Knowledge Transfer and Innovation in the Visitor Attraction Sector

Studies of knowledge transfer and the diffusion of innovations in tourism have largely ignored the attraction sector. This study examines the level and form of knowledge transfer amongst attractions in Cornwall (UK), paying particular attention to the significance of spatial clustering and product similarity. It is based on in-depth interviews with tourist attraction managers and key informants in two contrasting spatial clusters. The findings demonstrate that spatial proximity, product similarity and market similarity have positive impacts on knowledge transfers and innovation spillovers, at both the local and the regional scales. They also show that the influences of product similarity and spatial proximity are closely related, but that the first of these is generally more influential at both the local and particularly, the regional scale. The paper also identifies some of the sources, mechanisms, channels and outcomes of knowledge transfer.

Key words: knowledge transfer, innovations, tourism clusters, visitor attractions

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1. Introduction

Knowledge management and transfer as key components of constant learning and innovation are vital for gaining and retaining competitive advantage. Most studies to date explore innovations and knowledge transfer in the hospitality industry rather than in tourism (Siguaw et al., 2000; Jacob et al., 2003; Jogaratnam and Tse, 2005; Orfila-Sintes et al., 2005; Claver-Cortés et al., 2006; Hallin and Marnburg, 2008; Yang, 2007), although there is a growing body of research on knowledge management and transfer processes in the tourism industry (Poon, 1993; Hjalager, 2002, 2008; Nordin and Svensson, 2005; Cooper, 2006; Brackenbury, 2006; Decelle, 2006; Scheidegger, 2006; Weiremair, 2006; Keller, 2006, 2006a).

Despite interest in this area in recent years, there is still little research on the role of different levels of proximity as facilitators. In particular, there is very little evidence of determining whether tacit knowledge is transferred more efficiently by relational proximity (i.e., achieved via individuals with shared meanings and understandings) or by spatial proximity (Williams, 2005). This research gap is perhaps unsurprising given that the processes of knowledge circulation are intangible, often covert, sometimes immoral (and even illegal) (Henry and Pinch, 2000). This paper focuses particularly on the role of spatial and thematic clustering in mediating knowledge transfers and innovations between attractions.

Some authors (Nordin, 2003; Bathelt et al., 2004; Hall 2005; 2005a; Shaw and Williams, 2004; Williams, 2005; Jackson, 2006; Jackson and Murphy, 2006; Novelli et al., 2006; Sørensen, 2007) have commented on the role of spatial clustering and spatial proximity in enhancing knowledge transfer and innovations in tourism. There
are debates about whether competition and cooperation encourage or discourage innovation (Pérez et al., 2006), the relationship between tourism product similarity and the transfer of knowledge and innovations between tourism firms has largely been ignored. This paper studies the importance of both spatial proximity and product similarity between visitor attractions by examining whether and how these factors are related to knowledge transfer and diffusion of innovations between visitor attractions.

This is a subject which has relevance for agencies and operators who are concerned with competition, competitiveness and collaboration in the tourism industry. In the remainder of the paper, we first outline some of the key theoretical issues, followed by a discussion of the methodology, before exploring the empirical findings and considering the implications for the development of both theory and policy.

2. Knowledge management and transfer, and innovation, in tourism

Explicit knowledge is transferable and codified, and can be found, for example, in forms, documents, and electronic databases. It represents the knowledge capital of an organization independent of its workers (Cooper 2006). By contrast, tacit knowledge is not easily visible and expressible, but is highly personal, hard to formalise, difficult to codify and includes that passed from master to apprentice and the key to its acquisition is various forms of experiences (Nonaka and Takeuchi 1995; Cooper 2006).

Knowledge creation, to which knowledge transfer is inextricably linked is a key element of the innovation process. Firms seek, to varying degrees, to control the process of knowledge management; this involves identifying knowledge resources,
capturing tacit knowledge and codifying explicit and tacit knowledge in order to prepare it for transfer within or between firms or organisations (Nonaka and Takeuchi 1995).

Knowledge transfers occur within networks at both the micro-level of the firm, and at the inter- and extra- organizational levels, referred to here as the macro level. At the micro-level tacit knowledge is created “in-house” within organisations, and it can also involve other forms of learning from the experiences of the work force and management. At the macro-level, interorganisational networks tend to transfer more explicit knowledge from the supply side, although various forms of tacit knowledge are also important (e.g., observation of rivals, discussions with others in the same sector). Given that explicit knowledge is generally considered easier for competitors to imitate, tacit knowledge is increasingly seen as a key to competitiveness (Cooper, 2006).

Tacit knowledge and explicit knowledge are complementary entities; and to some degree are mutually transformable into each other (Nonaka and Takeuchi, 1995) in four ways. First there are tacit to tacit transfers through socialisation, where ideas are discussed and exchanged. Secondly, tacit to explicit, or externalisation, for example, through ‘brainstorming’ and the use of developers. Third, explicit to explicit, by transferring knowledge from one explicit form, such as a paper document, to another form such as a data base. Fourth, is explicit to tacit, or internalisation, by generating new ideas from written documents or learning by doing, e.g. applying procedures in a manual.

These processes of knowledge transfer are managed to varying degrees within firms. Shaw (2004) identifies two types of business owner/managers. The first are ‘classic or business-oriented entrepreneurs’ (‘innovators’ or 'leaders’), who are
expected to be more innovative, quick to spot new trends, develop new products, and processes (Keller, 2006a). Conversely, the second are ‘lifestyle entrepreneurs’, passive entrepreneurs’ or ‘laggards’, motivated by life-style and non-economic motives such as independence, with fewer managerial and professional and fewer incentives to innovate (Ioannides and Petersen, 2003).

Knowledge transfers in tourism often have a sequential order as illustrated in Figure 1. Knowledge sources include external suppliers and internal sources such as staff or senior managers (Cooper 2006). At the beginning of the process, knowledge (internal or external) is transferred within and between tacit and explicit forms i.e. explicit to explicit, explicit to tacit and tacit to tacit, between firms through various channels/mechanisms (Nonaka and Takeuchi, 1995). Some of these result in the creation of a reservoir of tacit and explicit knowledge among staff and managers, and others are transformed to product or process innovations, including being ‘captured’ in new technologies. This process and its outcomes among attractions are examined below.

Fig 1
2.1 Channels of, and barriers to, knowledge transfer

This paper identifies from the literature 4 concepts of channels or mechanisms of knowledge transfer: ‘learning by observation/imitation/ and demonstration’; labour mobility, inter-firm exchanges and ‘knowledge brokers’ (Hall and Williams 2008). In addition, we note different perspectives on these aspects by Hjalager (2002) who emphasises the roles of regulation, trade, infrastructural, and technological systems in knowledge transfer

*Learning by observation/imitation/ and demonstration*

Flows of information and knowledge transfers can be planned, unplanned and/or uncoordinated knowledge spillovers occurring in various ways: via observation, by ‘espionage’, and/or through interchanges within communities of association. We contend, and explore later, the notion that attraction managers and staff pay more attention to unplanned and uncoordinated visits (sometimes, even ‘espionage’) than planned ones, and that observation is a key form of knowledge transfer given the difficulties of concealing innovations in ‘front of house’ operations in tourism attractions (Hall and Williams 2008).

*Labour mobility*

Mobile individuals play an important role in flows of knowledge through inter- and extra-firm mobility. Knowledge is transferred by the physical movement of workers who have been exposed to working in organizations with superior technology and other tacit knowledge bases. In the diffusion of knowledge across space, Henry and Pinch (2000) distinguish between ideas which ‘move’ in space and the knowledge, embodied literally in people travelling across space, (‘ideas knowledge transfer agents’).

*Inter-firm exchange: ‘collaboration and suppliers’*
Collaboration between companies constitutes planned knowledge spillovers or exchanges, as firms work together at particular stages in the production chain. This collaboration may be either vertical, that is with suppliers, or intermediaries (e.g. hotels with tour operators), or horizontal, with other tourism attractions that may be potential competitors (e.g. engagement in destination wide marketing campaigns). Compared to manufacturing, services generally are thought to rely less on in-house research and development and more on buying in knowledge and innovations via purchases from suppliers, notably of technology.

**Knowledge brokers**

Knowledge brokers are influential individuals who operate within and across distinctive knowledge communities and they can play a key role in knowledge transfer in tourism (Tushman and Scanlan 1981). They may operate at different levels, national and international, and include both professional consultants and representatives of multinational hotel chains who have been seconded to work with a new supplier in a different country, acquiring distinctive knowledge as a result (Hall and Williams, 2008).

**Systems of knowledge transfers**

In addition to the knowledge channels indicated above, Hjalager (2002:471) provides a different typology of the means of knowledge transfer (Fig 1): trade, technological service, infrastructural and the regulation systems.

a. The trade system: Trade in both services and goods provides a means of transferring Knowledge, at least explicit knowledge. This can be facilitated by personal relationships, trade associations.

b. The technological system: knowledge transferred through purchases or leases of technology. The level of such transfers depend in part on the extent to which
production is undertaken in house, or is outsourced.

c. The regulation system: regulation assumes various forms of mandatory actions, prohibitions and penalties. This system contains a substantial body of knowledge, which is disseminated to individual firms, for example relating to safety and health hazards.

d. The infrastructural system: tourism is often based on ‘free goods’ such as townscapes, natural resources and cultural attractions, that are often managed and developed by public bodies such as local authorities. Innovation and management in relation to these “free goods” often depend on, and are executed by, such public bodies.

2.2. Innovations in tourism

Innovation is a complex process, one key component of which is the sharing of codified and particularly uncodified informal knowledge (De Propris, 2002). Innovation effectively occurs at the level of individual entities, which leaves open the question of whether tourism destinations per se can be thought of as innovative. There is also the issue of what constitutes innovation as opposed to imitation. This study adopts Hjalager’s 2002 approach that innovations in tourism can include minor or major adaptations of products and services. It rarely involves entirely new products and/or new markets but rather differentiation, product line extension via brand policies, or changes in the cost (price)/quality ratio of the product (Brackenbury, 2006). Tourism innovations are difficult to establish but at the same time are considered to be relatively easy to imitate (Hjalager, 2002; Decelle, 2006), particularly where the front stage processes are highly visible, and the level of technology is relatively unsophisticated (Hall and Williams, 2008). However, there
are constraints on learning and imitation through observation, as many aspects of service quality innovations, for example, are dependent on tacit knowledge (Hall and Williams, 2008). Product innovations consist of changed or entirely new services or products while process innovations tend to raise the performance of existing operations by means of new or improved technology. The latter are considered to be more influential in the tourism sector compared to other forms of innovation (Hjalager, 2002; Scheidegger, 2006; Weiermair, 2006), such as marketing or organizational innovation.

There are a number of typologies of innovation, but here we focus on product and process innovations and the Schumpeterian typology of incremental versus radical innovations (Schumpeter, 1934). In line with De Propris (2000), this study postulates that attractions which adopted new processes or products were incremental innovators if they improved on existing products and/or processes, and radical innovators, if they introduced new products and/or processes elaborated and developed by the attraction itself.

2.3 Barriers to Knowledge Transfer and Innovations in Tourism

The tourism industry is usually considered to be characterised more by barriers and constraints than accelerators to innovative processes (Hjalager, 2002; Nordin, 2003; Blake et al., 2006; Cooper, 2006; Keller, 2006). These include low levels of linkages between tourism and R&D; lack of funding and risk taking, lack of trust and cooperation between tourism entrepreneurs, rapid change of ownership, low levels of education and training amongst staff, a high turnover of workforce, low salaries and unconventional working hours, and ‘free-riding’ (Hjalager 2002; Nordin 2003),
3. The role of spatial clustering in knowledge transfer and diffusion of innovations

A number of different forms of proximity have been identified as facilitating knowledge transfers and learning: cognitive, social, institutional and geographical (Boschma, 2005; Sørensen, 2007). Overall, although Boschma (2005) argues that geographical proximity is not a prerequisite for interactive learning, he places more importance on geographical and cognitive proximities than on social, institutional, organisational and size similarities, arguing that geographic proximity – along with minimum levels of cognitive proximity - is sufficient for interactive learning to take place. Although more empirical research is needed to determine the relationships between different dimensions of proximity (Boschma 2005), his arguments frame our understanding of geographical proximity as being potentially a particularly significant form of proximity.

The more general concept of geographical proximity leads to the more specific notion that cluster constituents enjoy the economic benefits of several types of positive and location-specific externalities (Ketels, 2003) endowing them with competitive advantages (Nordin, 2003). This study adopts Jackson and Murphy's (2002) approach, which sees tourism clusters as a form of industrial cluster. A ‘tourism cluster’ is therefore an array of linked industries and other entities, which provide complementary products and services as a holistic tourism experience, such as accommodations, attractions and retail outlets (Wang and Fesenmaier, 2007). Clustered tourism businesses are engaged in cooperative competition, which is characterised by intra- and inter-regional dimensions (Huybers and Bennett, 2004; Jackson and Murphy, 2006). Typically, competitiveness in tourism clusters is determined by factor and demand conditions, context for firms’ strategy and rivalry,
and related and supporting industries (Porter’s ‘diamond model’ 1998, as cited in Jackson and Murphy, 2002).

In the classic (manufacturing based) literature, innovations are developed in a ‘core’ and diffuse out across space, eventually filtering down to the periphery in a hierarchical pattern to the smallest territorial unit (Raco, 1999; Coe and Bunnell, 2003). Innovative production facilities tend to be centralised in the core of agglomeration while more standardised, routine-based and less qualified labour ones remain in the periphery, for which knowledge spillovers are less important (Scnellenbach and Doring, 2006). In line with the Marshallian industrial district theory (see Asheim, 2000) and Roger’s (1995) diffusion of innovations theory, this hierarchy of territorial innovations consisting of poles and peripheries is based on networks made up of socioeconomic actors operating in industrial districts or clusters creating different geographies of knowledge (Raco, 1999). Diffusion is often facilitated by the cooperation of firms within a cluster stemming from imitation, patent citation and frequent visits of the proprietors to other plants or firms (Doring and Schnellenbach, 2006; Hjalager, 2000), face-to-face contacts, negotiations with suppliers, phone calls, and talking to neighbours, referred to as ‘buzz’, that sometimes may be characterised as ‘gossip’ (Bathelt et al., 2004). It can be argued that spillovers of tacit knowledge are more likely to be common among local attractions, where social network organisation is stronger, than at the macro level with lower spatial proximity between actors. Bathelt et al (2004) argue that innovation is best conceptualised as occurring through varying combinations of intra-regional, inter-regional and transnational network relations between actors which can transfer internal knowledge sources as well as external sources via ‘pipelines’, to extra-cluster firms and elsewhere.
3.1 The roles of spatial proximity and product similarity

Spatial proximity alone cannot explain knowledge transfer and diffusion of innovations amongst firms and learning from enterprises which share product similarity has the potential for more specific learning, and more direct imitation. Moreover, it can be argued that in the case of regional specialization, spatial proximity may be less important than the potential to learn from other establishments in the same industry. One of the key arguments here is that if the knowledge gap between the knowledge providers and receivers is too wide, the recipient will face difficulties assimilating the knowledge transferred (Hall and Williams, 2008).

Bærenholdt and Haldrup (2006) argue that different types of tourism businesses within a particular locality have little to learn from one another, since their main common interest is attracting tourists into an area (that is, destination marketing). Conversely, it can be argued that firms belonging to different industries are more likely to share information than firms of the same industry, because they have different knowledge to offer one another (Pérez et al., 2006). Arguably, product-similar attractions do not tend to be spatially proximate in order to avoid duplications; therefore, they are more likely to undertake coordinated and/or uncoordinated visits to other such attractions. This can also be seen as an effective strategy for managing competition issues, and for this reason, such visits are more likely to be overt and co-ordinated. In contrast, it can be argued that learning by observation during incidental visits is more likely to be characteristic of dissimilar product attractions which are spatially proximate, or intra-cluster neighbours.

Hence, agglomeration mechanisms do play a role in knowledge transfer, but in terms of learning from product dissimilar attractions within clusters, not least because
spatial proximity is conducive to networking at the destination scale (Sørensen, 2007). However, Sørensen (2007) argues that relations between tourism firms of different products, e.g., accommodation and attractions, are characterised by more general ‘explorative’ information rather than ‘exploitative’ knowledge exchange that leads to innovations.

Of the other forms of proximity, (Boschma 2005) one is the degree of similarity between organisational mechanisms that coordinate transactions and a ‘vehicle’ that enables exchange of information. Organisational proximity may include similarity in size, which is posited to be positively related to information networks between attractions, as small firms benefit less from local networks, and are less involved in these than large firms (Sørensen, 2007). Hall (2005a) also argues that spatial clustering of tourism firms does not necessarily increase innovation and knowledge sharing, while organisational proximity is more likely to do so. Economic proximity (or distance) refers to "…how economic activities are positioned relative to each other in production systems" (p. 28), and cultural distance refers to the cultural similarities between firms' workers in terms of education, economic situation and occupation.

Sørensen (2007) argues that different attractions need different types of knowledge inputs and that information networks between tourism firms, including attractions, are influenced by product similarity and firm size. Based on the previous discussion, and drawing particularly on Pérez et al (2006) and Sørensen (2007), the following relationships are proposed between proximity and the transfer of knowledge, and innovation:
a. Product similarity between attractions has a more positive effect on knowledge sharing than spatial proximity, and also increases the level of exploitative knowledge transfers and learning.

b. Dissimilar product neighbouring attractions share more explorative information that is less likely to result in innovation.

In addition, the study also argues that transfer of knowledge and diffusion of innovations between tourism attractions depend on the impact of both product similarity and spatial proximity. Increased spatial distance between similar attractions means that attractions are less likely to be in direct competition in the same market segment, encouraging more knowledge transfers. Therefore, the greater the spatial distance between product similar attractions, the more they are expected to exchange exploitative knowledge and innovations.

4. Methodology

The attraction sector was selected for this study because it is relatively under-researched and it is a key component of the tourism experience product (Middleton and Clarke, 2001; Swarbrooke, 2001; Watson and McCracken, 2002; Fyall et al., 2002). Given the focus on spatial clusters, it was decided to study two contrasting clusters in terms of scale and density. In line with previous studies (Novelli et al., 2006; Jackson, 2006; Jackson and Murphy, 2006; Hajdaš Dončić et al., 2007), evidence from primary and secondary data, including tourism associations’ websites, tourism leaflets, advertisements, guidebooks and 9 interviews with key informants provided the data for selecting the clusters, and for delineating their boundaries.

The definition of a tourism cluster in this study is an array of linked industries and other entities in competition, which provides complementary products and
services as a holistic tourism experience, such as accommodations, attractions and retail outlets (Wang and Fesenmaier 2007). In order to facilitate the analysis of cluster effects, it was decided to focus on two, relatively spatially discrete clusters within Cornwall, the Lizard and Newquay (Fig 2).

A business was considered to be a tourism attraction for the purpose of this study, if it was a permanently established excursion destination that charged admission for the purpose of sightseeing or allowed access for entertainment, interest, or education, rather than being primarily a retail outlet or a venue for theatrical, film or sporting performances; it had to be open to the public, and attract mostly tourists. Public, private and voluntary sector attractions were included as long as they charged entrance fees and were Single and Medium Size Enterprises (SMEs), understood as having between 10 to 499 employees (Shaw, 2004). All attractions in Newquay and the Lizard which matched these criteria were contacted with a view to inclusion in the study. Exclusion of other attractions with fewer or more employees was essential to increase similarity in business size between the studied attractions and reduce bias in data. All attraction managers in the Lizard cluster (10) agreed to be interviewed and therefore constitute the entire ‘population’ of this area. In the Newquay cluster, three attractions did not agree to be interviewed, resulting in a sample of 13 attractions (out of 16).

In line with Waitt (2003), a form of ‘framework analysis’ was performed on the interviews with the 9 key informants (tourism officers, councillors and policy makers) and the 23 attraction managers, which included the procedures of familiarization, classification, and indexation, that allowed the identification of different themes and their coding using NUD.IST (Non numerical Unstructured Data Indexing Searching and Theory-building). All 32 interviews were undertaken face to
face between February and October 2006. Each knowledge transfer or innovation process identified was named, classified as product innovation, process innovation or knowledge transfer. Each pair of knowledge provider and receiver were classified as ‘neighbours’ when both receivers and suppliers were located in the same cluster, and ‘distant’ when not in the same cluster. Attractions were classified as product similar or product different in terms of the attractions that they received or supplied knowledge to. The research areas of the study, Newquay and the Lizard Peninsula, are broadly similar in size, and are situated within Cornwall in the South West of England (Fig. 2)

The minimum average travel distance and time by road between each pair of attractions is shorter in Newquay (20 minutes and 7.1 miles) than on the Lizard (37 minutes, 9.33 miles) (based on Automobile Association data, 2008). Newquay area contains more tourism attractions at a higher density, and also has better accessibility to private and public transport than the Lizard Peninsula. Newquay brands itself as the capital of watersports and surfing and its main attractors include beaches, and rural and maritime landscapes (Restormel Borough Council, 2005). While most of its appeal lies in leisure attractions, tailored for families and water-based recreation, the Lizard’s main attraction is a relatively undeveloped coast as well as a mix of attractions (heritage and garden attractions and a theme/fun park).

5. Findings
Most visitor attraction managers in this study are more ‘business-oriented’ than ‘life style’ orientated in terms of types of entrepreneurs (Shaw, 2004). They all operate in a strongly competitive environment. While a few attraction managers provided limited information about innovations and knowledge transfers and a few claimed not to have innovated recently, there were many attractions which reported relatively large numbers of knowledge transfers and innovations. There is a positive relationship between the attraction managers’ length of employment in the tourism sector and in the attraction itself and the extent of identified innovation and knowledge transfers (in terms of number of knowledge transfers and product/process innovations). The findings reveal the sequential order of knowledge transfers. Knowledge sources other than attractions included external suppliers and internal sources such as staff or senior managers (Cooper, 2006). At the beginning of the process, knowledge (internal or external) was transferred within and between tacit and explicit forms, i.e. explicit to explicit, explicit to tacit and tacit to tacit, between firms through various channels/mechanisms (Nonaka and Takeuchi, 1995). The first two included codified tacit and explicit knowledge that were transferred to the ‘receiver’ by staff or professional suppliers in the form of new ideas which could be relatively easily implemented into new or improved product innovations. Explicit to explicit transfers were the most common type of knowledge transfer, and included ideas that could be imitated quite easily, such as ideas adopted directly from suppliers. One example of a knowledge transfer between explicit to tacit knowledge resulted from an amusement attraction park’s manager in Newquay visit to another neighbouring amusement attraction. Explicit to tacit knowledge transfers were least common and included obtaining knowledge from reading professional journals, newspapers and websites. The third form, tacit to tacit knowledge transfer included influential ideas...
with potential for further elaboration, for example, some amusement park managers in both Newquay and the Lizard mentioned the contribution to their general knowledge and ideas after observing facilities and processes while visiting other similar attractions. At the end of the process, most knowledge transfers resulted in new product or process innovations, and some remained knowledge embedded (or encoded) among workers and managers. Similar to De Propris’ (2000) study, most of the attractions’ innovations (product or process) were classified as incremental innovations, and only a few were classified as radical innovations if they were elaborated ‘in-house’. These stages are discussed further in the following sections.

Most respondents had no firm views on imitation and copying between attractions, and a few attraction managers were generally positive towards this issue. Nevertheless, some managers viewed copying and imitation negatively. One amusement park’s marketing manager on the Lizard expressed discontent and frustration, accusing other attractions of ‘spying’. The same marketing manager was quite positive about being imitated, recognising that it could sometimes be advantageous, even if unintentionally.

5.1 Sources and mechanisms/channels of knowledge and information
The main sources of knowledge noted by interviewees were both internal (including senior managers and staff) and external (including attractions and businesses such as restaurants, shops, cafés, supermarkets, pubs and tourism associations). The mechanisms facilitating internal knowledge creation usually involving transforming tacit into explicit knowledge, including discussions and brainstorming among staff and owners. All the mechanisms identified in the literature (Fig. 1) apart from ‘knowledge brokers’ were identified. The most common channel was ‘learning by observation’ (Hall and Williams, 2008), which occurred literally via managers/staff observing attractions during a coordinated or uncoordinated visit at the local cluster, regional and national scales, where they were exposed to new ideas/new products, or by visiting a website. Half of these knowledge transfers were between attractions/businesses within Cornwall (regional scale), a minority of knowledge transfers were between attractions in the study areas (Lizard or Newquay) and in the rest of the UK, while a few attractions learned from overseas attractions or from other unspecified businesses, such as shops, businesses, and unidentified locations. Most knowledge transfers through ‘learning by observation’ were unplanned and uncoordinated, whereby both tacit and explicit knowledge were transferred between attractions or between attractions and other businesses. This was sometimes a source of irritation to managers, reflecting a lack of mutual trust and confidence that learning would be mutual.

Learning by watching rivals’ designs was common, as explained by an attraction manager in Newquay, who disclosed that a new idea to develop a catering facility in his attraction “…came from visiting a restaurant locally to build a quick, covered extension”. Apart from the interviewees, staffs were also ‘knowledge
transfer agents’ (Henry and Pinch, 2000), as noted by a manager of a Newquay attraction, whose evidence reflect those of other attractions:

“I can certainly think of an occasion, when one of our members of staff just visited [a similar Cornwall attraction]. They do such and such, and that might be a good idea... Our staffs visit other attractions and if they do see something like that, they would mention that”.

The least common channels were, as Hjalager (2002) suggested - The Trade systems, the Technological system, the Infrastructural system and the Regulation system. The Trade system is understood here as including tourism associations alliances and marketing groups such as Cornwall Association of Tourist Attraction (CATA), Lizard Peninsula Tourism Association (LPTA), and Newquay Attraction Trail (NAT). They are generally seen by most managers as useful but not as keys to exploitative knowledge.

This supports the Regulation System argument, whereby mandatory actions, prohibitions and punishments constitute a substantial part of knowledge that is disseminated about safety and health hazards. This is also an example of ‘inter-firm exchange’ (Hall and Williams, 2008), where competitors work together and exchange information, and suppliers transfer knowledge directly to attractions. Some knowledge, was associated with the Technological System. One interviewee commented on the role played by a supplier in codifying tacit to explicit knowledge, which is similar to the view of a few other interviewees

"We had discussions with a play equipment manufacturer and they came up with some ideas. Some of which were of interest but some are not. So some of the ideas came from another business and some of them in-house".

Another amusement park manager in Newquay reported how different sources of knowledge were combined, including suppliers:"… the mechanic's idea and a management meeting. We came with the idea between us". However, the idea was further elaborated after "we went to a company near Birmingham…it was a huge development".
Tourism is often based on ‘free goods’ that are often managed and developed by public bodies, such as local authorities. These bodies are a part of the Infrastructural system, which infuses additional knowledge to firms. Only one interviewee, however, a heritage attraction manager on the Lizard, provided evidence for this, which also indicates the knowledge mobility of ideas: "… I talked to a prior teacher in Penwith, she is a heritage officer, and said that there are grants available for that, so we got a grant and we have put together this little area … where young children love to come and play”.

5.2 The impact of Spatial Proximity on Knowledge Transfer and Innovations

This study has argued that spatial proximity positively affects knowledge transfers and the diffusion of innovations between firms, including information and communication created by face-to-face contacts, co-presence and co-location of people, (Bathelt et al., 2004). Spatial proximity can also facilitate learning by observation. This assumption was supported by a key informant whose view reflects those of other managers and key informants: “… they [attractions] will keep an eye on the whole county to see what’s going on within the County…” [Moreover], “…attractions would stay within the County. Some possibly look at the micro-scale”.

The interviews indicate that most knowledge transfers and imitation (i.e., knowledge transfers resulting in innovations) were between attractions in Cornwall, while a few Cornish attractions exchange knowledge with attractions in neighbouring Devon. In Newquay there were more cases of intra-cluster attractions imitating each other than on the Lizard.
The earlier literature review identified that innovations and knowledge tend to be developed in a ‘core’ and diffuse to the periphery (Raco, 1999; Coe and Bunnell, 2003; Scnellenbach and Doring, 2006). There are some indications of this in the findings. Two centrally located large attractions, an animal attraction in Newquay and an amusement park on the Lizard, were ‘knowledge hubs’, functioning as knowledge suppliers and knowledge receivers to and from a relatively large number of other attractions. They were considered the most ‘innovative’ attractions, demonstrating radical as well as incremental innovations (De Propris 2000), and both imitating and being imitated by other attractions and businesses at both the local and the regional scales (Fig 3, arrows α, β). As the manager of the Newquay farm attraction explained

“We have done a lot of interesting things throughout the years and have seen a lot of other attractions copy what we’ve done within two or three years of it. They wouldn’t have dreamed of it before”.

The managers of these hubs can be described as 'leaders' or ‘innovators’ given their relatively effective capture, codification and transfer/ diffusion of knowledge and innovations to other attractions, thereby contributing to the regional knowledge economy and competitiveness (Shaw, 2004; Cooper, 2006).
About half of the key informants implied that spatial proximity affected positively the level of diffusion of innovations and learning between attractions at the regional scale. In this context most key informants referred to Cornwall as the region, ignoring the local cluster scale. In other words, attractions in the same region are more likely to learn from each other rather than from neighbouring (intra-cluster) attractions. The findings illustrate that attractions imitated and adopted ideas from other attractions that were considered distant enough not to be in direct competition. Having explored the impact of spatial proximity, this paper now considers the significance of product similarity, while recognizing that this is interlinked to distance between attractions.

5.3 The relationships between Spatial Proximity and Product Similarity

The impact of product similarity on knowledge transfer cannot be appreciated without understanding its relationship with spatial proximity (Fig. 3-4). For key informants, spatial proximity was seen as having “… less influence, in the sense that people [attraction managers] are going to travel beyond their own area, because they are seeking innovation, and they would seek something that their competitor, who is close by, does not have” (Key informant). Attraction managers were also considered to be utilising both spatial proximity and similarity, to varying degrees, particularly when emulating others’ products.

It would be expected that spatial proximity, and particularly product similarity between intra-cluster attractions, would have a positive impact on the general effort to imitate and learn from others (Pérez et al., 2006; Sørensen, 2007). The findings show that coordinated visits of managers to other attractions for the purpose of learning
was more common between distant attractions, whilst uncoordinated learning visits were more common between neighbouring attractions. More interviewees mentioned planned visits to distant and overseas attractions for the purpose of learning and learning coincidentally from their neighbours when ‘passing by’ attractions in Cornwall. In line with Sørensen (2007), product similarity between attractions was found to be positively related to exploitative knowledge transfers resulting in innovations, while dissimilar intra-cluster attractions formed many links with each other and shared more explorative and less exploitative information (Sørensen, 2007). There were more knowledge transfers between similar product attractions resulting in innovations (or cases of imitation) than between dissimilar product attractions, and there were more knowledge transfers between similar market attractions resulting in innovations than between dissimilar market attractions (Fig. 3-4), as indicated by a key informant referring to the managers of a large amusement attraction in Newquay: “They [the managers] won’t, be so bothered about what was happening around Cornwall gardens or what the National Trust were up to, but they would be interested in anybody else who deals with young families”. Overall, more extra-cluster (distant) attractions exchanged knowledge and imitated each other than did intra-cluster attractions, which suggests that spatial proximity between attractions is negatively related to their tendency to imitate each other. In the next section we explore the impact of these factors on the most common knowledge transfer channel.

5.4 Impact of spatial proximity and product similarity on learning by observation/demonstration/limitation

The features of ‘learning by observation channel in terms of proximity and product similarity are summarised in Table 1.
Visiting similar attractions was considered important by respondents. A Newquay Amusement attraction manager noted an idea for future development, gained while visiting a neighbouring amusement attraction within the same cluster:

There is also evidence of imitation of product and process innovations between similar product and similar market attractions at the regional scale (Fig. 3, arrow α):

"... take the indoor attraction for small children. There is a good indoor attraction for children...at [an amusement attraction in Cornwall]. [Farm attraction] then put in exactly this type of attraction, [another animal attraction] has now put in an identical set-up (Key Informant 9).

A few attraction managers travelled nationally in order to learn from other similar product attractions, and even travelled abroad to learn from overseas attractions. Planned visits to overseas attractions were taken by amusement attraction managers in both clusters, who targeted similar product and market attractions. Two managers from an amusement park on the Lizard “…went to the Disneyworld to see how they do things there in Florida. I think it is a question of whom do you want to emulate and if you want to emulate people with worldwide reputation, you go and see how they do it” (Key Informant). Learning by observation does not only entail physical presence while visiting attractions, but also involved online visits to websites. One
respondent reported unplanned ‘learning by observation’ during a part of an activity between member attractions in CATA:

“… as part of CATA, we have to inspect each other’s attraction. So as you go round inspecting, you do look for points as say is it a good idea? is it a bad idea? or that’s an interesting idea… and you can always bring them back (an attraction manager on the Lizard).

Unplanned/uncoordinated learning did not only take place between attractions, but also between attractions and other businesses like shops, cafes and restaurants

5.4 Comparison between Newquay and the Lizard

At the local cluster scale, attractions in both clusters imitated and learned from other intra-cluster similar product attractions more than from dissimilar product attractions (See Table 2. and Fig. 4). Newquay attractions, which are more product similar than those on the Lizard, were more likely to imitate each other. It can be argued that the differences between the two clusters are related to the higher level of spatial clustering and product similarity amongst attractions in Newquay than on the Lizard. There are simply more opportunities for visits by managers/workers to other neighbouring attractions in Newquay. The outcome was more imitation and more knowledge transfers in the denser Newquay cluster than on the Lizard. This was not counterbalanced by the Lizard attractions having more extra-cluster knowledge transfer linkages. Unlike most Lizard attractions, many Newquay attractions used external suppliers and imitated or learned from other UK and overseas attractions.

Table 2
6. Conclusion

This paper has examined the overall process of knowledge transfer in terms of a sequential order including sources, mechanisms/channels and outcomes and explored the relationships between spatial proximity/product similarity and knowledge transfers. Knowledge suppliers in general were both internal and external to attractions. Internal sources included senior managers, attraction staff, internal visitor surveys, and external sources included suppliers, tourism associations, other attractions, businesses in various sectors, and visiting professionals. In line with Cooper’s (2006) argument, tacit and explicit knowledge was captured and codified “in-house” within individual attractions, mostly by senior employees, and mainly due to organisational needs of the demand side. Codifying tacit knowledge into explicit knowledge through simple mechanisms including discussions and brainstorming was the most common mechanism. Some explicit knowledge was transformed into new product innovations and later transferred to other intra-cluster and extra-cluster attractions. The most common channel of knowledge was ‘learning by observation/imitation/demonstrating’ followed by ‘labour mobility’, and ‘interfirm exchanges’ through coordinated visits between attractions, tourism associations and exhibitions. Other less common channels were trade, technological, infrastructure and regulation systems. Explicit to explicit knowledge transfers were the most common type of transfer, and included ideas that could be imitated quite easily and implemented by the ‘receiver’.
Minor adaptations of existing products and services in tourism were found to be the most common form of innovations that diffused between attractions. These were more common between similar product attractions than dissimilar ones. At the end of the process, some knowledge transfers resulted in new product or process innovations, or remained knowledge embedded (or encoded) among workers, constituting a potential for future innovation. Identifying different types of innovations was particularly problematic and depended on subjective judgements, not least because of the ways in which process and product innovations were often interrelated. However, within these limitations, it has been possible to identify the broad trends in innovation.

Tourist attractions diffused innovations and knowledge through varying intra- and extra-national, and intra- and extra-regional, network relations between actors embedded in particular regional innovation systems, in which different forms of tacit but mostly explicit knowledge circulate. Identifiable ‘knowledge transfer agents’ included senior managers, members of staff, professional magazines and journals, intentionally or coincidentally causing knowledge to flow amongst attractions, leading to the diffusion of new products and process innovations.

As illustrated in Fig. 5, tacit knowledge was often captured and codified ‘in-house’ in tangible forms (whether investments in products, or the production of written guidance). Some of the transferred knowledge led to process and product innovations, whilst some remained tacit or explicit knowledge with potential for further elaboration (middle part of Fig. 5). The new innovations were sometimes imitated by other attractions, and therefore diffused beyond the originator.
Spatial proximity, product similarity and market similarity are positively related to knowledge transfers, including innovation spillovers at both the local and the regional scales. Spatial proximity and product similarity are closely related factors, but product similarity is generally more positively related to knowledge transfer and diffusion of innovations than spatial proximity at both geographic scales.

An additional conclusion is that product similarity is positively related to both exploitative and explorative knowledge transfer between attractions, although more to the former. Two centrally located attractions (one in each cluster) were identified as ‘knowledge hubs’ for diffusing innovations among other intra and extra-cluster attractions, and their managers can be considered lead ‘innovators’.

In line with the conclusions of previous studies (Hall and Williams, 2008; Hjalager 2002, Decelle 2006), innovations in visitor attractions were found to be relatively easily imitated by neighbouring and distant attractions, particularly by similar product attractions. Cases of staff movement between firms/attractions, when knowledge was embodied, embedded and exploited, and discussions with suppliers that contributed to the elaboration of ‘in-house’ ideas into innovations were the only examples of tacit knowledge transfer between attractions.

These findings should be treated with caution. Some interviewees abstained from identifying the knowledge ‘receivers’ (attractions or businesses), making analysis more difficult. It is also important to note that interviewees were specifically asked about the impacts of proximity and product similarity on knowledge transfer and not about other factors such as attraction size, which lay outside the scope of this study. There is also the limitation that this study only examined two tourism
destinations in one region in the UK, and the results may be highly contingent. A further limitation is the exclusion of many businesses, considered attractions by tourists and managers, but not matching the criteria set by the researchers (based on the literature). Despite these reservations, this paper has made a contribution to understanding knowledge transfer and innovation in the tourism attractions sector through a detailed, and original, study of the relative importance of spatial and product proximity in two contrasting clusters.
### Tables

#### Table 1 Comparison between knowledge transfer and diffusion of innovations among Newquay and the Lizard attractions

<table>
<thead>
<tr>
<th>Features of knowledge transfer/innovations</th>
<th>Newquay (higher level of clustering)</th>
<th>Lizard (lower levels of clustering)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal/external sources*</td>
<td>More external</td>
<td>More internal</td>
</tr>
<tr>
<td>Product similarity between 'supplier' and 'receiver'</td>
<td>Learning more from similar product attractions</td>
<td>Learning from similar and dissimilar product attractions</td>
</tr>
<tr>
<td>Spatial proximity between 'supplier' and 'receiver'</td>
<td>More learning from overseas attractions</td>
<td>More learning at local and regional scales</td>
</tr>
</tbody>
</table>

* Internal/external to firm
Table 2 Features of Learning by observation/demonstration/imitation

<table>
<thead>
<tr>
<th>Action</th>
<th>Planned/Random</th>
<th>Un/coordinated***</th>
<th>Product Similarity**</th>
<th>Spatial Proximity*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit to other attractions/ or other attractions’ websites</td>
<td>planned</td>
<td>coordinated</td>
<td>similar</td>
<td>regional, national and international scales</td>
</tr>
<tr>
<td>Visit to other attractions/ businesses</td>
<td>unplanned</td>
<td>uncoordinated</td>
<td>similar &amp; dissimilar</td>
<td>local, regional and national scales</td>
</tr>
<tr>
<td>Reading journals and magazines</td>
<td>planned</td>
<td>uncoordinated</td>
<td>similar</td>
<td>all scales</td>
</tr>
<tr>
<td>Exhibitions</td>
<td>planned</td>
<td>uncoordinated</td>
<td>similar</td>
<td>all scales</td>
</tr>
</tbody>
</table>

*local scale: intra-cluster attractions  
regional scale: refers to attractions/businesses in Cornwall  
local scale  

*** Uncoordinated between attractions/coincidental

FIGURES
Fig. 1 sources, mechanisms, channels and outcomes of knowledge transfers between visitor attractions
Based on Hall and Williams (2008) and Hjalager (2002)
Fig 2. The boundaries of the research areas Newquay and the Lizard
Fig 3. Knowledge transfers between Newquay, the Lizard and out of cluster attractions in Cornwall

*Only knowledge supplier/recipient attractions are marked
Indication of specific knowledge transfers between attractions mentioned in the text α, β
Fig. 4. Spatialised knowledge transfers between visitor attractions within Newquay and within the Lizard Peninsula resulting in innovations

*Only knowledge suppliers/recipient are marked
Fig. 5. Tacit to explicit knowledge transfers between visitor attractions

- Ideas (Tacit)
  - Brainstorming, discussions, professional companies (In house)
- Explicit
- Innovations (in-House)
- Explicit
  - Learning by observation & "knowledge transfer agents"
  - Tacit / explicit knowledge/ideas with potential for further elaboration
  - Innovations
  - Explicit Other attractions (firms)
References


