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Managing Tourism Knowledge: A Review

Cooper, C. P.

Abstract

Purpose - This paper provides a contemporary review of the field of tourism and knowledge management.

Approach – The review draws upon an extensive range of generic knowledge management literature as well as the rather less developed literature on tourism and knowledge management.

Findings - The review finds that tourism has been slow to adopt a knowledge management approach, partly due to the context of the tourism sector. However, by taking a ‘network gaze’ the benefits of knowledge management for tourism are clear. The paper also found that policy for knowledge management can be of benefit to tourism.

Practical implications – For destinations and tourism organisations, the review shows the importance of understanding the process of knowledge management for innovation and the importance of embedding within networks of communities of practice to benefit fully.

Originality – This paper provides a contemporary review of the knowledge management literature and situates it within the tourism context.

Key Words

Knowledge management, knowledge economy, tourism knowledge management model, tourism networks, knowledge management policy

Article Classification – general review

Introduction

Knowledge management (KM) is an approach that addresses the critical issue of organisational adaptation, survival, and competitiveness in the face of increasingly

discontinuous environmental change (Dutta and Madalli, 2015). Despite Schumpeter's (1934) early work recognising that competitiveness is based upon the use of knowledge and innovation, it was not until the 1990s that the knowledge-based economy emerged. This economy recognised that not only was knowledge more than just information, but also that it was a resource to be valued and managed (Alavi and Leidner, 1999; OECD, 1996). For both tourism organisations and destinations, mechanisms to facilitate the the transfer and use of knowledge will ensure competitiveness.

This paper provides a review of the concept and literature of KM and its application to tourism organisations and destinations. Whilst the KM literature is increasingly mature with the growth of dedicated journals, textbooks and conferences, tourism as a field has been slow to embrace KM and hence the literature is less well developed. As a result this paper draws upon mainstream KM research to supplement the tourism literature (Cooper, 2006). Tourism can clearly benefit from the ideas and practice of KM, particularly in the area of knowledge transfer and knowledge-based innovation. The review recognises that tourism as a context provides challenges for the implementation and understanding of KM, yet it also recognises that in times of rapid and unexpected change, KM can deliver both a resilient and competitive sector. The review begins by examining concepts and definitions of KM, moves on to look at models of KM and their application to tourism, including innovation, continues by dissecting the tourism contexts for KM, introduces the policy dimension and finishes by looking at future perspectives on KM and tourism.

Concepts of Knowledge

Clarity on the nature and forms of knowledge is an essential step towards understanding the role that KM plays in tourism. There are many definitions of knowledge but at its heart is the utilisation of competency and experience to make information useable for effective decision taking and action. For tourism, the ability to codify knowledge and therefore communicate it - is fundamental (Gotvassli, 2008). Here, Polanyi's (1966) distinction between tacit and explicit knowledge is helpful:

- Tacit knowledge is challenging to codify, digitise and communicate. A good example of tacit knowledge in tourism would be the knowledge that is passed on from an experienced tour operator on how to plan and assemble tours. It is essential to recognise that in tourism, the bulk of knowledge is tacit and this demands a particular approach to capturing and managing tourism knowledge: The tacit knowledge of any organisation is a core competency as it both facilitates strategic advantage and allows differentiation from rivals. It must also be recognised that tacit knowledge is ‘personal’, so that for say entrepreneurs it represents a competitive edge and this inhibits knowledge sharing (Gotvassli, 2008).
- Explicit knowledge is both transferable and straightforward to codify and communicate. This type of knowledge therefore allows for ease of communication to others in the organisation and beyond, representing the knowledge capital of tourism organisations.

Tourism can therefore benefit significantly from KM as it provides a framework for managing different types of knowledge creating learning, innovative and sustainable organisations with competitive advantage (Yang and Wan, 2004). This framework comprises a spectrum of types of knowledge with explicit at one extreme and tacit at the other (Leonard and Sensiper, 1998).

Definitions

Academics and practitioners disagree over the many definitions of KM. Definitions focus around the idea of KM as a sequential process of capturing, developing, sharing, and leveraging from organisational knowledge. This review takes Davidson and Voss’ definition (2002: 32) and adds a tourism phrase:

'Knowledge management is about applying the knowledge assets available to *a tourism* organisation to create competitive advantage'.

Benefits

For tourism, the basic concept of KM is to utilise knowledge to gain competitive advantage for destinations and tourism organisations (Awad and Ghaziri, 2004; Martensson, 2000; Nonaka, 1991). More generally, other benefits include enhanced business processes; facilitation of innovation and organisational learning and it improves organisational response times. Knowledge management also facilitates access to markets, decision-making is enhanced and operations streamlined. In addition, KM can leverage employees' intellectual capital, facilitates individual learning, helps to retain employees and ensures knowledge capture when individuals leave.

A Model Of Knowledge Management For Tourism

Models of KM are cross-disciplinary in approach by the very nature of the activity (Dutta and Madalli, 2015) and they should align with, and contribute to, the knowledge goals of the organisation or destination (Pyo, 2012). There are two basic elements to KM models: firstly, IT and secondly, people, organisation and culture (Awad and Ghaziri, 2004). Over time, models of KM have tended to evolve away from an IT focus towards approaches that embrace individuals and organisational culture as these are more influential for the successful creation, dissemination, and application of knowledge (Tzortzaki and Mihiotis, 2014). Dalkir (2005) provides a wide ranging review of the main KM models and synthesises them into a KM cycle. Evans et al (2014) have taken this further by integrating various KM cycles to seven non-sequential phases - identify, store, share, use, learn, improve, and create.

These generic approaches inform KM models for tourism. This paper adopts Cooper's (2006) three stage model comprising:

1. Tourism knowledge stocks;
2. Knowledge flows; and
3. Knowledge-based innovation accesses this knowledge and turns it into value.

Tourism Knowledge Stocks

As the field of tourism has developed, knowledge stocks have continued to grow. Since 1970, the tourism subject area has developed a growing community of practice (COP) of researchers, consultants, industry and government adopting common publications and language which has been responsible for generating knowledge stocks (Echtner and Jamal, 1997; Jafari, 1990; Tribe, 1997; Tribe and Liburd, 2016).

There is a variety of approaches to conceptualising these tourism knowledge stocks. For example Tribe and Liburd (2016) identify three different types of knowledge stocks - disciplinary knowledge, value-based knowledge and problem-centred knowledge. These can be mapped upon the earlier concepts of Mode 1 and Mode 2 knowledge (Tribe, 1997):

- Mode 1 knowledge is created in universities and education organisations and is equivalent to disciplinary and value-based knowledge.
- Problem-centred knowledge is similar to 'Mode-2 knowledge' comes from the tourism sector, public sector, and consultants and tends to be situated within a particular problem domain. For knowledge-based innovation, Mode 2 is often the favoured source.

Other approaches have included that by Paraskevas et al (2013) who identified the different knowledge stocks used to manage crises in tourism, whilst, Hjalager's (2010) review of knowledge based innovation identifies four types of knowledge stocks in tourism:

1. Embedded knowledge within networks or organizations;
2. Competence and resource-based knowledge within the organization – often in the form of tacit knowledge;
3. Localized knowledge which is destination specific; and
4. Research-based knowledge originating from universities, research institutes and consultancies.

Despite the useful contributions of these classifications, any conceptualisation of tourism knowledge stocks must also have utility for understanding knowledge flows.

Here the legitimacy, quality, credibility and utility of knowledge stocks inform judgments about the value of certain sources of knowledge for transfer.

Tourism Knowledge Flows and Transfer

Effective KM in tourism demands that knowledge is seen as a critical resource and that learning is the most important process as knowledge flows are transferred from the creator to the user. The advantage of taking a KM approach to knowledge flows in tourism is that the process is structured and disciplined and not left to chance. For effective knowledge transfer the key element is the imperative of ‘transmission plus absorption’ and KM through peer-to-peer exchanges, iterative knowledge sharing and team learning, however as we note below, technology is the most important facilitator of knowledge transfer and the growing use of social media accelerates the process.

Hjalager’s (2002) model of four channels for knowledge transfer in tourism provides a useful framework as she combines consideration of the knowledge to be transferred with the sector of tourism and the application of the knowledge. Her four channels are:

1. The technological system;
2. The trade system, where transfer takes place through trade associations and tends to be sector or destination based;
3. The regulatory system, where knowledge of say – air transport law is transferred; and
4. The infrastructure system including parks and natural resource managers where there is a greater tendency to accept and use knowledge.

Once the channels for knowledge transfer have been mapped, the transfer media need to be considered. Chua (2001) has categorized these media channels according to the type of knowledge to be transferred and by their degree of richness, where:

“the media richness of a channel can be examined by its capacity for immediate feedback, its ability to support natural language, the number of

cues it provides and the extent to which the channel creates social presence for the receiver (p. 2)”.

In his work, Chua simpler and more straightforward media can be used for explicit knowledge. Conversely, technology becomes more important in transferring richer knowledge. For rich and complex forms of knowledge, technology is now an essential part of the knowledge transfer process as it allows for exchange, sharing and rapid transfer. Increasingly, some of the most effective media for knowledge transfer and sharing are social media and social networks. Sigala and Chalkiti (2015) examined the role of social media and networks in fostering employee creativity through empowering knowledge sharing and collaboration. This is supported by Chatzkel (2007) who sees social media as an important new player in knowledge transfer by helping to create new relationships, eliminating internal organisational barriers, and flattening global relationships and communities. Internet portals too are a significant facilitator knowledge transfer, providing a one stop shop to link users with knowledge. Okumus (2013) agrees that strategic use of technology can facilitate effective KM transfer in hospitality organisations, whilst Sigala and Chalkiti (2014) demonstrate how the use of Web 2.0 in KM can shift a techno-centric approach to KM in tourism to a more people-centric approach through conversational, sharing and collaborative knowledge transfer. This helps to dispel criticism of the over-reliance on technology in the knowledge transfer process.

Swan et al (1999) for example surmise that technology may impede effective transfer and that a better approach is through face-to-face interaction (Swan et al, 1999). Here Lionberger and Gwin (1991) and Johnson (1996) agree that knowledge transfer is more likely to occur through social interactions. Similarly, in a study of knowledge transfer amongst small and medium sized enterprises (SMEs), it was found that the medium of peer networks is more valuable than consultants and other change agents, as SMEs prefer to have contact with other people who are doing the same thing (Friedman and Miles, 2002). Social network membership is also important (Thomas, 2012). This leads to the conclusion that combining a people-centric and techno-centric approach leads to effective knowledge transfer as the more interactive forms of technology and the Internet facilitate greater human interaction and sharing.

However, transfer of knowledge alone is not enough. There must be both transfer of knowledge *and* absorption by the receiver. Understanding how individuals and organisations learn is therefore key to the knowledge transfer process (Beesely, 2004). She is clear that it is not organisations that absorb knowledge and learn, instead it is their members who learn, reinforcing the people-centric approach. Organisational learning depends upon knowledge transfer structures being created where these structures place emphasis on learning agents who respond to and communicate internal and external information to co-workers.

Here, the focus shifts to the recipients of knowledge flows in the model. Scott et al (2008) discuss the importance of the receptiveness and capacity of both tourism organizations and destinations to adopt new knowledge. This notion of absorptive capability accepts the fact that the ability of organisations to respond to knowledge inputs will depend partly on the organisation's existing knowledge base; effectively the greater the knowledge stocks, the more effective will be the assimilation of new knowledge (Bhandari et al, 2016). It will also depend upon the size, internal structure, division of labour, leadership and competency profile of the receiving organisation (Cohen and Levinthal, 1990; Moustaghfir and Schiuma, 2013). In this respect, tourism poses a problem as many organisations may lack both experience and ability expertise to utilise transferred knowledge (Hoarau, 2014; Thomas and Wood, 2014). SMEs, for example, are highly instrumental and only utilise knowledge if it has direct relevance to their business (Durst and Edvardsson, 2012).

Knowledge-based Innovation

Dvir and Pasher (2004) define innovation as ‘the process of turning knowledge and ideas into value’ (p. 16). This paper argues that knowledge-based innovation is key to the competitive success of tourism and that innovation is dependent upon access to a knowledge base (Gotvassli, 2008; Quintane et al, 2011). Daroch and McNaughton (2002) continue saying that

‘knowledge dissemination and responsiveness to knowledge have been mooted as the two components that would have the most impact on the creation of a sustainable competitive advantage, such as innovation’ (p. 211).

The process of innovation for the tourism sector occurs, in an interactive way, across networks of organisations and draws upon a base of knowledge within and across organisations (Alguezaui and Filieri, 2010; Swan et al, 1999). Here, we can envisage a knowledge landscape of barriers, gatekeepers and receptors of knowledge and innovation (see Cooper et al, 2003). Four key elements of this landscape are important in critical in the innovation process:

- Firstly, the origin and credibility of knowledge, as well as the standing and reliability of the knowledge base;
- Secondly, the characteristics of adopters and their ability to use knowledge are important;
- Thirdly, levels of similarity of partners - their interests, background, and education is relevant; and
- Finally, the degree of organisational self-knowledge is important, the greater the organisational knowledge, the more receptive it will to be.

It is important to recognize that innovation in services, and thus tourism, differs from the better-known approach taken in manufacturing (see Kanerva et al, 2006; Nijssen et al, 2006). There are three distinctive features of innovation in services:

- It tends to be characterised by the importance of understanding and incorporating the pre-requisites for delivering the service, as well as the service itself.
- It recognizes that the service innovation and the existing business will be closely linked.
- It understands the importance of tacit knowledge in service delivery and the fact that employees can act as boundary spanners to allow access to external knowledge (see Farzin et al, 2014; Shaw and Williams, 2009; Yang and Wan, 2004).

Tourism Contexts For Knowledge Management

It can be argued that the context of tourism both inhibits and encourages KM. On one hand, the nature of the tourism context for KM has inhibited knowledge-based innovation (Hall and Williams, 2008; Hjalager, 2010; OECD, 2006). On the other hand, considering sector networks and destinations as loosely articulated amalgams of enterprises, governments and other organisations both encourages and facilitates KM (Scott et al, 2008).

The Tourism Sector

Some argue that the tourism sector does not have the necessary pre-requisites to engage in KM and knowledge based innovation: indeed the sector could be seen as a research-averse (Cooper and Ruhanen, 2002; Czernek, 2017). A growing literature evidences a gap between tourism knowledge stocks and their utilization (Hudson 2013; Pyo 2012; Thomas 2012; Tribe 2008). The tourism context militates against effective KM processes for the following reasons:

- Small enterprises are the dominant type of business. They are characterised by being individually or family-owned, they often lack management expertise and/or training and they tend to take what knowledge must be highly relevant to their operation if they are to adopt and use it.
- The tourism sector is characterized by those who do not take risks, are reluctant to invest in their businesses, and the nature of SMEs leads to a lack of trust and collaboration. In addition, the rapid turnover of both businesses and employees, works against knowledge transfer (Weidenfeld et al., 2009).
- Fragmentation of the tourism product and its delivery across various providers leads to poor coordination for knowledge transfer and adoption across the sector.
- The poor human resources practices in the sector mitigate against the continuity of knowledge transfer and adoption. These vocational reinforcers are present in the employment of seasonal and part-time workers, high labour turnover and a poorly qualified sector. This in turn works against the absorptive capability of the tourism sector organisations and destinations.
- Finally, the reporting of tourism statistics is rooted in the old economies of physical resources, and so there is little evidence of attempts to measure

intangible knowledge resources (Johannessen et al, 2000; Ragab and Arisha, 2013).

The discussion above suggests that there are two different COPs - one that generates tourism knowledge and one that may use it - the practitioners. Each group has different behaviours, language and networks inhibiting communication, hence, academic research seldom influences the real world of tourism (Hudson, 2013; Pemberton et al, 2007; Shaw and Williams, 2009; Thomas, 2012).

The Network Gaze

Networks are a fundamental context and medium for the knowledge stocks and flows model (Myers et al. 2012). The 'network gaze' facilitates KM by showing how knowledge and consensus can be generated, trust built and knowledge exchange facilitated (Scott, 2015). If KM is to be utilised by tourism at the destination level, then the micro-level focus on the organisation, which dominates KM thinking, needs to be expanded to embrace knowledge stocks and flows within networks of organisations at the destination. Here, Hislop et al (1997) argue that knowledge articulation occurs in networks of organisations attempting to innovate and build upon knowledge. They identify two types of network:

1. Firstly, micro-level networks within organisations where knowledge is created and is mainly tacit and 'in-house'. This internal, demand-side knowledge satisfies the organisation's need for new knowledge and is learning or innovation centred.
2. The second macro-level, inter-organisational network sees knowledge transferred around a network of organisations and tends therefore to be explicit in nature. This is a supply-side response to the need to distribute and transfer knowledge.

Hislop et al (1997) go on to explain that converting tacit knowledge at the organisation level is achieved as it is 'articulated' into explicit knowledge across the wider network of organisations. This boosts competitiveness and the analogy with tourism destinations is clear.

As knowledge is created and transferred across a sector or destination network, the configuration of the network and individual organisations' positions within the network are key to the effectiveness of KM. Reagans and McEvily (2003) state that the knowledge transfer facilitated by social cohesion amongst the network members is as important as the strength of network ties. Here, Tsai (2001) argues that an important aspect of organizational innovation is their network position in terms of their access to new knowledge allied to its absorptive capability. Braun (2004) adds to this arguing that as well as network position, successful transfer requires actors' trust in, and engagement, with the network. Huggins et al (2012) notion of 'geographic space' and 'network space' is important here. They confirm the idea that networks allow access to knowledge but see this as occurring in two ways - firstly through geographical clustering of organisations in say a destination, and secondly, within network space which may be a tourism distribution channel or hotel marketing collective. Here there is a danger that basing a network around a geographical cluster such as a destination leave organisations with locationally-constrained tacit knowledge, overly embedded in the destination (Barthelt et al, 2004). In fact boundary-spanning organisations and individuals are an important counterpart and are needed in tourism destinations as they can access other networks globally.

Another important factor in networks to facilitate knowledge transfer is effective governance and management. This helps to manage new network entrants and ensure that knowledge is not lost to network members (Eickelpasch and Fritsch, 2005). Participating actively in formal or informal networks is one example of an activity that has been widely recognized in the literature as a common source of knowledge in tourism (Baggio and Cooper, 2010; Presenza and Cipollina, 2010; Scott and Ding, 2008). Social relationships play a critical role in these 'knowledge networks', requiring participants to emphasize the management of relationships as well as the management of processes or organisations (Beesley, 2005; Inkpen & Tsang, 2005). Studies of how knowledge is sourced and utilised highlight that in fact personal relationships are of most importance confirming the important contribution that networks make to knowledge transfer (Cross et al, 2001; Xiao and Smith, 2010). Governance of networks can also ensure that all members work towards the same goal, although at the end of the day, networks are simply relational structures and do not have a purpose. For this we must turn to the notion of communities of practice.

This paper is clear that KM in tourism takes place within networks and COPs. However, there are characteristics of COPs that are analogous with networked destinations but the key difference is that COPs are 'purposeful' and not just a set of relationships (Gotvassli 2008). COPs therefore represent a group who have a shared way of working which is characterised by trust and collaboration with a shared set of history and ideas (Wenger, 1998). The analogy with the destination is a useful one as COPs present a fertile environment for KM and knowledge transfer. Perhaps where a COP differs from a destination or tourism organisation is in the fact that a COP depends upon a high degree of trust. It is this notion of trust that is central to the issues surrounding effective knowledge transfer in tourism.

Tourism Knowledge, Public Goods And Policy

Knowledge can be viewed as a global public good, and this has demanded that policy makers come up with ways to protect knowledge generation (the laws of copyright for example) and to encourage organisations to transfer and share existing knowledge through innovation, research and development policies (Cader, 2008). In other words, for tourism organisations, the value of investing in knowledge is uncertain and difficult to predict because it is heavily front-ended, hence the need for governments to invest in the collection of data for national and regional tourism surveys. Since the emergence of the knowledge economy there has been strong pressure to develop policies that recognise the pivotal role of managing knowledge for innovation and competitiveness. These policies have tended to focus on ensuring equitable access to knowledge; protecting the interests of those who generate knowledge; and encouraging the networking and diffusion of knowledge across networks of organizations (Barthelt et al. 2004; Chatzkel, 2007; OECD, 2001; 2003). The policy focus upon knowledge requires an understanding of the nature of knowledge as a global public good:

- Knowledge is non-excludable. It cannot be provided for one consumer without providing it for all. Those who choose not to pay for the benefits of knowledge (free riders) cannot be 'excluded' from its benefits;

- It is non-rivalrous. Knowledge does not exhibit scarcity and once produced everyone can benefit from it. This implies that knowledge cannot be supplied by a market economy; and
- Knowledge has externalities such that the benefits are not reflected in market prices.

We can take this further by seeing a continuum of knowledge layers from public, to quasi-public, to private goods with a different policy focus needed for each layer:

- For knowledge as a ‘public good’, policy is based on raising taxes to supply the good. In tourism, some governments provide tourism knowledge freely to all - examples would include making tourism research results available on the Internet.
- For knowledge as a ‘quasi-public good’, policy ensures that governments support knowledge generation in both the education and private sectors. The policy role of government is to provide support for the early seeds of innovation, especially as the traditional source of knowledge for innovation - universities - are becoming increasingly commercial. Here, governments are now demanding value from their knowledge generating organisations such as universities and to do this they are assessing research knowledge and its impact (Hall, 2011; Thomas, 2012).
- For knowledge as a ‘private good’, policy accepts that knowledge will sometimes be produced and traded in the market place (Stiglitz, 1999).

Future Perspectives Of Knowledge Management And Tourism

Knowledge Management Perspectives

There is a growing literature examining the future of KM (Johannessen et al, 2000; Scholl et al, 2004). The key directions and challenges include issues related to the communication of both the concept and benefits of KM: It remains a concept that is poorly understood. In addition, developing metrics to assess the 'knowledge economy' will be critical for the acceptance of the approach: The old economy of physical

resources is still the basis for statistical measurement of output, productivity and employment. More work is needed on understanding the linkage between KM innovation and therefore how it can sustain competitive advantage and leverage from the creativity of employees. This leads to the use of KM to underpin processes of continuous improvement of product and services; tacit knowledge plays an important role in this process. There will also be an increased focus on issues of the security of knowledge and knowledge workers' intellectual property, all of which point to the fact that understanding social processes and their interface with business processes will be important in the future (Tzortzaki and Mihiotis, 2014). Finally, the 'knowledge ecosystem' is evolving to include firstly, social networks which encourage knowledge sharing, communication, combination, boundary spanning and collaboration; and secondly, big data which brings KM challenges of management and control (Hemsley and Mason, 2013; Nieves and Osorio, 2013; Pauleen and Wang, 2017).

Tourism Perspectives

The future of tourism and KM will be characterised by an increased focus on the means by which to achieve effective 'learning organizations and destinations' (Schianetz et al, 2007). Destinations in particular will become learning organisations if they are to be competitive and resilient in a time of continuous change (European Commission, 2006; Nordin, 2003; Nordin and Svensson, 2005; Schianetz et al, 2007). To achieve tourism learning organisations and learning destinations a number of conditions will be required.

Firstly, there is a need to evaluate core knowledge for organisations and destinations and ensure that tacit tourism knowledge is effectively captured (Pyo, 2012; Yang and Wan, 2003). Secondly, there will be an increased emphasis on the total knowledge base of destinations and organizations, emphasising the fact that knowledge exists external to an organization as well as internally. In particular, all stakeholders, including customers and those in the supply chain will have a more important role in the knowledge management process (Del Chiappa and Baggio, 2015; Fuchs et al, 2014). Here, Orchiston and Higham (2016) have shown how knowledge collaboration and communication across myriad agencies speeds up disaster recovery in say earthquake zones. Finally, for destinations and tourism organisations there will be a

need to better at link knowledge with decision-making to demonstrate the real benefits of KM.

Conclusion

This review paper has demonstrated the benefits of a KM approach for tourism to deliver a competitive, innovative and sustainable sector. Whilst there are some excellent examples of good KM implementation in tourism, there is still a long way to go (Cooper, 2006). This paper is clear that it is critical to understand the tourism context for KM, particularly the nature of the sector itself and the insights provided by the 'network gaze'. Successful KM comes from co-creation, knowledge sharing and frequent interactions between knowledge users and the researchers who generate the knowledge. This delivers knowledge based innovation, co-creation and shared good practice (Hoarau and Kline, 2014). The paper has shown that knowledge and learning come from people and their relationships with each other and their experiences. For tourism, knowledge transfer and creating learning destinations and organisations remains a real challenge. This is because the sector will need to develop a trusting, learning and sharing culture through the collective intelligence and knowledge of the people who make up the tourism sector. This will deliver the learning destinations and organisations that tourism requires to face the future.

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