

Strategic leadership relay: How to keep regional innovation journeys in motion?

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INTRODUCTION

The sustainability of regional development can be explored from several different angles. In this Chapter, the capacity to cope with change is stressed and therefore, as is argued more in detail below, strategic leadership is seen as a central force in the efforts of many regions to adapt to a changing environment, not like driftwood in a stream, but with purpose. This Chapter approaches sustainable regional development by examining conceptually the answers to ‘what roles does strategic leadership play in strategic adaptation?’ and ‘what is the interplay like between strategic intent and emergent development from the leadership point of view?’ Therefore, the practical and philosophical focus of this project is the link between emergence and intention for sustainable regional development, specifically as it relates to the development of such innovation-oriented entities that continuously need to reinvent themselves.

The Chapter builds on four generic propositions that, in total, form a conclusion of several empirical studies on leadership, network management and policy networks for local and regional development (Sotarauta & Pulkkinen, 2011; Sotarauta & Mustikkamäki, 2011; Sotarauta, 2010; 2009; Sotarauta & Kosonen, 2004; Linnamaa,

2002; Sotarauta & Bruun, 2002; Benneworth, 2007; Lester & Sotarauta, 2007). First, to start with, it is believed here that regional development is a never-ending interplay between individual and collective intentions on the one hand and intentions and emergence on the other. For the conceptualisation of generic development processes the concepts of evolution and emergence are discussed. Second, strategic leadership is approached as a force to direct evolving processes in desired directions and for their construction in the first place. At its best, strategic leadership can serve regional development as a nexus of intention and emergence.

Third, as regional development is concerned with long-term processes, leadership is also seen here as a force in time instead of as a leader–follower relationship in the here and now. Consequently, regional development is scrutinised as an innovation journey, where innovation refers to new creations of economic, ecological and social significance. In a global market economy, innovations as well as economic growth are highlighted since they are accepted as primary sources of environmental and/or societal change (see e.g. Edquist, 2005; Freeman, 1987). In studies focusing on leadership for innovation journeys, it is important to take account of the institutional and political frameworks found at the regional, national and/or supra-national levels in which specific organisational change processes and related development efforts are embedded (Asheim & Coenen, 2005). Innovation requires a proper environment in which to flourish and a well functioning system to support it and strategic leadership focuses especially on the institutional change (Sotarauta & Pulkkinen, 2011).

Fourth, as regional development is embedded in interplay between intention and emergence in time and a regional innovation journey is a way to conceptualise regional development efforts, leadership also requires a temporally sensitive conceptualisation. Therefore, a concept of leadership relay is introduced. It is discussed as a sequence of events with identifiable main phases and key actors carrying out the processes. The main thesis is that different actors with different strategies play leading roles in achieving desired outcomes. However, it is worth noting at the outset that leadership relay is more often than not an unconscious and incidental phenomenon that brakes more easily than it flows smoothly from the past to future. This is exactly why leadership needs to be studied as a relay in time. If leadership relays are as important for regional development as it is believed here, we need to become more aware of them and their characteristics in varying institutional contexts.

EVOLUTIONARY NOTIONS ON ENCOUNTERS OF INTENTION AND EMERGENCE

This Chapter argues that in regional development strategic adaptation is crucial. In general, strategic adaptation endows regions with the capacity to change their destinies by adapting to change and reshaping their strategic capacity to act. Indeed, regions continually need to find out how to adapt without becoming captives of their economic fates. Therefore, the idea of constructing regional and local advantages implies (Asheim et al., 2006) the identification of fundamental determinants of place prosperity (Turok 2004) for dynamic but sustainable development. However, many of the efforts to boost the economy and to find novel solutions for sustainable regional development more often than not find their limits fairly quickly. External stresses and disturbances causing

surprises result in many of the well-designed strategies and bold intentions fading away and strategies end up being merely more paper to add to earlier piles of paper.

Many practitioners and regional development policy scholars do not recognise confusion and chance as forces causing and directing development. City management as well as regional development policy often aim to eliminate uncertainty from the development processes. In practice, various organisations engaged in the promotion of regional development, by necessity, consist of people who do not always know what it is that they do not know, and therefore do not know how they will react when they come to know it (Allen 1990: 569). Of course, this is not big news. One possible explanation for losing both the people and the uncertainty in studies focusing on regional development is that these studies fairly often provide snapshots of successful regions (MacKinnon et al., 2002) instead of analyses of dynamic processes of intention and adaptation. Uyarra (2010) maintains that these studies ‘tend to focus on a number of (top-down) characteristics, such as the institutional and organisational set up of the region in order to identify key elements, which can explain regional advantage and success’. This approach hides the development dynamics beneath the institutions, organisations, funding mechanisms, and so forth, while regional development is, as Uyarra (2010) further maintains, ‘truly a product of a particular time-space contexts and thus an outcome or an “emergent property” of contingent historical processes’. Emergent properties and actors’ efforts to cope with them are often reduced to inventory-like descriptions of a regional system, where the functions, roles and relationships of actors do not receive due recognition (Smith et al., 2001: 132; Uyarra,

2010.) We need a better understanding of unfolding processes in time and the ways in which they can be directed.

Additionally, fairly often it is seen that both organisations and individuals act within an overall framework of ‘the whole’, that is, institutions framing their behaviour (March & Olsen, 1996: 251–255), and that they adapt to events and design strategies within them. Chris Langton challenges this view and maintains that order arises out of complex dynamic systems, in which an understanding of the interaction of ‘the whole’ and ‘the parts’ is essential. Langton states that from the interaction of the individual components – the parts – emerges some kind of global property, the qualities of the whole, something that was impossible to predict from knowledge of the parts. The global property, emergent behaviour, is fed back to influence the behaviour of individuals and local interactions. (Lewin, 1993; see also Sotarauta & Srinivas, 2006.) The whole, wider structures and institutions are, according to this view, produced by local interaction and thus agents at the same time create their environment and adapt to it.

Alchian (1950: 211) had, some time ago, suggested an approach that embodies the principles of biological evolution and natural selection ‘by interpreting the economic system as an adoptive mechanism which chooses among exploratory actions generated by the adaptive pursuit of success or profits’. Uncertainty and chance are incorporated in his thinking: ‘sheer chance is a substantial element in determining the situation selected and also in determining its appropriateness or viability. A second element is the ability to adapt one's self by various methods to an appropriate situation.’ (Alchian 1950: 214.) In this thinking, uncertainty and ambiguity are not only disruptive factors

but also sources of innovation and development (Lester & Piore, 2004). This, as is usual with evolutionary approaches, brings up the importance of uncertain and unexpected events in the development of regions, and reminds us that it is hard to predict where and when major transformations will occur. Therefore, when adopting an evolutionary angle, it should be acknowledged that leadership is not a linear and straightforward process flowing from analysis to strategy design to implementation to desired outcomes. For their part, the evolutionary approaches stress adaptation but tend to ignore the strategies and intentions of individual actors or collectives, and hence they are widely ignorant concerning the aspect of agency.

If we take evolutionary view seriously, we might end up concluding that policy-making does not have a role to play in directing the change processes. Indeed, as Dalum et al. (1992: 298) state, evolutionary thinking contains implicit arguments favouring non-intervention. There seems to be little room for effective policy-making, not to mention leadership for change, in a region. Yet, as our case studies suggest (Sotarauta & Kosonen, 2004; Linnamaa, 2002; Sotarauta & Mustikkamäki, 2011.), active agency and locally and/or regionally designed policies have a role to play; and sometimes somewhere they may appear crucial. Consequently, even though starting with evolutionary notions on change, the intention in this Chapter is not to propagate the idea of *laissez-faire*. Instead, the aim is to raise notions on how strategic leadership both adapts to and directs many changes in the selection environment. All in all, it stresses the importance of understanding and appreciating emergence as a central force in sustainable regional development.

The view adopted here stresses that any system is partly a memory of its past (Allen, 1982: 110) and that evolution of human entities is, by definition, an ongoing and imperfect learning process that is driven by the differences between expectations and experiences. The development path provides systems with a range of possible states for the future, and in a way, the choice emerges from the interplay of agents and the environment. Therefore, we need to understand how actors mould the conditions for change and how they aim to change the course of events; what is the place of strategic leadership in the setting sketched here? The approach developed here aims to understand and analyse change processes and actors' roles in the midst of them and their dynamics, instead of classifying the outcomes of those processes. This is important as changes in the context of innovative concentrations are complex and not at all self-evident processes.

Emergence directs our attention to such qualities that appear 'from nowhere' as a result of the many intertwined processes of many single organisations and individuals; quite often it seems as if 'things simply happen' (Johnson, 2002). More specifically, emergence can be defined as an overall system behaviour that comes out of the interaction of many participants and cannot be predicted or 'even envisioned' from knowledge of that which each component of a system does in isolation (Holland, 1995; McKelvey & Baum, 1999). An emergent system, as a whole, develops organically and without any predestined goals, even though its elements, organisations and individuals have explicit goals to pursue. According to this view, change does not occur without any general laws or objectives. The capacity of emergent systems to learn, experiment and grow is not, however, based on general laws governing the behaviour of the whole,

but on general laws directing the parts (Johnson, 2002; see also Sotarauta & Srinivas, 2006).

If emergence is taken seriously, it suggests that sustainable regional development is a totally uncontrolled process and the policy-makers should not pretend otherwise. But, many scholars and practitioners alike stress and call for teleological explanations, and hence the importance of shared purpose, consensus and co-operation are stressed as important factors in pursuing change. These views are often well argued from their own points of departure, but they seldom acknowledge emergence as an important factor.

Instead of prescriptively stating, for example, that innovation systems and the interaction of academia, firms and the public sector are needed for change, it is stressed here that there is a need to better understand the co-evolution of emergence and intentionality, and, based on that, our capabilities to direct constantly evolving processes. By intention we refer simply to actors who are resolved and determined to do something and who expose their willingness to act to other actors.

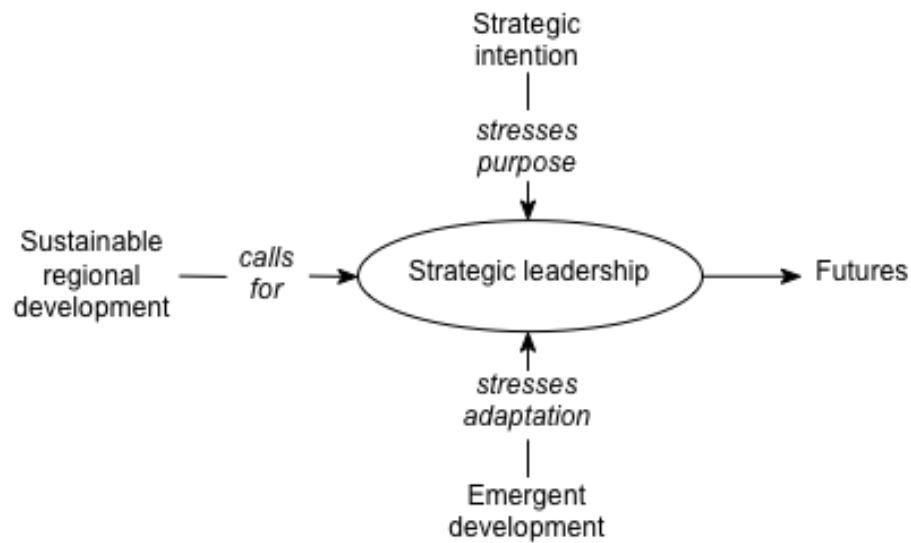


Figure 1. Strategic leadership as a nexus of strategic intention and emergence

STRATEGIC LEADERSHIP AS THE NEXUS

The nature of strategic leadership in regional development

The above discussion indicates that leadership is needed (a) for the construction of collective intentions and strategies on how to promote sustainable regional development and (b) for taking advantage of emergent developments and minimising their side effects.

Leadership is often seen simply as a relationship between leaders and those led, with the former setting goals and ensuring the latter follow through by persuading, convincing, or cajoling. And of course, this is the nature of leadership but, in the context of complex networks and emergent development so dominant in regional development, a leader may lead on some issue but be a follower in another, and some of the followers may

take leading positions on other occasions and, to make all this even more complex, both the actors and roles they possess change over time. Who is a leader and who a follower is a tricky question in the world that is dominated by multi-agent, inter-organisational and inter-institutional influence and leadership.

Strategic leadership is here seen as a relay process in time embedded in wider evolutionary processes. In a leadership relay, actors are engaged in a task or activity for a fixed period of time and are then replaced by other actors. Leadership relay for regional development differs significantly from, say, a relay race. In a relay race, there is a fixed team and everybody knows their place in the team and one runner replaces another. Even more importantly, they know that they are members of the team and that they are participating in a race. In a strategic leadership relay for regional development it is much harder to know the team, coalition or organisation of which one is a member, as hard as it may be to know the meaning of the race and to detect its beginning and end. Additionally, the kind of relay discussed here usually has many 'runners' on a track simultaneously, there is no clear order of runners, there are many managers, team leaders, anchor runners and other specialists 'who all know best' the region's needs.

Leadership scholars base their definitions of leadership on the nature of influence and the role of individuals who are defined as leaders. They define leadership in terms of group processes, traits, and behaviours, or as an instrument of goal achievement (see Bass & Bass, 2008 for a detailed review). While there is disagreement about the constitution of good leadership, there is widespread agreement on the importance of (a) personal qualities of an individual leader (e.g. commitment, energy, vision) and (b) the

context (an effective approach to leadership in one setting might not be appropriate in another) (Hambleton, 2003: 3–4). For contextual reasons, situational leadership has been stressed both in management and political studies it serves as a general point of departure here too.

Yukl (2002: 2) provides a leadership relay with an additional point of departure by reminding us that most definitions of leadership involve a process whereby ‘intentional influence is exerted by one person over other people to guide, structure, and facilitate activities and relationships in a group or organization’. Leadership relay adds a temporal dimension to situational leadership thinking by suggesting that, in specific development processes, not only the leaders but also the qualities and contexts change. More importantly, fairly often it is the leaders who consciously aim to change the context in which their own actions are embedded. In line with Yukl (2008), leadership is here defined as a process of influencing and teaching others to understand why and how certain activities and goals need to be accomplished. As such, it constitutes a process of facilitating individual and collective efforts to learn and accomplish shared goals. Leadership definitions include social influence and one of the leaders’ key roles is to help people to discuss the purpose or vision of change (e.g. Bass & Bass, 2008).

For their part, Trickett and Lee (2010: 434) shed light on a leadership relay by emphasising the need to understand leadership as a co-operative advantage in which leadership is a process of influence reconciling competing and conflicting interests, and, as such, leadership happens through ‘fluid relational processes’ and therefore, leadership relay is a collective distributed task, at its best it is a shared process (see also

Karlsen & Larrea, in this book; Sotarauta, 2005). Indeed, as Horlings and Padt (2011) note, across Europe new forms of shared leadership for sustainable regional development can be observed. MacNeill and Steiner (2010: 445), for example, have studied leadership in the context of clusters and, according to their analysis, cluster leadership is a collective or shared activity. In the same vein, they also maintain that as clusters are 'path-dependent' and rooted in their own socio-economic and cultural contexts so is leadership itself. The past trajectories of a specific place, its economic-social-political history shapes not only regional development but also leadership styles. (Kostiainen & Sotarauta, 2003.) Interestingly, it seems that also the established models of leadership are capable of addressing the challenges of the 21st Century and that reinforcing pre-existing leadership efforts while expanding their remit throughout civil society might be a way forward (Beer & Baker, in this book).

MacNeill and Steiner (2010: 445) distinguish between cluster co-ordination as mutual strategy development and traditional partnership working where a hierarchical leader sets a strategy and goals within the 'partnership'. However, this is not to say that all agents in cluster leadership are equal. Whilst leadership is distributed so is responsibility; roles are not equal or interchangeable. By necessity, leadership relay ought thus to be an iterative process that is built around 'real' economies and local understanding (Trickett & Lee, 2010: 439). Economic development increasingly calls for the integration of many earlier separate spheres of life, most notably economic, political and social life (Gibney et al., 2009: 5; Gibney 2011). Collective action requires a form of leadership that generates, renews and sustains the collective learning cycle over extended periods of time. In these kinds of processes, leaders often lead without

formal power (Sotarauta, 2009). Process view, relationality and informal power also stress the need to understand the interface between different spatial scales and the intended and unintended consequences of any intervention. As Trickett and Lee (2010: 434) put it, 'a spatial literacy of place is required'.

In a leadership relay, leaders need to lead and work effectively within a constantly changing policy environment that is, by its nature, cross-sectoral, multi-scalar and extra-regional. In a way, in this setting, leadership is the art of asking the questions without the certainty of either a clear answer or the knowledge of who to ask or where to obtain correct answers (Trickett & Lee, 2010). For these reasons, leadership relay is a never-ending learning process in time. All this draws close to transformational leadership that, according to Bass and Bass (2008), is based on four dimensions that are (a) idealised influence (based on respect and admiration for the leader); (b) individualised consideration (the extent to which the leader cares for a follower's concerns); (c) intellectual stimulation (the degree to which the leader provides followers with interesting and challenging tasks); and (d) inspirational motivation (communication of expectations and followers' confidence in the leader). Therefore, leaders need a sense of vision so that autonomous actors may subscribe to a 'loose coupling' with other actors within a strategic framework (MacNeill & Steiner, 2010: 445). However, it is doubtful if, in a loosely coupled network for regional development, it is possible to base strategic action on a shared vision, if vision is not used in reconciliation, balancing and co-ordination to build trust and collective action. Therefore, instead of seeing vision as some kind of grand and ultimate state of a desired future it is here seen as a powerful leadership tool. As has been explicated above, process rather than organisation is the

key to strategic success, especially as overall goals will be diffuse and difficult to quantify except in broad terms.

As has become obvious above, leadership is not a specialised role but a diffuse force in time, a relay, embedded in a specific social and evolutionary setting. It is strategic if it contains actors with abilities to anticipate, envision, maintain flexibility, find essential issues (think strategically) and pool the most relevant resources, competences and powers that will create a viable future for the region in question. It is essential to understand and explain how actors influence each other in creating shared strategic awareness and agreement on that which needs to be done and how. Additionally, it is essential to find out how individual and collective efforts for regional development are facilitated and accomplished.

If leadership is not a specialised role but a diffused process in which different actors exercise different influences, the first question, obviously, is, who are they? The answer should not entail any predefined assumptions based on formal positions but a careful process analysis as to who has influenced the process, how and in which stages of the process. Second, the question of the relationship between strategic leaders and the networks they aim to build, direct and facilitate turns out to be relevant. Additionally, the relationship between leaders in their efforts to influence each other is always an interesting issue to look into. Third, studying strategic leadership also involves studying strategies adopted by influential actors and their capacities to lead; the basis and the kind of power they exercise.

All in all, strategic leadership aims to show the way for a variety of actors and hence we face a dilemma. The lead idea of strategic planning suggests that it might be possible to find a best fit between the intentions of regional actors and the continuously changing environment. However, in muddled and complex networks aiming to promote local and regional development on the one hand (Harmaakorpi and Niukkanen, 2007), and in the midst of emergent development patterns on the other, it may be hard, if not impossible, to find the best fit between strategic intentions and environmental change. Aiming for the best fit strategies may result in actors being overly conservative in situations where novel solutions are needed and strategies, grounded in innovative ideas that are not to be found in the traditional thinking of strategic fit, need to be invented and explored.

Strategic intentions ought to focus on the creation of a new space that is uniquely suited to the region's needs; space that is off the traditional map. Strategic intention, therefore, refers to a determination of strategic leadership to act in a certain way for the long-term development of a region. Therefore, the lead motive in strategic leadership is not to find the best fit between existing resources and current opportunities but to create a misfit between resources and ambitions, to challenge the actors to join change processes.

Strategic intention is thus a manifestation of a) imaginable and desirable future states; b) desired accomplishments; c) the position of the leadership relay in wider governance systems; and d) the establishment of criteria to chart progress. All this suggests that the relationship between strategic leadership is not reactively but dynamically adaptive.

So far, we have discussed both strategic leadership and emergence and the need to understand their encounters. The discussion has not so far included ideas on how strategic leadership meets emergence. Next, to lay the ground for an 'encounters

discussion' strategic leadership is discussed from the perspective of the regional innovation journey.



Figure 2. Disconnected strategic leadership and emergence

LEADERSHIP RELAY CARRYING A REGIONAL INNOVATION JOURNEY

Regional development and innovation policies and related studies have focused on ideas of system-building and/or systems-repairing without a proper understanding that building systems is an uncertain and creative process. Benneworth (2007: 12) provides us with a point of departure for further elaboration of a leadership relay, as well as uncertain and creative system-building processes, by maintaining that, in regions, the issue is how they can change their collective developmental model into something which can produce long-term prosperity in the region. He adjusts van de Ven et al.'s (1999) notions on an innovation journey to the regional context by explicating that 'the regional innovation journey involves creating a new regional vision, experimenting in how it could be delivered, creating a regional consensus and ultimately delivering change. Along the way, those travellers will be joined by increasing numbers of regional stakeholders, and will have to work to resolve the issues, tensions, vested

interests and conflicts that such deep-seated regional change involves ... As the journey progresses, people may feel that there are other destinations that they could go to, or the journey may take a detour or unscheduled stop ... all these issues create pressures which may lead people to abandon the journey' (Benneworth, 2007: 13.)

By definition, it might be more or less impossible to lead a multi-actor regional innovation journey with 'command and control' models or with one vision only. Regional innovation journeys are constrained by a sense of that which is possible and that which is not, as well as by legacies and forebodings. And indeed, the nature of a regional innovation journey, as an uncertain and ambiguous set of sub-processes, is exactly why we highlight the need to study regional innovation journeys by adopting an actor-centric view with a leadership relay. As Kay (2006: 8) reminds us, this kind of process usually involves a series of interrelated decisions and actions that are shaped by earlier decisions and environmental factors.

An illustrative case

To shed light on the nature of a regional innovation journey and leadership relay, a study that focused on the emergence of regenerative medicine in Tampere, Finland, is used as an illustrative case (for further information see Sotarauta & Mustikkamäki, 2011). The case study investigates the institutional and organisational change underpinning the emergence and intentional creation of regenerative medicine in Tampere. The term 'regenerative medicine' was created in 2000 and is now widely used to describe biomedical approaches to healing the body by the stimulation of endogenous

cells to repair damaged tissues, or the transplantation of cells or engineered tissues to replace diseased or injured ones (Riazi et al., 2009).

The Regea Institute for Regenerative Medicine is the core of the referred case study. It is central to regenerative medicine concentration in Tampere, as well as being one of the cornerstones of local biomaterial concentration. Established in 2005, Regea is a joint institute under the administration of the University of Tampere. Regea was founded by the University of Tampere, Tampere University of Technology, Pirkanmaa Hospital District, Pirkanmaa University of Applied Sciences and Coxa, the Hospital for Joint Replacement. Regea's activities are based on three foundation pillars: research, tissue bank operations and other services (e.g. renting clean room facilities, consulting, etc.). The focal research areas are stem-cell research and research combining stem cells and biomaterials. (Sotaraute & Mustikkamäki, 2011.). The institute itself is only the tip of the iceberg in the wider story. Without plunging too deeply into the specifics of the case, the main outcome of the innovation journey is worth mentioning.

In 2008, for the first time in the world, a patient's upper jaw was replaced with a bone transplant cultivated from stem cells isolated from the patient's own fatty tissue. The patient had lost roughly half of his upper jaw because of cancer. Since the treatment, the patient has been able to live a normal life with a normal upper jaw. In the process, the scientists were able to produce new bone cells by combining stem cells and biomaterials and then growing them into a jawbone of the correct shape and size (with the aid of a titanium frame) inside the patient's stomach muscle. In six months, the contents ossified and were filled with blood vessels and thus the designed bone and the surrounding

muscle were removed, together with their blood vessels, and fitted in place (for further information see Sotarauta & Mustikkamäki, 2011). By the end of 2010, based on the technologies developed by Regea and its collaborators, approximately 30 patients with serious bone deficiencies had been treated in Finnish hospitals (Bionext, 2010). Below, the regional innovation journey is discussed, both conceptually and using the Tampere case as an illustrative example.

Launching a journey and taking the first steps

Benneworth (2007) puts forward a schematised process of a regional innovation journey (see also van de Ven et al., 1999). His schematisation does not incorporate uncertainty and ambiguity embedded in a journey, but offers us a point of departure to work with. Obviously, the decision to travel is the *first* step in any journey. A group of actors come together to express dissatisfaction with the lack of regional innovation and a will to work collectively (public/private) to address the identified problem. Drawing on our case study, we might add that, usually, this phase is preceded by a more general discussion on the position of a region in the overall economic development, as well as planting (either consciously or unconsciously) seeds for later development (see Sotarauta & Mustikkamäki, 2011). It may even be that there is no explicit decision to come together but merely a small group of people feeling that something must be done and that steps need to be taken. As is argued elsewhere, it may take a couple of years for a policy community, not to mention a wider local/regional community, to understand the actual situation and strategic challenges in a region (Sotarauta, 2009: 903). Indeed, in the early phases of a specific innovation journey, leadership relay is inundated with

uncertainty and leading figures are required to both have an appetite for risk and to be risk-aware, and/or passionate about their cause.

The first phase of emergence of regenerative medicine in Tampere can be labelled as ‘the seeds of change’. The journey was launched by two professors from two different universities (the University of Tampere and Tampere University of Technology), who clearly took the lead in pushing novel ideas forward and making new prospects visible. They did not have the power required to take major steps forward by themselves, nor the knowledge of the policies and processes involved, but they were able to advocate the new potential of the local medical and biomaterial research and hence, to launch the journey and push it forward.

At first, the academic community was unwilling to explore new opportunities. It saw the non-explicated ideas relating to new opportunities in stem-cell research and biomaterials as too applied and fuzzy and, hence, outside their realm. Perhaps, having vested interests in maintaining their power and academic focus, they were not ready to give up their power base for a search into unknown territories that might have changed their own positions in the social fabric. As is well known, inefficient institutions often persist because of the combined effect of social conflict and lack of commitment to seek fresh paths forward. All in all, in the Tampere case, the innovation journey might have come to a halt in the early stages without a proper support community that was able to carry forward the ideas launched by the ‘seed planters’.

A leadership relay is always prone to be broken due to the many socio-economic and political incidents and interests, as well as sudden and emergent environmental factors. Of course, the intentions of individual actors may override the causal generalisations of the strategic leaders and people may simply decide to do things differently (Dryzeck, 1993: 218). Much skill is required to mobilise actors across organisational and policy boundaries and to keep a regional innovation journey moving. As Dryzeck (1993: 218) also reminds us, interventions aimed at the course of development cannot be empirically verified without the intervention being realised and hence, the storyline guiding the development efforts needs to be stronger than uncertainty caused by the lack of empirical evidence.

Support community decides to travel, collective interpretation is constructed and reconstructed

The *second step* in a regional innovation journey is taken when the travellers, that is, all the actors needed for change, are identified and a core group works together to develop a (more or less) shared vision, or rather aims to find the common denominators between their own visions and a strategy to deliver this kind of loosely collective vision (Benneworth, 2007). In the regenerative medicine case, the second step included emergence of a support community that established a planning group that ‘decided to travel’. Hence, the second phase witnessed new actors taking the lead. The leadership relay moved beyond the academic sphere when a ‘support community’ that consisted of local and regional development agencies, as well as university and clinical actors (from the university hospital), began constructing a collective interpretation and a financial base to establish regenerative medicine in Tampere. They were able to keep the relay

going and construct a collective interpretation of the global potential, local capacity and resources as well as possible next steps.

Benneworth (2007) maintains that in the *third* phase of a regional innovation journey, there is usually a need to demonstrate progress in the short term to keep the coalition moving on a selected path and to induce other members to come onboard. As he sees it, this is a prerequisite for more ambitious future activities. Indeed, progress is important in keeping the relay in motion. The first two phases of the regenerative case were based on a conviction that there actually was a rapidly growing global market to be exploited but it soon became obvious that the technology was not mature enough and true business opportunities were too far away on the horizon. So, there was no business and hence no venture capital either, the entire field appeared risky and enthusiasm started to wane. Indeed, there was no demonstrated progress on a selected path. Consequently, the local planning group realised that it was not possible to accomplish the business plan formulated in phase two; there was no global business.

From collective reinterpretation to action to destination

Even though the journey was almost abandoned in the previous phase, the leadership relay was not broken and it was able to carry the idea through the difficulties. The local potential was seen as too promising not to be developed further and the feeling of prospective progress prevailed and new paths were actively sought. The discussion moved to emphasise both the basic and applied research idea, being that, if there is no business opportunity, then let the research capacity at the university be strengthened by

launching a major research project which later resulted in the Research Institute for Regenerative medicine (2005).

The journey was not abandoned because the key actors were able to learn and reinterpret their dominant assumptions and find new solutions. They reinterpreted their collective interpretation and moved from the thus constructed interpretation to action, to the *fourth* phase, in which as Benneworth (2007) maintains, the partners, individually and collectively, take measures to deliver projects that meet the identified needs. In this phase, the leadership relay moved from the support community back to the academy and especially into the hands of the director of a newly established research institute. Simultaneously, the support community started to change gradually. If, in the second phase, leadership relay consisted of local and regional development agencies possessing policy and process knowledge, now the research and clinical community with its substance knowledge took a more prominent role. This also meant that the policy and process expertise, so dominant in the construction of a collective interpretation, started to diminish and, as in planting seeds, substance knowledge began to be the main driver again.

In a way, with the establishment of the institute and successful treatments, the regenerative medicine case witnessed the *fifth* step of Benneworth's innovation journey schema, that is, a satisfactory destination. The destination is reached when the main barriers to innovation have been addressed and the journey ends with renewed institutions and/or new institutions (Benneworth, 2007). Of course, both the phasing of an innovation journey and the account of the emergence of regenerative medicine in

Tampere are highly simplified sequences of events. In any event, a regional innovation journey, by definition, is embedded in a dynamic perspective, that is, on examination of successive states of a journey and relationships between them.

As already indicated above, at any phase a regional innovation journey may come to a halt and several competing ideas and solutions challenge the journey and the travellers. Government, legislation, media, policy networks, and so forth provide tremendous challenges for innovation journeys and any individual policy solution. This implies that there are policy windows in which certain ideas and policies are accepted while others are rejected (Kingdon, 1984). This may help us to understand why regional innovation journeys so often fade away and do not produce the desired results. Both policy challenges and emergent development may stop the process or completely redirect it. The question is not about a simple, coherent and unique design and implementation of a strategy but a complex bundle of different policy logics and ideas that reach way beyond single policy domains to many economic, political and social spheres of life. And here, in a regional innovation journey, the mechanisms that underlie path dependency in the policy process are a form of context-bound rationality among travellers in a journey.

In the course of time strategic leadership meets emergence

To conclude, regional innovation journey refers here to purposeful and collective efforts to renew some aspects of a region or to introduce totally new solutions and institutions. The purpose of an innovation journey, to mention a few obvious suspects, may be to

strengthen university research by merging individual universities (e.g. Aarrevaara et al., 2009), to better connect a less favoured, organisationally thin, regional innovation system into a national innovation system (Sotarauta & Kosonen, 2004), to establish a science park (Lehtimäki, 2005), to construct regional advantage by science-based innovation (Sotarauta & Mustikkamäki, 2011) or to boost local buzz and thus change prevailing interaction patterns (Linnamaa, 2002). In a collective regional innovation journey the question is very much of choices: the choice of the desired future state of affairs, the choice of specific objectives, the choice of desired participants in a journey, the choice of policy instruments and the choice of that which is not to be done (see also Kay, 2006: 2). Kay (2006: 2) reminds us also that ‘these choices, their consequences and subsequent choices unfold in a temporal process in which uncertainty is a defining feature’. Here the role of strategic leadership is to help the innovation journey travellers to find coherence in the midst of emergent developments and to enable actors to understand and take advantage of new horizons and development paths stemming from emergence; that is, to find coherence for a journey and redirect it in the face of emergent developments.



Figure 3. Strategic leadership meets emergence

THE CORE PROCESSES OF A LEADERSHIP RELAY

In the course of the 15 year regional innovation journey for regenerative medicine in Tampere, there were several strategic leaders who influenced both within and outside the boundaries of the organisations and communities that had authorised them and within their ‘own policy domains’; during the regional innovation journey, leadership relay carried the process across science, innovation and healthcare domains as well as across regional development and local economic policy domains. Key actors consciously reached beyond their familiar fields of activity and policy spheres to build proper conditions for regenerative medicine to emerge. In this case, strategic leadership relay clearly involved an array of actors with various backgrounds, resources and sources of power.

By pooling scattered competences, powers and resources a network for regional development can be constructed, and strategic action to change the course of events and ways to adjust to emergent developments can be achieved. All this requires a leadership relay that carries the desired changes over the years. Of course, this is a huge challenge; how to keep a leadership relay in motion in a world that is characterised by an almost pathological race for short term profits, short-sighted politics and a search for quick fixes. Quoting a senior official of a Finnish Ministry, a new ‘development view’ is needed to lead complex processes.

... you have to understand that this is not a positivistic world. It is no more about the world of planning or engineering where A leads to B and then to C. This is a genuinely continuous hustle and bustle and you can't always know what depends on what, what measures lead where. Understanding this fuzzy logic is not important as such, you can't understand it; you just have to accept it; to accept that many of these processes simply are ambiguous and fuzzy. You need to experiment with the paths to take, and see if they're ok, if you find a good one you then move on but you need to have several options up your sleeve all the time. (Adopted from Sotarauta 2010)

Drawing on the earlier studies referred to in the introduction, as well as the case used to highlight the nature of an innovation journey and a leadership relay, it is believed here that the following aspects are important in leadership relays: creative tension, sense of urgency, ambitious and believable story, strategic awareness, shared vision among individual visions and inductive and inducing strategies.

Creative tension makes make people genuinely inspired to be involved in collective efforts. Creative tension refers to excitement that emerges from uncertainty about the consequences of future events and measures and from the dominating thought and/or action patterns questioned by forces which are in mutual opposition or sufficiently different from one another. Creative tension may challenge actors in unprecedented, original products or processes, thoughts and action models, and so on. Creative tension may come into being spontaneously or as a result of leadership. In the regenerative medicine case, creative tension revolved at first around the realization that existing research capacity may lead to global business and later breakthrough science and its applications excited local players. Creative tension feeds into the **sense of urgency**, in other words, leadership relays need the sense of drama, the feeling of progress that, in the regenerative case, was found in a combination of a believable story of the global potential of the local stem-cell and biomaterial research, credible individuals who

invested time and energy to make the story visible and exploitation of the globally emerging potential. A sense of urgency adds energy and commitment to the process. In Tampere, there was a clear understanding that in stem-cell research global competition is fierce and ending up among the winners the region does not only need world class science but fast action.

To create a sense of urgency, leadership relay requires an **ambitious and believable story** that is collectively debated and constructed and that thus becomes the directing force that reaches beyond individual actors, plans and/or strategies; through a believable story, it is possible to link fragmented pieces of information as well as intentions and interests together, in a world that is full of information and filled with competing ideas and interests, not to mention regional and innovation development programmes, projects and other development efforts. As Heifetz (2003: 225) argues, a major challenge of leadership is to attract attention and then deflect it to the questions and issues that need to be faced. To do this, one has to provide a context for the action and a storyline that gives meaning to the action and it is exactly here where vision is useful. Actors need to comprehend the purpose of adaptive or transformative measures so that they focus less on the person and more on the meaning of the new action, and thus actors need to be actively involved in the sense-making process. In the Tampere case, the entire innovation journey has been a continuous sense-making process but the second phase was explicitly dedicated to it. It was essential in the construction of strategic awareness.

For its part, an ambitious and believable story builds **strategic awareness**. In a leadership relay, construction of a collective strategy is not as much about strategic plans and shared visions as it is about the generation of a collective strategic awareness. Awareness calls for well-established ability to monitor and interpret various global developments and local events and to make sense of them. Awareness becomes strategic with the ability to find the strategic issues in relation to a given innovation journey. And when strategic awareness is collectively constructed, so too is the capacity to carry the innovation journey and keep leadership relay in motion. Long-term strategies are not so much on paper but in the fibre and thinking of the key actors. As also the regenerative medicine case shows, strategy is as much inductive as it is deductive; it bounces back and forth.

A sense of urgency born out of creative tension and fed by an ambitious and believable story is not always guided by a shared vision, as is often assumed but by the capacity to bring forth a **shared vision among individual visions**. It is often hoped that collective strategies and shared visions will guide not only policy networks, but also the greatest possible number of regional actors, either directly or indirectly. Our earlier studies show that many of the regional development strategies or shared visions do not mandate any radically new policy directions but rather they confirm and strengthen directions initiated earlier (see Sotarauta & Lakso, 2000). In practice, shared visions are combinations of the goals and visions of individual actors. Therefore, an ability to identify individual goals and visions and, in addition, to find and create common dominators – ‘a third way’ – among them seems to be a prerequisite for shared visions. The process of looking for a shared vision among the many visions, in which

appreciating ‘other visions’ is crucial, and learning about other actors’ thinking patterns, and especially about their views and perceptions of the future, forms the core of constructing strategic awareness. That which often appears as a collective action is, in practice, a complex, constantly evolving process between a policy network and its members; that is, a regional innovation journey carried by a leadership relay. In the Tampere case, the relay started with a vision of having world class business as a guiding thought and ended with a visionary conviction that Tampere will become the Finnish centre of human spare parts.

It is often argued that regional development requires intensive collaboration and collective action, and here it is argued that a leadership relay drags collective action over time and across various obstacles and that collective action calls for actors who can create a sense of urgency by creative tension that emerges among visions rather than from within one vision. All this also challenges classical notions of designed strategies and suggests that in leadership relays we can also find **inductive and inducing strategies** that are wrapped in a constantly emerging storyline. In a way, the regenerative medicine case is a collective sense-making process of the knowledge economy, local expertise and global potential and their reflections in science, innovation, local economic development and health policies. A collective interpretation and conceptualisation is often among the core processes in a leadership relay. It is again worth stressing that, in inducing strategy based on continuously shaped story-lines, the question is not about having a ready-made plot but a constantly emerging and ongoing discussion that bounces back and forth between vision and practical issues, and between

many organisations. As was also the case under scrutiny shows, the innovation journey travellers live with their strategy, discuss it all the time and mould it as they go.

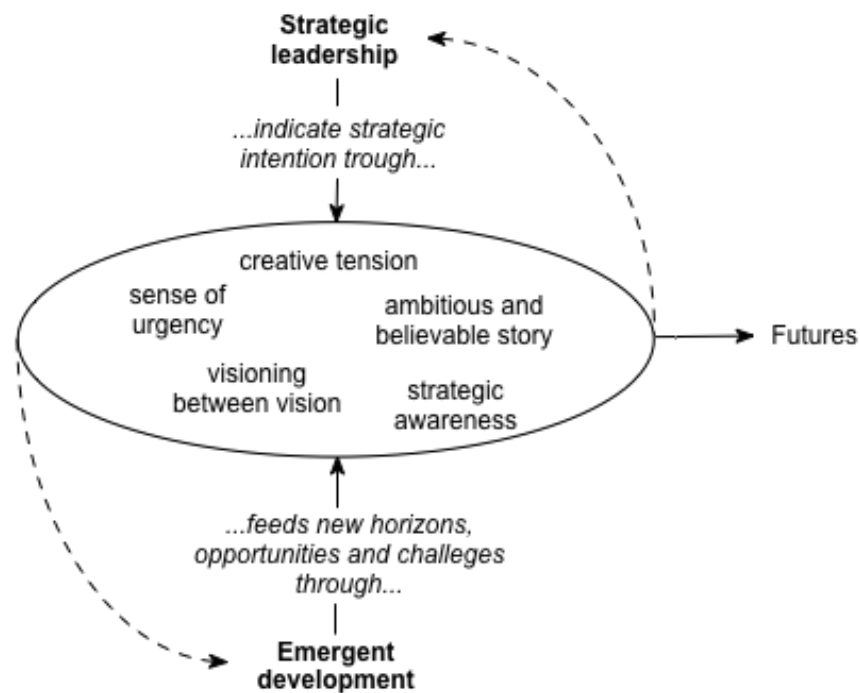


Figure 4. Strategic leadership meets emergence by the key processes of a leadership relay

DISCUSSION

Regional development emerges through complex networks and manifold processes that we can identify, lead and direct, but only to certain extent. Regional development is not designed by brilliant strategic plans but moulded by a variety of purposeful social and economic actors. By conceptualising these efforts as ‘regional innovation journeys’ it is

possible, analytically, to study their unfolding over time, and the relationship between the emergence and the intentions and the actions of purposeful actors. In this kind of setting, leadership is also to be seen from a dynamic perspective and thus the concept of a 'leadership relay' is introduced.

In this setting, applying Collinge et al. (2010), strategic leadership is an ordering process that is the direct expression of strategic intentions which are pursued consciously by human agents working alone or in concert [purposive governance]; while emergence is an ordering process that is a function of self-organising mechanisms which operate across human purposes without humans directly controlling the operation or its outcome [spontaneous governance]. Setting a regional innovation journey in motion and keeping it in motion call for flexible institutional strategies and the skilful blending of intentions and emergence. Consequently, in studies on leadership relays, we need to make analytical sense of a relay that is characterised by a) fragmented or shared actions, events and incidents amongst a whole series of organisations and/or several leaders rather than processes that simply flow 'top-down' from a control centre to followers; b) processes where not all strategic leaders are formally recognised as such (and sometimes people with formal positions may exercise only a little if not no leadership at all) and; c) regional innovation journeys that are multi-scalar, dynamic and interactive governance processes between national, local and regional government actors, firms, universities, research institutions, public and/or semi-public development agencies.

Consequently, by definition, leadership relay involves many actors across temporal restrictions and several spatial scales. The temporal fixations, however, are not predetermined but rather depend on events and their internal logic as well as emergent developments. The presumption also is that leadership relay is seldom consciously planned beforehand. It rather emerges from a myriad of interests and potential leaders or lack of them. All in all, it is typical of a leadership relay that different actors surface in different phases of development and, hence, it is a constellation of different skills, competencies, knowledge and powers. Neither the key actors nor the networks and institutions initially exist, but rather they grow up around and are also deliberately created in the processes of regional development. Innovation depends on how these communities arise and evolve over time and thus it is of utmost importance to analytically study the ways regional innovation journeys are travelled and leadership relays constructed in differing institutional settings. This is one way to keep them in motion instead of letting them break down before anything has come from them.

Strangely enough, as Uyarra (2010) points out, many of the regional development studies neglect agency and treat the conscious efforts to build and/or enhance local and regional development and related systems and policies as if things simply happen without much work or actors. To overcome this shortcoming, we ought to find inspiration and conceptual aid beyond the usual suspects providing regional development studies with conceptual insight, such as sociology and economics (Pike, 2007). In their provocative paper, Amin and Thrift (2001: 4) maintain that economic geography is no longer able to 'fire the imagination' of researchers. Amin and Thrift's view is endorsed here by acknowledging the need to seek for fresh influence for

regional development studies beyond the most obvious disciplinary suspects and by suggesting that new passion could be found from leadership studies too.

The call for new passion holds true, especially in a more self-reliance-oriented and knowledge-economy-oriented regional development context in which the central idea is to help regions to help themselves instead of controlling them from the top or circulating one-size-fits-all models from economically successful regions to less successful ones across the world. This indicates a need for new kinds of leaders who possess the skills required by a more networked world and who understand new forms of power. As Pike (2007: 1143) maintains, ‘regional governance, policy and politics are wrestling with the conceptual, methodological, and political complexities of new modes and geographies of governance and emergent multi-agent and multi-level institutional architectures’. As is seen in this book, leaders are the ones who guide responses and seek novel solutions in the context of many unknowns. Leadership needs to be highly adaptive and responsive in this ever-changing context as ‘there is no one way of doing it’ (Trickett & Lee, 2010: 438–439). In practice, many practitioners and scholars do not appreciate the emergent nature of development and therefore they continue their efforts to better implement designed strategies or to design more ‘implementable’ strategies (Sotarauta & Srinivas, 2006). Therefore, distinguishing forms of development that are relatively spontaneous from those that have taken shape with considerable conscious policy formulation and co-ordination is an important task because it provides us with clues as to that which we can direct and how, and the extent and circumstances of that direction. Clearly, both policy and localised emergent development have some interplay and adapt to each other, but this interplay is understood to be a two-way process.

CONCLUSION

The leadership relay for regenerative medicine shows that, when aiming for major changes, leaders operate in the middle of open-ended and fuzzy situations where they are constantly required to cross various policy spheres; in this case they crossed innovation, science, local and regional economic development and healthcare policy boundaries. They influenced beyond their own territories and also on several levels of governance. It would be an overstatement to say that only leaders carried leadership relay forward. As also the case under scrutiny in this chapter, strategic leaders show the way, influence and act as a guide for other actors but, in addition, we may also find other important roles. The main point is that while strategic leaders are oriented towards institutional change, there are other actors, who are more focused on managerial issues, criticism, and enhancing collaboration (see van de Ven et al., 1999).

To put it simply, strategic leaders are needed to give purpose, meaning and guidance, while many other actors provide support and corrective feedback. All choices and activities in a regional innovation journey are subject to many constraints, and strategic leaders are often the ones who find ways to stretch these constraints. Strategic leaders are those actors who build, change and/or abolish institutions, that is, playgrounds and rules of the game for other players (see Sotarauta & Pulkkinen, 2011 for a conceptual discussion on institutional entrepreneurship). They are responsible for finding the direction and launching efforts to push regional development forward.

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