge and skills to satisfy customers and exploit market opportunities both domestically and internationally (Coordination Committee on Science and Technology, 1998). By adopting a KM approach, it is suggested that, organisations will increase their opportunity to become more profitable, efficient and competitive; operate more intelligently in the market place; and create learning, networked organizations (Beijerse, 1999).

A key KM issue for many organizations is the ability to capitalise on their intellectual assets through research diffusion and commercialisation. This is particularly so in publicly funded organizations such as universities and research centres who are required to demonstrate meaningful outcomes from funded research. Research creates IP which can be used to generate new products, applications or services; be converted into commercial processes; create value through sales to customers; and be

used to fund further research. Commercialisation refers to the process of transforming the ideas, knowledge and inventions (the IP) into greater wealth for individuals, businesses and/or society at large (Prime Minister's Science, Engineering and Innovation Council, 2001). The outcomes from commercialisation efforts may include new products, services and business opportunities that meet the public's needs, and may be derived from research conducted by businesses themselves, or the licensing of intellectual property from overseas or from public sector researchers such as universities. Learning organizations have been at the forefront of recognising the value of IP and the commercial spin-offs which can arise from research. Universities worldwide have established companies or departments solely responsible for managing the organisation's intellectual assets and ensuring that commercial returns can be generated through the diffusion of research outcomes to the wider community.

In order to effectively diffuse and, if applicable, commercialise research, a sound conceptual framework is essential. Weggeman (1997) conceptualises KM in terms of a 'knowledge value chain' (Figure 1). The concept of the knowledge value chain clearly locates the key stages of knowledge management from knowledge generation to commercialisation and diffusion.

Figure 1 The Knowledge Value Chain



Source: Weggeman (1997)

Applying a KM Approach to Tourism Research

Although tourism research has unquestionably grown in recent years, it has been largely market driven with tactical short-term objectives being the focus of attention. This is not surprising, considering tourism has traditionally been service and product based and, with the exception of the distribution system and business administration, most tourism enterprises have been either unaware of, or slow to take up, the opportunities on offer from tourism research. In addition, the tourism sector is dominated by small-to-medium sized enterprises, which are traditionally research averse. As a result tourism research has not been subject to a KM approach and the sector is not as competitive as it could be.

A further problem with tourism research is that published material is often descriptive, with one-off case studies or problem-specific investigations. Cooper, Shepherd and Westlake (1994) observe that applied tourism research usually fails to add anything substantial or significant to the body of knowledge due to the limited scope of much of the research which is often company or sector-specific and operationally oriented. Although tourism as a field of research is undoubtedly

growing, as demonstrated by the growing number of peer-reviewed journals, much of this research is focused on testing existing models, frameworks and theories and with obvious exceptions is not developing the crucial IP required for the sector.

In defence of tourism research, such problems may be attributed to the limited pool of funding options. Academic tourism research is often dependent on ad hoc external grants or university funds and is often undertaken on an individual basis without any overarching agenda. Partly this has been a result of the fact that the tourism sector has received very little government funding compared to other industries, particularly in the fields of science, medicine, technology and agriculture, despite the fact that in many countries tourism often outperforms these industries in its contribution to national gross domestic product. Consequently, tourism research has suffered from a lack of vision both by the bodies that fund the research and the industry for which the research is often targeted. In the past this may have been due to the perception that tourism is about play, recreation and having a good time. The holiday photo portfolio of people at play in exotic locations has contributed to this image but the grim reality of the downturn in the industry following the respective “shocks” of 911, the Bali bombing, SARS and the second Iraq war, indicates that beneath the veneer of pleasure lies a substantial industry that makes significant contributions to the economies of many countries (Cooper, Prideaux and Ruhanen, 2003). In the past the need for market research drove many national tourism research agendas, however the adverse impacts of recent world events show that this can no longer be the case. As the size of the tourism sector has grown and its importance as an export sector has become more widely appreciated by government, the need to move beyond promotion into more general research has been recognised. Similarly, there is an increasing

realisation that a new research agenda is needed that will enable the tourism industry to fully participate in the future knowledge economy; a research agenda that recognises the critical role of adopting a KM framework.

Albeit slowly, the tourism industry, the academic community and national governments are beginning to realise that short-term, ad-hoc market research will not create meaningful research outcomes, and will not enhance the competitiveness and sustainability of the sector. As with other sectors, knowledge will become the fundamental factor underpinning successful tourism organizations. Compared to other fields, the transfer of KM concepts to the tourism sector has been slow, particularly in those sectors that have a strong service tradition. In contrast, the successful adoption of the KM approach has become apparent in certain tourism sectors, including transport and distribution, where rapid advances have been made in the use of information technology and the development of applications. With the growing debate on the need for sustainability and the emerging recognition that the health of the tourism industry is inextricably entwined with issues as diverse as new food technologies, a looming global water crisis, potentially pandemic diseases, new transport technologies and the sciences that drive advances in metal technologies, fuel efficiencies and engine technologies, there is an urgent need for tourism research to embrace new directions (Cooper et al, 2003). For the tourism industry, this suggests a need to: commit to external collaboration to drive quality through the supply chain; form joint ventures with partners who have complementary skills and technologies; learn from others through benchmarking; and maintain competitive economic advantages by collaborating with universities and research institutions.

National governments are slowly increasing their investments in tourism research, and although the contribution is not large, it is beginning to provide the platform for a new research focus based on KM. If the academic research community and the tourism sector embrace this change in philosophy there is every possibility that significant advances will be made in encouraging theory building instead of the previous cycle of theory testing and this new knowledge will be diffused to the wider industry in both the public and private sectors. In Australia, the Cooperative Research Centre for Sustainable Tourism (CRC ST) is one such organization where a knowledge management approach to tourism research is transforming knowledge into capabilities for the sector. The initiatives of the CRC ST are presented here as, not necessarily a perfect model, but as an example of one organisation which has started on the process of integrating a KM approach to tourism research.

The Cooperative Research Centre for Sustainable Tourism

The Australian Federal Government funds the Cooperative Research Centres (CRC) Program in an attempt to improve the economic and social benefits of publicly funded research and development for the wider Australian community. The CRC program is designed to act as a bridging mechanism by bringing together researchers and research users from universities, the public sector and business to undertake long-term, collaborative research and development ventures that contribute to national research and development objectives. This is achieved through a collaborative approach to research management, commercialisation and technology transfer to accelerate the uptake of new technologies by industry (Mercer and Stocker, 1998). In Australia, there are approximately 65 CRC's in the areas of manufacturing technology, information and communication technology, mining and energy,

agriculture, medicine, science, technology and the environment. A number of these CRCs (including the CRC Reef Research Centre, Rainforest CRC, the CRC for Freshwater Ecology and the Tropical Savannas CRC) undertake active research into tourism issues that fall within their area of interest.

The CRC ST was established in 1997 and refunded in 2003 for a further seven years. The goal of the CRC ST is to provide global leadership in research and development to improve the sustainability of the tourism industry so that the economic, environmental and social benefits are maximised for Australia. To facilitate its research agenda and assist with the information needs of the tourism sector the CRC ST identified four broad categories of research: environment; engineering; business; and information technology research and development; coupled with a suite of educational programs (including PhD scholarships) and international partnerships. The CRC ST operates in collaboration with member universities, industry organisations and national and state government. One of the primary objectives of the CRC ST is to further develop and market the collective intellectual assets of the centre for the benefit of the tourism sector.

As outlined previously, a KM approach demands that research is undertaken to understand the processes and practices for the generation, identification, assimilation and distribution of knowledge (Shariq, 1997). Therefore, by 2001 after four years of operation, a number of CRC ST funded projects were either completed or nearing completion and it was considered timely to revisit the issues of diffusion, commercialisation, and cost recovery of the CRC ST's IP portfolio. As a result, the

CRC ST instigated a suite of projects to investigate the translation of funded research into actionable findings, products and approaches for the tourism sector.

Firstly, a survey of best practice in knowledge management, research diffusion and commercialisation was undertaken. The desktop review was conducted using a range of secondary sources from: Australian and international governments and publicly funded agencies and research programs; Australian and international universities and university commercialisation organisations; private sector companies specialising in research commercialisation and knowledge diffusion, and other Australian CRC's. Although the findings were diverse the main methods for diffusing research to the broader community were found to be: spin- off companies; licenses to third parties; consulting services; industry workshops; and education programs. It was also found that the highest level of commercialisation and diffusion success occurred when: research planning was integrated into the knowledge management value chain; industry partners and researchers were involved prior to commencing the research; and appropriate vehicles for diffusion and knowledge transfer were identified prior to commencing the research (Cooper and Ruhanen, 2002). These results of the best practice survey were used to advise the CRC ST of potential strategies for increasing the diffusion and commercialisation of research.

On completion of the wider review of best practice in commercialisation the project team reviewed the research conducted by the CRC ST since its inception to identify projects that demonstrated commercial or diffusion potential. It was found that many of the projects had outcomes of some use to industry, particularly in the areas of natural resource management, destination management and event management. In

these areas much of the project outputs were in the form of best practice guidelines, economic and financial assessments and environmental tools. There were also a number of project outputs which included econometric models, technologies, IT systems and benchmarking guides. However, much of the dissemination of these projects occurred in the form of reports and workshops and were only distributed to a limited audience (Cooper, Prideaux, Ruhanen, Mules and Carson, 2002). This was attributed to a failure of many of the participating researchers to understand the KM value chain and as a result they had failed to identify possible commercial outcomes from their research. It was the research team's view that these problems have arisen from shortcomings in the researcher's understanding of the CRC ST requirement that funded research should be directed towards achieving IP outputs that lead to commercialisation and/or cost recovery. This problem is not unique to tourism. In a study on the awareness and understanding of the commercialisation and diffusion process, the Australian Institute for Commercialisation (2002) found that there was a general lack of understanding of the processes and practices of commercialisation of research outcomes in Australia and that Australia's overall international competitiveness suffers from insufficient focus and coordination in commercialisation of research and development. We suspect too, that this shortcoming is not unique to Australia.

To address this issue, the CRC ST funded a pilot program to conduct a research diffusion and commercialisation training program for researchers in the CRC ST network. The training program was designed to assist CRC ST researchers to proactively develop research agendas that could maximise research outputs for the tourism sector as well as potentially achieve commercial IP outcomes from research

investments. The program had a number of objectives including the training of researchers in aspects of the KM value chain, research utilisation and commercialisation. One significant outcome was the production of a training manual, which included case studies and reference materials on research diffusion and commercialisation (Cooper, Moore, Prideaux and Ruhanen, 2002). Further, the CRC ST put into place a formal mechanism for encouraging commercialisation and diffusion through the establishment of a new organisational structure which included the creation of a commercialisation division, Sustainable Tourism Services Pty Ltd, which was given the task of assisting researchers to identify and develop commercialisation and diffusion outcomes from CRC ST funded research.

While the above-mentioned projects investigated diffusion and commercialisation from the perspective of the research commissioning agency, the CRC ST, the project team are currently investigating the issue in terms of the adoption environment; that is the adoption of research and IP by the tourism sector. As has been discussed, research is under-utilised by the tourism sector and as a consequence, the sector is not as competitive as it could be. One possible reason for this is a lack of communication/understanding between the research community and industry. Therefore, if organizations such as the CRC ST are to diffuse their research into the tourism sector, it is considered vital to understand the nature of this 'adoption' environment. The current project aims to uncover the tourism sector's current use of research, the preferred mode for receiving the research and therefore determine the most effective means of communicating research and IP outcomes to the tourism sector. The research outcomes will include a set of recommendations on the most appropriate diffusion pathways and communication mechanisms by sector

(government, private enterprise), type (accommodation, attractions) and size of organization (multi-nationals, small-to-medium sized enterprises) that will assist in facilitating the adoption and use of research by the tourism sector.

Conclusion

As national knowledge assets and organisational innovation become the key factor in determining economic strength, tourism must learn, adapt and adopt. If tourism is to become a sustainable industry sector and accept this new economic structure, it must collectively refocus its research agenda and move beyond short-term ad hoc and market driven research. A KM approach should be the underpinning objective for future research agendas so that the increasing intellectual capital in tourism can be transformed into industry competitiveness and sustainability. The Australian experience, through the CRC ST, has demonstrated the potential to deliver commercial outcomes from research investments and this example may contribute towards the development of similar initiatives in other countries.

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