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The relationship between inter-organisational citizenship behaviour and innovation within sport clusters – a cross-cultural approach

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ABSTRACT

The focus of this research is on the relationship between inter-organisational citizenship behaviour (ICB) and innovation within sport clusters. ICB is defined as discretionary and voluntary behaviour of organisations within a cluster that is not formally rewarded but promotes the functioning of the cluster. The innovation of sport through sport equipment, hence product innovation, is subject of this research. Sport clusters are geographic concentrations of interconnected organisations that have an interest in a particular sport as buyer or seller of related services or products. Four clusters are analysed contrasting two different locations, France and Australasia, and two sports of different maturity and level of organisation, sailing and surfing. This research considers the relevance of culture in sport management research by taking a comparative approach across two different cultures. In the first stage qualitative data is collected to map out clusters and their inter-organisational relationships. In the second step multivariate analysis is applied to investigate how much ICB (independent variable) influences product innovation (dependent variable) in those relationships. This research aims at improving the innovativeness of sport clusters and its organisations. Overall, the results are expected to create a better understanding of clusters, their organisations, relationships, and interactions. The objective is to disclose benefits of clusters as industrial structure with regards to innovation. The authors’ intention is furthermore to interpret the results in a wider context, such as other sports or consumer goods markets with similar characteristics, and countries and locations with similar conditions.

KEYWORDS:
inter-organisational citizenship behaviour, product innovation, sport cluster, cross-cultural research, surfing, sailing.
Introduction

There are a number of studies that examine the innovation phenomenon in sporting equipment industries. Shah (2000) investigates sources and patterns of innovation in sporting equipment, Tietz et al. (2004) analyse the process of user-innovations in the kite surf segment, and Hillairet et al. (2009) examine the innovation management of a large French sporting goods company just to name a few. Other previous research deals with the sporting goods industry, specifically the yachting and the outdoor clothing sector, with regards to internationalisation. It investigates how New Zealand can serve as a source of country-specific advantages and product innovation as a source of firm-specific advantages with respect to a firm’s internationalisation (Gerke, 2010). Shilbury (2000) examines sport cluster as potential future sport delivery systems. There are more studies on sport clusters such as the horseracing industry in Southern England (Parker and Beedell, 2010), the skateboarding cluster in Australia (Kellett and Russell, 2009), the surfing cluster in Torquay, Australia (Stewart et al., 2008), the football league in Victoria, Australia (Dickson et al., 2005) and the motor sport industry in North Carolina, USA (Kimmo, 2007, Connaughton and Madsen, 2007). All these existing studies intrigued us to develop a research project that focuses on sport clusters as unit of analysis.

Research Objectives

The major purpose of this research is to investigate how inter-organisational citizenship behaviour (ICB) influences product innovation in sport clusters. This research seeks to locate ownership and control of innovative knowledge and to explore how value is appropriated from it. Furthermore, it investigates to what extend and how innovative knowledge is dispersed and transferred within sport cluster and what role inter-organisational relationships and interactions play for this phenomenon. Secondly, this research maps out relationships and interactions between industries and organisations in sport cluster. Hence, a better understanding and use of cluster and their benefits due to inter-organisational relationships and behaviour is targeted. Thirdly, this research provides insights with regards to industry restructuring in the context of sport organisations. Overall, this research aims at an increased awareness and understanding of clusters, their organisations, relationships and interactions.
in order to disclose potential benefits of cluster with regards to innovation. This is expected to lead to a higher overall innovativeness and value creation within a cluster as a whole, and for individual organisations in the cluster. The author’s intention is furthermore to interpret the results in a wider context, such as other sport or consumer goods markets with similar characteristics, and countries and locations with similar conditions.

**Research Question**

The core of the research question is how ICB influences product innovation in sport clusters. The consequences of inter-organisational relationships, interactions and behaviour with regards to innovation are focal part of the study (Skinner *et al*., 2009). The linkage between ICB and innovation is constructed based on Porter’s (1998) cluster theory and the suggested favourable conditions of a cluster environment for innovation. The discretionary behaviour of individuals and organisations and the geographical proximity facilitate co-operation and knowledge transfer in a cluster (Porter, 2008a). ICB is also a discretionary behaviour and clusters seem to be a favourable environment for the evolvement of such behaviour between individuals or organisations.

This research exemplifies the cluster as a form of inter-organisational system. Cognitive and physical distance between organisations is reduced in such a system, as well as the cost of knowledge transfer and utilisation. This enables the creation of new knowledge and innovative products and services, while firm’s specialisation and individuality is preserved (Maskell, 2001). This research expands cluster theory by addressing the question how organisations in a cluster are interconnected and how those inter-firm relationships impact on innovation within a cluster (Motoyama, 2008).

Innovation, especially sport product innovation, is an integral part of this research. The factors that facilitate productivity, new business formation and most importantly for this research, innovation, depend on the location of a business (Porter, 2008a). Greve (2009) supports this theory in suggesting that a firm’s proximity to the location where innovations develop influences the extent to which firms adopt and benefit from those innovations. However, Shilbury (2000) puts forward that the relevance of location and geography is reduced for service industries. He also argues that sport is
primarily considered a service sector (Shilbury, 2000). On the contrary, sporting goods businesses play an essential role in sport clusters. This applies particularly with regards to the creation and diffusion of product innovation as analysed by Desbordes (2002). Desbordes (2001) argues that sport equipment firms have developed their individual and sophisticated logic for product innovation and that the sport industry and especially sport equipment firms are an under-researched area.

**Literature Review**

The focus of this research is on the relationship between ICB and product innovation within sport clusters. It contributes to a number of knowledge bodies. At first it extends inter-organisational research by investigating relationships and interactions between organisations and industries within sport clusters (Autry et al., 2008). It contributes to the debate of innovativeness in industrial clusters and addresses the call for more research that investigates drivers of innovation in clusters (Caniëls and Romijn, 2005). Furthermore it adds on to research on industry restructuring by investigating and mapping sport clusters as consequence of industrial structure change (Shilbury, 2000). This study takes also the under-researched nexus culture and sport management into account by taking a comparative cross-cultural approach (Girginov, 2010). The followings paragraphs give an overview of relevant literature in the knowledge bodies mentioned above: inter-organisational research, innovation, cluster, cross-cultural research.

**Inter-organisational research**

This research studies inter-organisational relationships and interactions in sport clusters using the concept of ICB. This is because clusters are often an informal and discretionary development resulting from historical events or regional conditions in which relationships and norms of behaviour are not or only little formalised (Porter, 2008a). That is why it is suggested that clusters present a favourable environment for the development of ICB.

Autry, Skinner & Lamb (2008) developed the concept of ICB based on prior research on organisational citizenship behaviour (OCB). OCB was initially coined by Organ (Currall, 1988, Organ, 1997) by defining it as discretionary behaviour of individuals within an organisation that is not
formally rewarded but promotes the functioning of the organisation. Autry, Skinner & Lamb (2008) apply the OCB concept to study inter-organisational relationships in supply chains. They define ICB as “interfirm behavioural tactics, generally enacted by boundary personnel, that are discretionary, not directly or explicitly included in formal agreements, and that in the aggregate promote the effective functioning of the supply chain” (Autry et al., 2008). Shilbury (2000) argues that clusters can be considered as the value chain for all involved organisations. Hence, it is suggested that ICB can be applied in the context of clusters and can be defined as discretionary behaviour of organisations within a cluster that is not formally rewarded or explicitly included in formal agreements, but promotes the effective functioning of the cluster.

The linkage between ICB and innovation in a cluster is suggested based on previous research and existing concepts. Martínez-Sánchez et al. (2009) investigate the moderator effect of inter-organisational cooperation in the relationship between workplace flexibility and innovation performance. Different dimensions are used to operationalise workforce flexibility and one dimension for innovation. The relationship between internal versus external workforce flexibility and innovation performance indicates driver and location of innovativeness in an inter-organisational context. Hence, it can be analysed whether drivers for innovative performance are located inside or outside the firm (Martínez-Sánchez et al., 2009). This could also indicate ownership and internalisation of innovative knowledge within an inter-organisational context based on Dunning’s (2001) eclectic paradigm. He (Dunning, 2001) argues that the international success of a firm depends on three different sources of advantages: location-based advantages, ownership-based advantages, and internalisation-based advantages. In this research it is investigated whether cluster offer advantages in terms of innovative knowledge that is owned and internalised by certain organisations in the cluster but disseminated and made available to other cluster members due to the unique features of a cluster system.

Innovation

The significance of innovative knowledge for the economic performance of a firm derives from the knowledge-based view of a firm, which is an extension of the resource-based view (He and Wang, 2009). According to those theories firms naturally differ in their endowment with resources and
internal capabilities which serve as a base to gain competitive advantages over competitors (Peteraf, 1993). Hence, the configuration of a firm with innovative knowledge assets differs as well from firm to firm. Those differences in innovative knowledge offer potential for significant performance advantages for firms with superior knowledge bases or innovative capabilities (Peteraf, 1993).

Furthermore Wang & Chen (2009) argue that firm-specific innovative knowledge leads to improved economic performance because of higher value appropriations. This research also draws on the concept of localised knowledge spillovers and how they foster innovativeness in industrial clusters (Caniëls and Romijn, 2005). Based on these concepts this study examines innovative knowledge in the context of particular sport clusters and with respect to the question how ICB influences innovation in sport clusters.

Innovation and especially production innovation is particularly important for sporting goods firms, for both retailers and manufacturers. The reason for that is that technicality and innovativeness of products are important consumption levers (Hillairet et al., 2009). Sporting products are technologically complex products that are often required to fulfil contrary characteristics (such as lightness and resistance for example) (Desbordes, 2001). This applies primarily to equipment intensive sports and sport industries. Andreff (n.d.) defines ‘equipment-intensive’ sporting goods as high unit value sporting goods versus ‘trite’ sporting goods as low unit value sporting goods. He argues that primarily equipment-intensive sporting goods are subject to international trade but that this research area has been neglected by scholars so far (Andreff, n.d.). Desbordes (2001) argues further more that the type of innovation in sporting goods depends on the maturity of the sector. Hence, product innovation is more common in young sectors as opposed to process innovation which is more common in mature sectors. Taking these previous studies and findings into account, the choice of the sports sailing/boating and surfing/boarding seem to be appropriate as both sports are considered as equipment-intensive sports (Andreff, n.d.). Furthermore sailing can be considered as a much more mature and organised sport in contrast to surfing as the International Sailing Federation (ISAF) was founded in 1907 in Paris, France (2011b), long before the International Surfing Federation (ISA) was
founded in 1964 in Sydney, Australia (2011a). This research can help to clarify the proposition whether the type of innovation depends on maturity of the industry sector.

**Cluster**

The origin of cluster theory is based on Marshall’s (1890) concept of industrial districts. Porter (2008a, Porter, 1998) related that to competition and developed the cluster theory. He defines cluster as “geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions” (Porter, 2008a). Clusters are one element of Porter’s diamond model that was developed based on his research on the competitive advantage of nations (Porter, 2008b). The diamond model illustrates location conditions that influence businesses and their productivity. The element that represents the cluster is called “related and supporting industries”. Porter (2008a) argues that location has become increasingly important for the economic success of businesses, regions, and nations. While input factors become abundant in a globalised world independent from the location; productivity, innovation, and new business formation are more likely to be enhanced in clusters. Close co-operation between buyers, suppliers, producers, research institutions, and businesses from related industries is more likely when participants are geographically close. This facilitates any form of formal or informal co-operation and dissemination of knowledge which again might foster productivity, innovation, or new business formation (Porter, 2008a).

Shilbury (2000) applies Porter’s (2008a) concept of cluster in the sports context and calls for further research of sport clusters. He (Shilbury, 2000) suggests as method to define sport cluster, to identify the relevant sellers and buyers respective to the sport. Applying this idea, he explores four sport cluster. Another key argument put forward by Shilbury (2000) is that sport develops increasingly towards a series of specialised sport cluster on a sport-by-sport basis as opposed to a single generic sports industry. Sport cluster include a number of interlinked but diverse organisations and industries such as amongst others sporting goods manufacturers, sporting goods retailers, sport media and broadcasting, and sport events (Shilbury, 2000). Further research is proposed with regards to the restructuring of a generic single sports industry towards a number of diverse sports industries and sport-by-sport cluster. Shilbury (2000) also identifies a research gap in terms of the investigation
of relationships and interactions between industries and organisations within sport clusters. This research addresses that research gap by investigating the relationship between ICB and innovation in sport clusters. Knowledge about the nature, location, and dissemination of innovation is expected to lead to local knowledge spillovers, and hence, enhanced innovativeness within these clusters (Caniëls and Romijn, 2005). This is beneficial for the organisations inside the cluster and the region or nation in which the cluster is located.

Cluster development is widely discussed as opportunity to foster economic health and prosperity of related businesses and organisations that are geographically concentrated in one region or nation (European Commission, 2002, Stocker and Valente, 2009). Hence, the cluster theory has initiated a number of cluster mapping projects around the world. The scholar Porter initiated the first cluster mapping project in the United States (Harvard Business School, 2011). In 2007 a consortium of six partners launched the European Cluster Observatory as cluster mapping project for Europe (Europe Innova, 2011). Research on cluster and cluster mapping projects are also conducted in Australia (Enright and Roberts, 2001, Johnston, 2004) and New Zealand (Boven et al., 2010, Ministry of Economic Development, 2011).

Cluster emerge with increased sophistication of competition, hence, they are more likely to occur in developed economies (Porter, 2008a). Sport cluster are usually located in developed economies as sporting goods require complex technology and R&D capabilities. Markets for high-technology sporting equipment are predominantly in developed economies because the population has more disposable income for non-essential products. Sporting products often require varied and complementary competencies. Consumers seek incompatible characteristics combined in their sport equipment. That is why sports equipment design and manufacturing is often highly specialised and complex technology is involved (Desbordes, 2001). In addition companies are often confronted with peer pressures with regards to product innovation. They have to balance between high initial R&D expenses versus small product volumes in the initial phase of a new product’s life cycle (Desbordes, 2001). Examples for innovation research in sport cluster are Shah’s (2000) research on sources and
patterns of innovation in sporting equipment and Richard’s (2007) research on the sport articles cluster Rhône-Alpes as innovative milieu.

**Cross-cultural context**

This paper addresses the under-explored culture-sport management nexus pointed out by Girginov (2010). Some sport management scholars (Girginov, 2010, Amis and Silk, 2005) argue that culture matters for sport management research. Hence, they call for more research that addresses sport management topics from a cultural perspective. This can be done in a number of ways. One suggestion is cross-cultural or comparative studies that take different cultures into account. In contrast to this call for culturally informed sport management research there are scholars that argue for the increasing homogenisation of sport and sport management through internationalisation and globalisation (Chadwick, 2009). This research is embedded in a cross-cultural context, comparing data from two different geographical and cultural locations, France and Australasia. Hence it will contribute to the discussion on a global versus culturally informed research approach in sport management research. In addition to the particular cross-cultural context of this research, it aims at the promotion of greater cultural sensitivity in sport management research. The cross-cultural approach is supported by a multi-cultural research team.

**Methodology**

The empirical context of this research is sport clusters. In order to define this term precisely a few adjacent concepts are explained briefly. There is a number of concepts that consist of the main idea that a group of different organisations benefit from each other by being part of the group: industrial district (ID) (Marshall, 1890, Marshall, 1920), innovative milieu (IM) (Camagni, 1993, Camagni, 1995), and cluster (Porter, 1998, Porter, 2008a). These concepts share some common characteristics: spatial proximity, high product specialisation, high level of division of labour, positive learning atmosphere; dense input-output relations, high level interaction, strong innovation and entrepreneurship, fast reaction capability in response to external changes; synergies, externalities, and a continuous balance between co-operation and competition. They differ in their comprehensiveness.
While an ID comprises firms that focus on the same or similar product, the IM includes also organisations that are relevant for innovation. The cluster concept covers all organisations that represent one of the five forces that shape competition (Porter, 2008a). The causes of those industrial concentrations vary between a rather natural development due to historical-cultural background and heritage on the one hand, and artificially created or encouraged through economic policies and structural support on the other hand. It can be argues that these different types of firm groups develop in a stage process.

Moreover the concept of networks has been a widely discussed and applied concept and is also relevant for this research (Camagni, 1993, Johanson and Mattson, 1988, Chetty and Blankenburg Holm, 2000, Scott, 1987). The term network refers to relationships between organisations that belong to different groups of organisations as described above (ID, IM, or cluster). Hence, even though a network is built through inter-firm (or even inter-personal) relationships, it represents in fact an inter-group level relationship. This view is also shared by sociologists who use networks as underlying concept in social network analysis. In order to decompose networks into their constituent ‘sub-groups’ they search for ‘clusters’ within the network (Scott, 2005).

The cluster concept is chosen as unit of analysis in this research as it is the most comprehensive one. A cluster is defined as “a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities” (Porter, 2008a, p. 215). These concentrations of interdependent organisations consist of different cluster participants. Those cluster organisations can be identified upstream and downstream along the value chain on a vertical level (e.g. specialised suppliers, service providers), and along the chain of related industries and associated institutions on a horizontal level. Further cluster organisations can be governments, regulatory bodies, and non-governmental organisations. Subject of this research is a special form of cluster, the sport cluster. This term has been defined by Shilbury’s (2000): sport cluster include all organisations that have an interest in the sport as buyer or seller.
This research seeks a comparison of sport cluster across the geographical regions France and Australasia, and across sports that differ significantly in their maturity, and level of organisation and institutionalisation, sailing (including boating) and surfing (including boarding). The initially chosen clusters are sailing clusters in Australasia (New Zealand Marine Industry, 2010, New Zealand Trade and Enterprise, 2010, 2011c), surfing clusters in Australasia (Surfing New Zealand, 2011, Surf.co.nz, 2011, Stewart et al., 2008), sailing cluster in France (Policy Research Corporation, 2008, Cluster Maritime Français, 2011) and surfing cluster in France (Fédération Française Surf, 2011, Richard, 2007, EuroSIMA, 2009). All clusters will be mapped out in their respective region outlining relevant organisations and industries in the cluster and their relationships. A cluster is usually regionally concentrated in a location of the country, such as Aquitaine in France as surf and board sport cluster (EuroSIMA, 2011) or the Auckland region in New Zealand as sailing and boating cluster (Auckland Plus, 2011, Farrell).

The first part of the research addresses the question how sport cluster have emerged in different geographical regions and how ICB influences innovation. Cluster organisations and their inter-relationships are mapped out. This part of the research is conducted using social network analysis as a qualitative method to document the research results (Scott, 1987, Scott, 2005). Even though social network analysis was originally used to analyse inter-personal relationships, it has also proved to be useful to analyse inter-organisational relationships (Scott, 2005, Martin et al., 2011). Semi-structured interviews and secondary data are used to construct each cluster as a case study (Eisenhardt, 1989, Yin, 1994). Possible interview partners are boundary representatives of different organisations within the cluster such as professional and leisure sport clubs and schools, sport federations, governmental sport governing bodies, sporting goods manufacturers, sporting goods retailers, sport facility construction firms, sport industry associations, sport adventure businesses, sport education organisations, sport media and broadcasting firms, sport event organisations, sport marketing organisations, sport medicine institutions, and sport research institutions.

The second part of the study is of quantitative nature and targets the question how much ICB (independent variable) influences product innovation (dependent variable). Questionnaires are
targeted at boundary personnel that represent cluster organisations and that create the relations and linkages between organisations within the cluster. It is suggested that these people functions as “catalyser” between the organisations in order to facilitate product innovation. Inter-organisational behaviour will be operationalized using the dimensions for ICB suggested by Skinner et al. (2009): inter-organisational tolerance, altruism, loyalty, compliance, conscientiousness, constructiveness and advancement. Measurements for the dimensions will be adopted, adjusted to the sport cluster context or newly developed and validated. Product innovation is defined as “a new technology or combination of technologies introduced commercially to meet a user or a market need” (Utterback and Abernathy, 1975, p. 642). Hence, product innovation will be measured through technological and use improvements in the product that are new to the sport. This will be operationalized through different categories depending on whether the innovation improves the use or technique of the product: revolutionary innovations, technical innovations, use innovations, improvements (Hillaret et al., 2009). Sources to track product innovation will be professional journals, manufacturer publications, firm representatives, competitions, trade shows, professional athletes, lead users, schools, clubs, and more.

This research uses a mixed-methods research design combining qualitative and quantitative research techniques. These are viewed as complementary rather than rival approaches (Jick, 1979). The combination of non-numerical and numerical methods in a two-stages process is chosen because this approach answers the research question best (Slack and Parent, 2006). The research is designed to start with a qualitative element at first in order to explore social structures, relationship and interactions. This is followed by the development of a set of hypotheses that are sought to be confirmed with numerical methods. Depending on the stage of the research process different ontological and epistemological positions are taken. Although the different philosophical paradigms between both approaches are theoretically incompatible, we argue for a pragmatic approach towards social science research (Smaling, 1994). This means that in the first stage of the research process the researcher puts on the interpretivist lenses. The researcher is subjective and co-creator of new knowledge through his function as interpreter of facts. In the second stage the researchers puts on the positivist lenses and
becomes an objective observer of facts which are statistically processed. This means that in the first stage reality is seen as socially constructed and interpreted by humans. In an interpretivist perspective reality is subjective and depends on those who live in it (Edwards and Skinner, 2009, Gratton and Jones, 2010). Knowledge can only be created and understood from social actors who belong to and participate in the researched area (Blaikie, 2011). In the second stage the epistemological and ontological viewpoints are oppositional. The epistemological position is positivist. Facts are observed and scientifically processed. Reality is objective and the researcher is an observer of phenomena rather than an active participant of reality (Slack and Parent, 2006). The clear distinction between stage one and two makes the conflicting methodological paradigms manageable. Triangulation of the results will respond to potential risks of a mixed-method approach. Overall, the combination of methods aims at a stronger validity of results than a single method approach (Edwards and Skinner, 2009).

**Expected Implications**

Implications are expected for researchers in the fields sport management, cluster theory, innovation and inter-organisational research. Practical implications are expected for practitioners in sport organisations including managers of sport businesses, sport federations, sport clubs, and other organisations with an interest in the sport.

This research seeks to create knowledge about the impact and role of inter-organisational relationships and interactions with regards to innovation. Insights about the relational mechanism between inter-organisational citizenship behaviour and product innovation should enable firms to take advantage of this mechanism. Knowledge about the creation and dissemination of innovative knowledge within a sport cluster is expected to make organisations within the cluster more innovative, and hence, more successful. It is expected that this improves the overall innovativeness and performance of clusters which positively impact on the region where the cluster is located and the sports organisations around which the cluster is centred.
This research seeks to confirm the increasing evolution of clusters, in particular sport cluster, as a result of industrial restructuring. The cluster as emerging multi-organisational delivery system for sport services and products contains potential benefits for the different organisations in the cluster. This research seeks to increase the understanding and awareness of cluster as economic structure and sets the foundations to explore its potential economic and social benefits by the cluster organisations and by the cluster as a whole.
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