KNOWLEDGE TRANSFER AND INNOVATIONS AMONG ATTRACTIONS

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ABSTRACT

This study examines knowledge transfers amongst attractions in Cornwall, England, paying 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 generally facilitate knowledge transfers and innovation spillovers, at the local and the regional scales. They also show that the influences of product similarity and spatial proximity are closely related, although this is scale specific. The paper makes a contribution to the literature by studying knowledge transfer and innovations in the relatively neglected attractions sector, exploring the sources, mechanisms, and outcomes of knowledge transfer, and providing insights into the complexities of product similarity and spatial proximity/clustering.

Key words: knowledge transfer; innovations; tourism clusters; tourist attractions
1. INTRODUCTION

Knowledge transfer is vital to innovation, and for competitiveness. This is increasingly recognised in research in hospitality, but less so in other tourism sectors (Claver-Cortés et al 2006; Hallin and Marnburg 2008; Jacob, Tintore, Guilo, Bravo and Julet 2003; Orfila-Sintes, Crespi-Cladera and Martinezl 2005; Siguaw, Enz and Namasivayam 2000; Yang 2007). There is an emerging literature but much it is conceptual rather than empirical (Brackenbury 2006; Cooper 2006; Decelle 2006; Hjalager 2002; Keller 2006,2006a; Nordin and Svensson 2005; Poon 1993; Scheidegger 2006; Weiremair 2006). Specifically, there is little evidence about whether tacit knowledge transfer is facilitated by conditions of spatial proximity or product similarity, and the ways in which these are inter-related, and shape innovation. This research gap is perhaps unsurprising because the processes of knowledge circulation are intangible, often covert, sometimes of questionable legality (Henry and Pinch 2000). Researchers have commented on the role of spatial clustering and spatial proximity in enhancing knowledge transfer and innovations in tourism (Bathelt et al 2004; Hall 2005,2005a; Jackson 2006; Jackson and Murphy 2006; Nordin 2003; Novelli, Schmitz and Spencer 2006; Sørensen 2007), although detailed empirical studies remain relatively limited. The relationship between tourism product similarity and the transfer of knowledge and innovations between tourism firms has largely been ignored, as has the inter-relationship between spatial proximity and product similarity, and the way in which such relationships are spatially scaled within and beyond clusters. This research lacuna is particularly notable in the attractions sector, the focus of this paper. It is acknowledged that the links between knowledge transfer and innovation are contingent on both firm-level and external economic environment factors. Firms have varying capacities for knowledge absorption and the adaptation of such knowledge into innovation, depending on such considerations as the resources, learning environment, organisational features, and business strategies of the firm (Easterby-Smith and Lyles 2003). The configuration of the external economic environment, in terms of business culture, policy framework, and associational activity is also important (Howells 2000). In the remainder of the paper, some of the key theoretical issues are outlined, followed by a discussion of the methodology, the empirical findings and finally, a consideration of the implications for the development of both theory and policy.

KNOWLEDGE TRANSFER AND INNOVATION IN TOURISM

Knowledge transfer involves “…a variety of flows, within firms, between firms, between producers and consumers, and between private sector and public sector organisations, which are facilitated by and contribute to the blurred boundaries of firms” (Hudson 2005:76). Transfer can be understood in terms of Rogers’ (1995)
theory of innovations diffusion, which explains how a new idea is communicated through particular channels over time (Cooper 2006). Explicit knowledge is transferable and codified, for example, in forms, documents, and electronic databases. It represents the knowledge capital of an organisation independent of its workers (Cooper 2006). By contrast, tacit knowledge is not easily visible and expressible, but is highly personal, hard to formalise and difficult to codify. It is passed between individuals through various forms of learning experiences, that necessarily involve knowledge translations (Cooper 2006; Nonaka and Takeuchi 1995).

Knowledge transfer is a key element in the innovation process. Firms actively seek to manage knowledge flows and application, involving identifying knowledge resources, capturing tacit and explicit knowledge and codifying tacit knowledge for redistribution within or between or organisations (Nonaka and Takeuchi 1995). Knowledge transfers occur at both the micro-level of the firm, and at the inter- and extra- organisational levels, or macro level. At the micro-level, tacit knowledge is created “in-house” within organisations, involving various forms of individualised and collective learning (Easterby-Smith and Lyles 2003). Tacit knowledge can be transferred face to face within organisations, but the conversion of tacit into explicit knowledge facilitates redistribution (Nonaka and Takeuchi 1995). At the macro-level, tacit knowledge is transferred in various ways such as labour spillovers, and observation of rivals, while explicit knowledge may be acquired from suppliers in the form of technology. Given that explicit knowledge is generally considered easier for competitors to imitate, tacit knowledge is increasingly seen as a key to competitiveness (Malmberg and Maskell 2002).

Tacit knowledge and explicit knowledge are complementary and to some degree are mutually transformable (Nonaka and Takeuchi 1995) in four ways; First, tacit to tacit transfers through socialisation, where ideas are discussed and exchanged. The second way is tacit to explicit, or externalisation, e.g., through ‘brainstorming’ at team meetings and the use of developers. Third is explicit to explicit, transferring knowledge from one explicit form, such as a paper document, to another form such as a data base, and 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 (Nonaka and Takeuchi 1995). The ways in which codified and tacit knowledge are sourced, transferred and combined are critical in innovation, along with entrepreneurs (Schumpeter 1934; Te Velde 2004). Shaw (2004) identifies two types of business managers. The first are ‘classic or business-oriented entrepreneurs’ (‘innovators’ or ‘leaders’), who are more innovative, quick to spot new trends, develop new products, and processes (Keller 2006a). The second are ‘lifestyle entrepreneurs’, passive entrepreneurs’ or ‘laggards’, motivated by life-style and non-economic motives such as independence, with fewer incentives to innovate (Ioannides and Petersen 2003).

Knowledge transfers in tourism often have a sequential order as illustrated in an idealised representation 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, tacit and/or explicit knowledge (internal or external to the firm) is transferred within and between tacit and explicit forms (Nonaka and Takeuchi 1995). A continuous and dynamic interaction between tacit and explicit knowledge is facilitated by the socialisation process and defined as the spiral process of knowledge creation, whereby each individual person acquires tacit knowledge directly from others through the facilitation process of socialisation - learning by observation (Nonaka and Takeuchi 1995). This adds to the stocks of knowledge in a firm, that are
a reservoir of tacit and explicit knowledge among staff and managers. This potentially can be transformed and adapted as innovations, including being ‘captured’ in new technologies: this is, however, a complex process which is dependent on both the absorption and the adaptative capacity of a firm.

Channels of knowledge transfer

In the knowledge transfer process (Figure 1) knowledge sources are identified, and relevant knowledge (tacit and explicit) is captured, codified, processed and evaluated before being transferred (Cooper 2006). Transferring knowledge requires channels that contain push and pull mechanisms (Hjalager 2002). The knowledge transfer process is also a learning process that results in the creation of stocks of knowledge embedded within an organisation. These may directly inform the innovation process and will to varying degrees stimulate and shape future learning. A number of channels/mechanisms of knowledge transfer are identified in the literature. Two operate at the firm level and two at the individual scale, and are inter-related: ‘learning by observation/imitation/ and demonstration’, inter-firm exchanges, labour mobility and ‘knowledge brokers’ (Hall and Williams 2008).

Learning by observation/imitation/ and demonstration involves flows of information and knowledge transfers (planned, unplanned and/or uncoordinated knowledge spillovers between firms) via observation, ‘espionage’, and/or through interchanges within communities of association. Learning via observation is particularly important amongst tourism firms given the difficulties of patenting intellectual capital and of concealing innovations in ‘front of house’ operations (Hall and Williams 2008). Inter-firm exchange: ‘collaboration and suppliers’ constitutes planned knowledge spillovers or exchanges, as firms work together in the production chain. This collaboration may be either vertical, e.g., with suppliers or intermediaries (e.g., hotels with tour operators), or horizontal, with other tourism businesses that may be potential competitors (e.g., engagement in destination wide marketing campaigns). Services generally rely less on in-house research and development and more on buying in knowledge and innovations from suppliers, notably of technology than manufacturing.

Labour mobility refers to mobile individuals, who 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 working in organisations with superior technology and different tacit knowledge bases. This involves knowledge, embodied literally in people relocating (‘ideas knowledge transfer agents’) as opposed to ideas which ‘move’ in space (Henry and Pinch 2000). Knowledge brokers are influential individuals who operate within and across distinctive knowledge communities (Tushman and Scanlan 1981) and play a key role in knowledge transfer in tourism. They operate at different levels, and include consultants and representatives of multinational chains working with a new supplier in a different country, transferring distinctive knowledge as a result (Hall and Williams 2008). In addition to the knowledge channels discussed above, Hjalager (2002:471) provides a
different typology of the aforementioned means of knowledge transfer (Figure 1), including four systems of knowledge transfers: trade (mainly through trade associations, technological service through purchases or leases of technology, infrastructural (public bodies as an ‘agent of knowledge transfer’) and the regulation (through undertaking various forms of mandatory actions, prohibitions and penalties) systems. These knowledge channels and systems are to some extent idealised, because in reality knowledge transfer is often blurred, shifting and multi-scalar, and thus complex, and they necessarily overlap.

Innovations in tourism

Innovation is a complex process, a key component of which is the sharing of codified and particularly uncodified informal knowledge (De Propris 2002). Tourism innovations are difficult to establish but at the same time relatively easy to imitate (Decelle 2006; Hjalager 2002), 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 are dependent on tacit knowledge (Hall and Williams 2008). This study adopts Hjalager’s (2002) view that innovations in tourism include minor and major adaptations of products and services, rarely involving 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). There are a number of typologies of innovation, but for reasons of expediency we focus on product and process innovations. Product innovations consist of changed or entirely new services or products while process innovations enhance how goods and services are produced. The latter are considered to be the most influential in the tourism sector (Hjalager 2002; Scheidegger 2006; Weiermair 2006).

In line with De Propris (2002), this study postulates that attractions which adopt new processes or products are incremental innovators if they improve on existing products and/or processes, and radical innovators if they introduce new products and/or processes. The tourism industry is characterised more by barriers and constraints than accelerators to innovative processes (Blake, Sinclair and Campos Soria 2006; Cooper 2006; Hjalager 2002; Keller 2006; Nordin 2003). These include low levels of linkages between tourism and research and development, lack of resources, unwillingness to take risks, lack of trust and cooperation between tourism entrepreneurs, rapid changes in ownership, poor learning environments, 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). The ability to assimilate knowledge is defined as absorptive capacity (Cohen and Levinthal 1990). Other determinants of absorptive capacity include organisational structure, management practices, and human capital (e.g., degree of relevance to their operation and peer networks) (Abreue et al 2004; Cooper 2006). Detailed consideration of these influences on a firm lie outside the scope of this study.

The role of spatial clustering in knowledge transfer and diffusion of innovations

A number of different forms of proximity facilitate knowledge transfers and learning: cognitive, social, institutional and geographical (Boschma 2005; Sørensen
The pre-eminence attached by many researchers to geographical proximity in enhancing knowledge transfer between organisations has been questioned, particularly in the context of what Amin (2002) terms the ‘folding together’ of local and distanciated relationships. Indeed, Boschma (2005) contends that geographical proximity is neither a necessary nor a sufficient condition and other proximities may act as powerful agencies in this respect. However, geographical proximity can play a key role, in developing strong levels of trust and shared values which are critical for effective knowledge sharing (Shaw and Williams 2009). The general concept of geographical proximity leads to the more specific notion that clusters provide positive and location-specific economic externalities (Ketels 2003) endowing firms with competitive advantages (Nordin 2003).

This study views tourism clusters as a form of industrial cluster (Jackson and Murphy 2002). A ‘tourism cluster’ is defined as an array of linked industries and other entities, such as accommodations, attractions and retail outlets, which provide complementary products and services as a holistic tourism experience (Wang and Fesenmaier 2007). Clustered tourism businesses are engaged in cooperative competition, which has 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, in Jackson and Murphy 2002). In the classic (manufacturing based) literature, innovations are developed in a ‘core’ and diffuse out across space, eventually filtering to the periphery in a hierarchical pattern to the smallest territorial unit (Raco 1999; Coe and Bunnell 2003). Diffusion is often facilitated by the cooperation of firms within a cluster stemming from imitation, patent citation and frequent visits of 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’ (Bathelt et al 2004). It is expected that spillovers of tacit knowledge will be more common within localised economies as a result of spatial proximity facilitating stronger social organisation.

The roles of spatial proximity and product similarity

Spatial proximity alone cannot explain knowledge transfer and diffusion of innovations amongst firms. Learning from enterprises which share product similarity has the potential for more specific learning, and more direct imitation. A key argument is that the wider the knowledge gap between knowledge providers and receivers, the more difficult it is to absorb the knowledge transferred (Hall and Williams 2008). Bærenholdt and Haldrup (2006) argue that because of the diversity amongst local tourism organisations (e.g., hotels, restaurants, shops, tourist authorities) and the fact that their main common interest is attracting tourists into an area, they have little to learn from one another. 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 are sources of uncommon or different knowledge (Pérez, Borrás and Belda 2006).

On this basis, staff in product-similar attractions are more likely to undertake visits to other product similar but non-proximate attractions. This can be an effective strategy for managing competition and, such visits are more likely to be overt and co-ordinated. In contrast, 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 can play a role in knowledge transfer in terms of learning from product dissimilar attractions within clusters, because spatial proximity is conducive to networking at the destination scale (Sørensen 2007). However, Sørensen (2007) argues that relations between tourism firms with different products are characterised more by general ‘explorative’ information than ‘exploitative’ knowledge exchanges that lead to innovation.

Hall (2005a) also argues that spatial clustering of tourism firms does not necessarily increase innovation and knowledge sharing compared to organisational proximity, defined as the degree of similarity between organisational mechanisms that coordinate transactions (Boschma 2005). Economic proximity refers to "…how economic activities are positioned relative to each other in production systems" (Hall 2005a, p. 28), while 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 are influenced by product similarity and firm size. Based on these arguments, 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 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.

This paper also argues that transfer of knowledge and diffusion of innovations between tourism attractions depend on both product similarity and spatial proximity. Increased spatial distance between similar attractions implies reduced competition in the same market segment, encouraging knowledge transfers. Therefore, the greater the spatial distance between product-similar attractions, the more they are expected to exchange exploitative knowledge.

**Study Methods**

The attraction sector was selected for this study because it is relatively under-researched and a key component of the tourism experience product (Fyall, Leask and Garrod 2002; Middleton and Clarke 2001; Swarbrooke 2001; Watson and McCracken 2002). The selection process, and the delimitation of cluster boundaries was based on a variety of data sources: tourism associations’ websites, tourism leaflets, advertisements, guidebooks, and interviews with key informants (Jackson 2006; Jackson and Murphy 2006; Novelli et al 2006). Two clusters were studied representing low and high spatial concentrations of tourist attractions. Both located in Cornwall, in the South West of England (Figure 2), and share broad similarities in terms of tourists, type of tourism products, climate, seasonality, transport, accessibility, size and environmental settings, which facilitates comparison of firms within and between these clusters.
The difference in the level of agglomeration in the two clusters was determined through the simplified computation of numbers of attractions per sq km. Thematic similarity amongst attractions was assessed by visiting their websites and enquiring directly to obtain more details about the nature of the tourism product when necessary. Newquay and the Lizard represent clusters with different levels of spatial proximity amongst firms. Newquay is promoted as the capital of watersports and surfing in the UK. Its main attractions include beaches, rural and maritime landscapes (Restormel Borough Council 2005). The Lizard’s main appeal lies in a mix of leisure and wildlife attractions tailored for families, and water-based recreation, with a relatively undeveloped coastline.

A business was considered to be a tourism attraction if it was a permanently established destination that charged admission for 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. Attractions could be in the public, private or voluntary sectors as long as they charged entrance fees. All such attractions in Newquay and the Lizard matched the definition of small and medium size enterprises having between 10 to 499 employees (Shaw 2004). The only exclusions were on the grounds of the precise nature of the business (e.g., a tourist shop presenting itself as an attraction). All attraction managers in the Lizard cluster (10) agreed to be interviewed and 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 out of 16 attractions (81.25% of the entire ‘population’). Table 1 presents the selected attractions in each cluster and their business characteristics including the average number of employees, product type, regional diversity and density. The minimum average travel distance and time by road between each pair of attractions is less in Newquay (20 minutes, 7.1 miles) than on the Lizard (37 minutes, 9.33 miles) (based on Automobile Association data 2008). The Newquay area contains more tourism attractions at a higher density, and is better served by private and public transport than the Lizard.

| Please Insert Table 1 |

A form of ‘framework analysis’ (Waitt 2003), was performed on the interviews with the nine key informants (tourism officers, councillors and policy makers) and the 23 attraction managers, involving familiarization, classification, and indexation that allowed the identification of different themes and their coding, using 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 other form of knowledge transfer. Each pair (knowledge provider and receiver) was classified as ‘neighbours’ when both enterprises were located in the same cluster, and ‘distant’ when not. Attractions were classified thematically as product-similar or product-different in terms of the attractions that they received or supplied knowledge to, e.g., a pair of gardens was classified as
product-similar, whilst a garden and a wildlife attraction were considered product-different.

Findings

Most tourist attraction managers in this study are more ‘business-oriented’ entrepreneurs than ‘life style’ ones (Shaw 2004), and operate in a strongly competitive environment. While a few attraction managers provided only limited information about innovations and knowledge transfers and a few claimed not to have innovated recently, many respondents reported considerable numbers of knowledge transfers and innovations. There is a positive relationship between the attraction itself and also the managers’ length of employment in the tourism sector, and the extent to which product and process innovations and knowledge transfers were identified. The findings reveal a sequential order of knowledge transfers, indicating the existence of a spiral process of knowledge creation in many attractions, whereby codified and tacit knowledge are transformed in different combinations (Nonake and Takeuk 1995). Knowledge sources other than attractions included external suppliers and internal sources such as staff. At the beginning of the process, knowledge was transferred within and between tacit and explicit forms through various channels with mechanisms (Nonaka and Takeuchi 1995). Tacit and explicit knowledge were transferred to the ‘receiver’ by staff or professional suppliers in the form of new ideas which had the potential for relatively easy implementation as new or improved product innovations. First, 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. Another form of explicit to tacit knowledge transfer involved obtaining knowledge from reading professional journals, newspapers and websites, and then passing these on to other staff face-to-face.

A third form, tacit to tacit knowledge transfer, included influential ideas with potential for further elaboration; e.g., amusement park managers in both areas mentioned the acquisition of tacit knowledge from observing facilities and processes while visiting other similar attractions, or from talking to other attraction managers. At the end of the process, most knowledge transfers resulted in new products or process innovations, although some remained as explicit knowledge or as tacit knowledge embedded (or encoded) among employees, constituting a reservoir of knowledge. As in De Propris’ (2002) study, most of the attractions’ innovations (product or process) were incremental, with very few being radical or disruptive innovations. Most respondents had no firm views on imitation and copying between attractions: while a few attraction managers were positive about this, others viewed copying and imitation negatively. One amusement park’s marketing manager (Lizard) expressed discontent and frustration, accusing other attractions of ‘spying’. However, the same marketing manager was quite positive about being imitated, recognising that it could sometimes be advantageous, even if unintentionally.

Sources, mechanisms and channels of knowledge and information

The main sources of knowledge noted by interviewees were both internal (including senior managers and staff) and external (including other attractions and businesses such as restaurants, shops, and tourism associations). The mechanisms facilitating internal knowledge creation and transfer usually involved transforming
tacit into explicit knowledge. All the channels identified in the literature (Figure 1), apart from ‘knowledge brokers’, were observed. The most common channel was ‘learning by observation’ (Hall and Williams 2008), which occurred via managers/staff observing attractions during coordinated or uncoordinated visits to other sites 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 were between attractions in the two study areas and the remainder were mostly elsewhere in the United Kingdom. A few attractions learned from overseas attractions or from other unidentified locations.

Most knowledge transfers were realised through ‘learning by observation’ on an unplanned and uncoordinated basis. This was sometimes a source of irritation to managers, reflecting a lack of trust and confidence that learning could be mutual. Learning by watching rivals 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”. 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 reflects those from other attractions:

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 here includes tourism associations, alliances, and marketing groups. They are generally seen by most managers as useful but not essential to exploitative knowledge. This supports the Regulation System argument, whereby mandatory actions, prohibitions and penalties constitute a significant framework for knowledge transfer, particularly about safety and health hazards. Firms may learn directly from such regulations, or via ‘inter-firm exchanges’ (Hall and Williams 2008), whether competitors or suppliers. Some knowledge transfer is also 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 some other interviewees: “We had discussions with a play equipment manufacturer and they came up with some ideas, 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 ". Tourism is often based on ‘free goods’ that are frequently managed and developed by public bodies (e.g., 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".
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, Malmberg and Maskell 2004). Spatial proximity can also facilitate learning by observation as 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 imitations (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 (Coe and Bunnell 2003; Doring and Scnellenbach 2006; Raco 1999). This study found some evidence of this. Two centrally located large attractions, a wildlife 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 2002), both imitating and being imitated by other attractions and businesses at the local, the regional (Figure 3, arrows α, β), and the national scales (Figure 3, arrows leaving the knowledge hubs to other areas in the UK). The arrows α, β indicate knowledge transfer of ideas which originated in one attraction and were imitated locally and regionally by the knowledge hubs, which further diffused them to other attractions as product innovations. As the manager of one of the knowledge hubs explained: “We have done a lot of interesting things … and have seen a lot of other attractions copy what we’ve done within two or three years... They wouldn’t have dreamed of it before”. The other knowledge hub was an agent of diffusion for a product innovation to other attractions at the regional scale:

We probably invented them [facilities] all first and if you go to many [similar] attractions, you’ll find [similar facilities]. We started them and it just flows through...I’ve also got a friend of mine] in North Devon, and he put a new facility] in about three years before I did.

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, thus contributing to the regional knowledge economy and competitiveness (Cooper 2006; Shaw 2004). About half of key informants implied that spatial proximity positively affected 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. That is, 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
The paper now considers the significance of product similarity, while recognizing that this is interlinked to distance between attractions.

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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 (Figures 3 and 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 also considered they were utilising both spatial proximity and similarity, particularly when emulating others’ products. As discussed earlier, it was expected that spatial proximity, and particularly product similarity between intra-cluster attractions, would have a positive impact on the 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 learning purposes were more common between distant attractions, whilst uncoordinated learning visits were more common between neighbouring attractions. Several interviewees mentioned planned visits to distant and overseas attractions specifically for learning, while learning coincidentally from their neighbours when ‘passing by’ attractions in Cornwall.

In line with Sørensen (2007), product similarity amongst attractions was found to be positively related to exploitative knowledge transfers resulting in innovations. Dissimilar intra-cluster attractions formed multiple links with each other and shared more explorative and less exploitative information knowledge (Sørensen 2007), which is likely to remain as a knowledge ‘reservoir’ rather than stimulate a learning process resulting in innovations. There were more knowledge transfers between similar product attractions resulting in innovations (or cases of imitation) than between dissimilar product attractions. There were also more knowledge transfers between similar market attractions resulting in innovations than between dissimilar market attractions (Figures 3 and 4), supported 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 ….. 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. This suggests that spatial proximity between attractions is a deterrent to, or at least does not encourage, imitation.
Impact of spatial proximity and product similarity on learning by observation/imitation

The features of the ‘learning by observation/imitation’ channel in terms of proximity and product similarity are summarised in Table 3. 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 products and similar market attractions at the regional scale (Figure 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 wildlife attraction] has now put in an identical set-up (Key Informant).

A few attraction managers travelled nationally and even abroad in order to learn from similar-product attractions. Planned visits to overseas attractions were taken by amusement attraction managers in clusters, targeting similar product and market attractions. Two managers from an amusement park on the Lizard

… went to 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, but also can involve online visits to websites. One respondent reported unplanned ‘learning by observation’ during a part of an activity between member attractions of Cornwall Association of Tourist Attractions:

… as part of Cornwall Association of Tourist Attractions, we have to inspect each other’s attraction. So as you go round inspecting, you do look is it a good idea? is it a bad idea? … and you can always bring them back (an attraction manager on the Lizard).

Unplanned/uncoordinated learning took place between attractions and also between attractions and other businesses.

Insert Table 2
Comparison between Newquay and the Lizard

At the local scale, attractions in both clusters imitated and learned from other intra-cluster similar-product attractions more than from dissimilar-product attractions (Table 3 and Figure 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 compared to 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 United Kingdom and overseas attractions.

CONCLUSIONS

This paper has examined the overall process of knowledge transfer through sources, channels with mechanisms and outcomes, exploring the relationships between spatial proximity/product similarity and knowledge transfers (both internal and external to attractions). Internal sources included senior managers, attraction staff, and tourist 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 were captured and codified “in-house” within individual attractions, mostly by senior employees, and mainly due to organisational needs on the demand side. Codifying tacit knowledge into explicit knowledge through simple mechanisms including discussions and brainstorming, leading to documentation, was the most common mechanism. Some explicit knowledge was transformed into new product innovations and then transferred to other intra-cluster and extra-cluster attractions.

The most common channel of knowledge was ‘learning by observation/imitation’, followed by ‘labour mobility’, and ‘inter-firm 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 and implemented easily by the ‘receiver’. Minor adaptations of existing products and services were found to be the most common form of innovations that diffused between tourist attractions. These were more common between similar-product attractions than dissimilar ones. Some knowledge transfers resulted in new products or process innovations, or remained knowledge embedded (or encoded) among workers, with potential for future innovation. Identifying different types of innovations in the study was problematic and dependant on subjective judgement because of the ways in which process and

| Insert Table 3 |

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product innovations were often inter-related. However, within these limitations, it has been possible to identify 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 Figure 5, tacit knowledge was often captured and codified ‘in-house’ in tangible forms (e.g., investment in products, or the production of written guidance). New innovations were sometimes imitated by other attractions, and 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 regional scales. Spatial proximity and product similarity are closely related, but product similarity is generally more positively related to knowledge transfer and diffusion of innovations than is spatial proximity at both geographic scales. There is also some evidence that more distant similar attractions are more likely to share knowledge than neighbouring similar attractions, which indicates the interdependence of spatial proximity and product similarity in relation to knowledge transfer and innovation. No clear differences were identified between the two clusters in terms of knowledge transfer and diffusion of innovation at the regional scale. Further investigation is required to establish the most appropriate spatial scale for the analysis of such relationships; it may well be the larger county (Cornwall) scale, although these relationships are dynamic rather than static.

An additional conclusion is that product similarity is positively related to both exploitative and explorative knowledge transfer between attractions, although more with 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’. Innovations in tourist attractions were found to be relatively easily imitated by both neighbouring and distant attractions, particularly by similar-product attractions as found elsewhere (Decelle 2006; Hall and Williams, 2008; Hjalager 2002). Cases of staff movement between enterprises, 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 found between attractions.

Finally, we conclude this paper by noting a number of limitations of the study. Some interviewees were unable or unwilling to identify knowledge sources (attractions or businesses), and interviewees were specifically asked about the impacts of spatial proximity and product similarity on knowledge transfer rather than about other factors relating to the learning environment (e.g., organisational features, and attraction size), which lay outside the scope of this study. This means we have not
been able to explore the absorption capacities of individual attractions, which are related to organisational, structural and human capital dimensions, or their environments for individual and collective learning. Further research, involving different methodologies, including case studies, is required to provide insights into these issues. There is also the limitation that this study examined only two tourism clusters in one region in the United Kingdom, and while this facilitated the comparison, the rather contingent nature of the results is noted. A final limitation is the exclusion of many businesses possibly considered attractions by tourists and managers, but not matching the criteria used in this study. Despite these reservations, this paper has made a contribution to understanding knowledge transfer and innovation in the tourism attraction sector.

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Tables
Table 1. Tourism Attributes of attractions in Newquay area and the Lizard Peninsula

<table>
<thead>
<tr>
<th>Tourism Attribute</th>
<th>Newquay Area</th>
<th>The Lizard Peninsula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visitor attractions</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Product type Number</td>
<td>W 2 Am 4 H 1</td>
<td>W 1 Am 3 T 2 H 2 G 4</td>
</tr>
<tr>
<td>Density between attractions</td>
<td>20 minutes, 7.1 miles</td>
<td>37 minutes, 9.33 miles</td>
</tr>
<tr>
<td>Average number of employees</td>
<td>26.76</td>
<td>29</td>
</tr>
</tbody>
</table>

Ad- Adventure (e.g. beach activities)  H- Heritage (e.g. museum)
Am- Amusement (e.g. fun/theme park)    T-Thematic (technological display)
G- Gardens     W- Wildlife
Table 2. 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 3. Features of Learning by observation/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
Based on Hall and Williams (2008) and Hjalager (2002)

Figure 1. Sources, channels with mechanisms and outcomes of knowledge transfers between tourist attractions
Figure 2. The boundaries of the research areas Newquay and the Lizard
Figure 3. Knowledge transfers between Newquay, the Lizard and out-of-cluster attractions in Cornwall
*Only knowledge suppliers/recipient are marked

Figure 4. Spatialised knowledge transfers between tourist attractions within Newquay and within the Lizard Peninsula resulting in innovations
Figure 5. Tacit to explicit knowledge transfers between tourist attractions

- Brainstorming, discussions, professional companies (in house)
- Learning by observation & "knowledge transfer agents"
- Ideas (tacit)
- Tacit
- Explicit
- Innovations (in-house)
- Explicit
- Other attractions (firms)
- Innovations

knowledge/ideas with potential for further elaboration