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# Institutional entrepreneurship for knowledge regions: in search of a fresh set of questions for regional innovation studies

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**Abstract.** We investigate conceptually the institutional change process and innovation underpinning knowledge-based regional development from the point of view of institutional entrepreneurship. The main aim is to raise institutional entrepreneurship among debated concepts in regional development studies. We set out to discuss the following question: what kind of conceptual base provides empirical studies with a fresh set of research questions and hence point of departure in a study of the ways in which actors influence the course of events and aim to change the very institutional setting in which they are embedded?

## 1 Introduction

In many regional development policy-making arenas, actors take pains to find ways in which to transform old institutions so as to make them fit better the emerging economic order that is fairly commonly labelled as the knowledge economy (Cooke, 2002). Policy makers across the world aim to forge new partnerships, build networks, create regional innovation systems, foster creativity, boost learning, and push clustering forward. All this reflects, in one way or another, the basic assumptions of the contemporary research agenda that in the knowledge economy the creation of a local high-level knowledge pool with strong internal links and pipelines to global knowledge sources is the way to construct regional advantage (eg Asheim et al, 2006; Bathelt et al, 2004; Cooke et al, 1997; de la Mothe and Mallory, 2004). Consequently, it is evident that regions or cities aiming to reinvent themselves as ‘learning regions’ (Morgan, 1997), ‘intelligent cities’ (Komninos, 2002), or ‘creative cities’ (Landry, 2008) need to be able, one way or another, to mould all those recurrent patterns of behaviour (habits, conventions, and routines) and constitutive rules and practices that prescribe appropriate behaviour for specific actors in specific situations (March and Olsen, 2005; Morgan, 1997).

The current research agenda and policy wisdom suggest, at a general level, that the main challenge remains more or less the same as earlier: how to create new institutions or transform existing ones governing economic performance to match, this time, the constantly evolving global knowledge economy. And, indeed, institutions are emerging as central objects of interest both in economic geography (eg Gertler, 2010; Martin, 2000; Rodríguez-Pose and Storper, 2006) and in social sciences generally (eg Hollingsworth, 2000). The central argument for studying institutions lies in the assumption that institutional setting affects innovation in many ways. Consequently, a multiplicity of concepts dealing with this relationship has surfaced: institutional capacity (Healey et al, 2002), institutional infrastructure (Hall, 1999), institutional thickness (Amin and Thrift, 1995), and institutional environment (Hage, 2006; Hollingsworth, 2000).

In spite of a relatively generally shared understanding that institutions guide evolutionary trajectories of regions in subtle but pervasive ways, their role in regional development, as Gertler (2010, page 2) maintains, is still poorly understood and

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underappreciated within regional development studies. The number and vast use of the concept of institution highlight the importance of institutions in socioeconomic understanding but also its fairly general explanations for regional economic development. This may partly be due to the fact that, while regional development studies have so far focused quite a lot on identifying the generic knowledge-based regional development model(s) and institutions behind them, the actual actors have remained in the shadows, as famously criticized by Markusen (1999). Also, Gertler calls for studies with explicit focus on individual agency, institutional evolution, and change over time as well as interscalar relations (Gertler, 2010, page 2). In other fields of enquiry individual agency has already gained more attention (see eg John, 2006; Parto, 2005; Scharpf, 1997).

According to Normann and Johnsen (2009) it is common in the fields of regional innovation system studies, cluster studies, and various knowledge-dynamics-oriented pieces of work that the authors focus on challenges, practices, and solutions but do not say much about leadership and/or politics. As they also maintain, power and institutional theory are seldom explicitly discussed in the context of regional innovation systems or other related studies. For their part, Maskell and Malmberg (2007, page 610) pose an interesting question for this line of research: “how can these same people, by an act of will, ever step outside an innate institution and change it?” According to them there exists an obvious theoretical blind spot in relating institutional change to microbehaviour. We seek to fill exactly this conceptual and empirical gap in the context of knowledge-based regional development and innovation systems by bringing institutional entrepreneurship forward.

The argument here is that we should know more, not only about institutions, their role in economic development, and how they change, but also about how a great number of actors with divergent interests, varying normative commitments, different powers, and limited cognition create and recreate institutions (Streeck and Thelen, 2005, page 16). Indeed, we do not know much about who works, or how and why they work, to change prevailing institutions for knowledge-based regional development and, consequently, the nature of institutions often remains at an overly conceptual and generic level. It seems that agency, institutional change, and policy process are black boxes for knowledge-based regional development scholars as well as innovation scholars (Lyall, 2007; Uyerra, 2010; Witt, 2003). Many studies treat policy issues as if innovation systems automatically function well or as if they self-transform themselves without conscious effort or much organizing and instituting in many policy arenas. As Uyerra (2010) concludes, innovation scholars implicitly assume an unproblematic and straightforward translation of policy recommendations into the formulation of related policies. Regional development literature has more or less neglected individuals as active change agents. New institutional studies have taken agency more into account but from the perspective of continuity (Emirbayer and Mische, 1998) and contextually determined action (Beckert, 1999, page 778). Taking institutional entrepreneurship as an approach we can explain better changes in innovation policies and other development efforts (Garud et al, 2007).

From these premises we aim to raise *institutional entrepreneurship* among the debated concepts in regional development studies (and related disciplines) and hence to contribute especially to the literature on knowledge-based regional development by searching conceptual avenues to add the individual actor (institutional entrepreneur) to the core analytical lenses in the analysis of institutional change for regional development. Consequently, this paper continues the ‘institutional turn’ (Jessop, 2004, page 23) that directs our attention not only towards hard and soft institutions (Gertler and Wolfe, 2004) but also towards self-reflexive individuals (Amin, 2001). We aim to bring forward better alignment between knowledge-based regional development studies

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(especially innovation studies), new institutionalism, and leadership studies. We draw from all three of these.

Institutional entrepreneurs are actors (organizations and/or individuals) who, first of all, have an interest to change particular institutional arrangements and who, second, mobilize resources, competences, and power to create new institutions or to transform existing ones (see Battilana, 2006; DiMaggio, 1988). They may possess a position to attack institutional arrangements but some of them may not. It is worth mentioning at the outset that this paper does not answer the question of who institutional entrepreneurs actually are. It would be tempting to assume that mayors, leading policy makers, and other acknowledged authorities would somehow automatically be institutional entrepreneurs. This often is a false assumption, and therefore there is a need for both conceptual development and more fine-grained empirical analyses before we can reliably answer the question of who institutional entrepreneurs in given situations actually are.

The research question discussed here is: what kind of conceptual base provides empirical studies with a fresh set of research questions and hence point of departure in a study of the ways in which actors influence the course of events and aim to change the very institutional setting in which they are embedded? In section 2 innovation challenge is identified and linked to institutional change. In section 3 we move the discussion forward by introducing the concept of institutional entrepreneurship and in section 4 discuss and frame the concept of institution. In section 5 we then discuss institutional change. Finally, we conclude the conceptual discussion in section 6 by raising four sets of questions for future studies on institutional entrepreneurship.

## **2 Knowledge economy and innovation systems challenge institutions to be changed**

In the late 2000s it was rather generally accepted that the capability of regions to generate, apply, and exploit new knowledge and to innovate is in the core of their competitiveness in a knowledge economy, and that this process cannot be fully understood without also studying social and institutional forces (Lundvall, 1992). In the knowledge economy, according to Cooke (2002): (a) knowledge is quickly outdated and new knowledge is constantly challenging the old; (b) scientific knowledge (including social sciences) is respected and permeates society faster than ever before; and (c) existing knowledge is used to create new knowledge. Consequently, the aim of contemporary development policies often is to cultivate some specific differentiated and locally rooted but extraregionally connected knowledge bases and to foster links between academia, industry, and the public sector—that is, to construct knowledge-based regional advantage (see eg Asheim et al, 2006).

Reflecting the search for something new both the rapidly expanding policy-oriented and theoretical literature on regional development has celebrated such (city) regions as Silicon Valley, Cambridge, Boston, and Singapore as the stars of the knowledge era. However, in the midst of an intensifying global innovation race, there are more and more voices warning policy makers about the dangers of ‘imitate the best practice’ and ‘replicate Silicon Valley’ strategies fairly commonly adopted by many regional policy makers. It is believed here that regional advantage cannot be constructed on one ‘best practice’ model but with more fine-tuned development policies reflecting the different conditions and problems of respective regions and regional innovation systems (Tödling and Trippel, 2005). It is not possible to transfer institutions from one place to another and, hence, a need to understand better place-specific institutional change dynamics emerges as crucial (Rodríguez-Pose and Storper, 2006).

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To make the situation even more challenging, and simultaneously more interesting, Crevoisier and Hugues (2009) suggest that knowledge economy is a vast global playground for different knowledge and different players to interact in complex production–consumption systems that are multilocal in nature. From this point of departure regions need to develop themselves not only as central locations in a national system but as attractive hubs of wider and more global systems. All this calls for manifold institutional changes and simultaneously makes the identification of spatial levels of institutions even more challenging a task.

Innovation system literature provides this paper with a general but specific enough framework to search for a conceptual basis for institutional entrepreneurship in the context of ‘knowledge regions’. Regional innovation system studies are here seen as a rather specific subbranch of broader research agenda on knowledge-based regional development. Innovation is a good point of departure for studies focusing on institutional change for five reasons. First, as ‘new creations of economic significance’, innovations are widely accepted as primary sources of economic growth in a global and capitalistic economy (eg Edquist, 2005; Freeman, 1987). Second, innovation requires a proper environment to flourish and a well-functioning system to support it and, hence, as Asheim and Coenen (2005) argue, in innovation studies it is important to take account of the institutional and political frameworks found at the regional, national, and/or supranational levels in which specific organizational change processes and related development efforts are embedded. This is in line with Asheim and Gertler (2005) who define innovation system as “institutional infrastructure supporting innovation within the production structure of a region” (page 299). In short, the system of innovation encompasses the determinants of innovation processes—that is, all important economic, social, political, organizational, and other institutional factors that influence the development, diffusion, and use of new knowledge (Edquist, 2008, page 5) and have an influence on the learning capacities of individuals, firms, and organizations and hence on their ability to innovate (Lundvall, 1992; Lundvall et al, 2002).

Third, at the core of the innovation system literature is the view of innovation as an evolutionary process, hence both institutional change and institutional entrepreneurship ought to be studied against a moving multidimensional target. State-of-the-art understanding presents innovation as a complex process characterized by ambiguity, uncertainty, and institutional inertia, where innovation emerges in systems that exhibit rather heterogeneous structures and defy traditional geographical, technological, or institutional characterizations (Fagerberg 2005; Tether and Metcalfe, 2004). Consequently, and fourth, innovation is an outcome of an interactive process and, to boost innovativeness, new reciprocal relationships need to be fostered as well as old ones untied. This poses several delicate questions about how to change reciprocal and often delicate interpersonal relationships between autonomous agents—how to intervene in soft relational institutions. Fifth, most importantly, creating, abolishing, and changing institutions are among the most important activities in maintaining (and also increasing) dynamism of innovation systems (Edquist, 2008, page 15).

### **3 Framing the concept of institutional entrepreneurship**

#### **3.1 Why institutional entrepreneurship and regional innovation systems?**

On the basis of their extensive literature reviews on regional innovation systems, Uyerra (2010) and Uyerra and Flanagan (2010) conclude that, more often than not, in these and related studies actors are seen as components of the system rather than as purposive agents. Additionally, as they argue, innovation studies tend also to focus more on the presence or absence of predefined actors and institutions than on their roles, relationships, and performance, not to mention the lack of discussion about the

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emergence, evolution, restructuring, or even disappearance of actors and institutions (page 683). Consequently, one of the central challenges in the regional innovation system studies is to show how and why embedded actors become purposive, motivated, and enabled to promote institutional change for innovation, and to that end we also need to discover how various individuals and groups exercise power and aim to influence (see Sotarauta, 2009).

So far, there are no explicit studies on institutional entrepreneurship in the context of regional innovation systems (and more broadly on regional development) and, therefore, at this point of time, the point of departure is the notion that by focusing more on institutional entrepreneurs instead of actors as system components we might be able to add analytical leverage on studies on both institutional change and regional innovation systems. The basic premise is that institutional entrepreneurs are the core of endeavours to shape the institutional base for innovation systems but that not all actors working for change are institutional entrepreneurs. Institutional entrepreneurship provides an analytical framework of how various agents behave—how they interact, relate, and evolve with wider institutional constellations. Especially important for this line of study is the notion that microagent change leads to macrosystem evolution—that is, before change at a macrolevel can be seen, it is taking place at many microlevels simultaneously.

We are in line with Kay (2006, page 39) who maintains that “to understand how institutions evolve (and regions develop), it may be more fruitful to aim for a more fine-grained analysis that seeks to identify what aspects of a specific institutional configuration are (or are not) negotiable and under what conditions.” These kinds of microapproaches are usually more actor centred than macroapproaches and more often than not they concentrate on entrepreneurial behaviour of innovative firms that gives rise to knowledge creation and diffusion inside firms and within a region (Uyarra, 2010, pages 122–123). However, entrepreneurial behaviour of institutional entrepreneurs (whoever they are: possibly politicians, policy makers, and other civic activists) who are engaged in various regional development efforts is more or less a neglected issue. Institutional entrepreneurship highlights agency, interests, legitimacy, strategy, and power in the analysis of regional innovation systems (Levy and Scully, 2007).

### **3.2 What qualifies an actor to be labelled as an institutional entrepreneur?**

Institutional entrepreneurship is challenging some of the prevailing notions of institutional change as well as regional development. It is usually assumed that institutions select behaviour (March and Olsen, 1996, pages 251–255) but in the final analysis actors actually have some freedom to operate (Jessop, 2004, page 40). As DiMaggio and Powell (1991) maintain, institutions can also be approached as outcomes of complex social processes and as such are seen as products of human agency. Streeck and Thelen (2005, page 16) point out that institutions are “continuously created and recreated by a great number of actors with divergent interests, varying normative commitments, different powers, and limited cognition.” As they also point out, both ‘rule makers’ and ‘rule takers’ shape institutions and, here, institutional entrepreneurship is an analytical lens to delve into these processes.

Institutional entrepreneurs can be individuals, organizations, or groups of actors who not only introduce the needed change and/or innovation but also work to change the broader context so that the innovation has a widespread appeal and impact (Battilana et al, 2009; Maguire et al, 2004). According to Garud et al (2007, page 957; see also Battilana, 2006), institutional entrepreneurship refers to the “activities of actors who have an interest in particular institutional arrangements

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and who leverage resources to create new institutions or to transform existing ones” and is mainly associated with DiMaggio (1988, page 14) who maintains that “new institutions arise when organized actors with sufficient resources see in them an opportunity to realize interests that they value highly.” Consequently, the endeavours to shape the institutional base for innovation systems reflect the many strategies adopted by relevant groups of actors aiming to break out from the past path and create new ones. Therefore, to be regarded as institutional entrepreneurs, actors must fulfil two conditions: (1) they initiate divergent changes; and (2) actively participate in the implementation of these changes (Battilana et al, 2009, page 67). Of course, it goes without saying that the freedom of institutional entrepreneurs to forge change is often limited in a world dominated by rigid structures, politics, major economic players, and formal policies. These actors are constrained by the very same institutions they aim to change. The many ambitions of collaborating and/or competing actors to shape institutions for regional development are a form of ‘embedded agency’ [see more, concerning embedded agency, in Battilana (2006); Leca and Naccache (2006); Seo and Creed (2002)].

### **3.3 Social filter and institutional entrepreneurs as bricoleurs**

By definition, an actor needs to be intentional in action to be recognized as an institutional entrepreneur. However, in studies on institutional entrepreneurship it is important to distinguish forms of institutional change that are relatively spontaneous and emergent from those that take shape with considerable conscious policy formulation and coordination. This distinction provides us with clues as to what can be directed and how, and to what extent, and under what circumstances (Sotarauta and Srinivas, 2006, page 314). Clearly, conscious efforts to change institutions and emergent development patterns are in many ways intertwined. Intentionality of purposive change agents needs, more or less, to be adjusted to emergent properties being outside the reach of institutional entrepreneurs; the interplay between intention and emergence is understudied as a two-way process.

Intentionality does not suggest that an institutional entrepreneur automatically and always strives for a certain result (Battilana et al, 2009; Mutch, 2007). Institutional entrepreneurship may also exist as a way of acting even though the change would not happen or the outcome is unanticipated. Also, an actor (whether individual, organization, or group of either) may be an institutional entrepreneur without a vision of great societal change in the first place (see also Battilana et al, 2009, page 70). Sometimes institutional entrepreneurs may simply aim to melt a frozen situation whatever the outcome might be. All this releases us from studying actors as conscious and calculative engines of change and enables us to approach institutional entrepreneurs as reflective change agents, who both push for change, and adapt to changes in their operational environment and to activities of other actors. Intentionality may hence evolve during a change process and therefore different time perspectives are also worth looking at more in detail to truly understand the nature of institutional entrepreneurship in time.

Although there is plenty of variation in the actions and strategies that institutional entrepreneurs take, they all “combine, re-combine and re-deploy” different logics behind different institutional pillars (Mair and Martí, 2009, page 431) (see more about institutional pillars in table 1). Maguire et al (2004) as well as Mair and Martí (2009) collect entrepreneurial actions under the common denominator of bricolage. The capacity of institutional entrepreneurs to act as bricoleurs for change and innovation depends on: (a) the dominant ‘social filter’ that is a unique combination “of innovative and conservative elements that favour or deter the development of successful regional

**Table 1.** Institutional pillars and carriers (source: Scott, 2001, page 77).

Carriers	Pillars		
	regulative	normative	cultural–cognitive
Symbolic systems	Rules, laws	Values, expectations	Categories, typifications, scheme
Relational systems	Governance systems, power systems	Regime, authority systems	Structural isomorphism, identities
Routines	Protocols, standard operating procedures	Jobs, roles, obedience to duty	Scripts
Artifacts	Objects complying with mandated specifications	Objects meeting conventions, standards	Objects possessing symbolic value

innovation systems” (Rodríguez-Pose, 1999, page 82), and most notably (b) their capacity to mould social filters. Social filters act as “conditions that render some courses of action easier than others” (Rodríguez-Pose and Crescenzi, 2008, page 52) and thus highlight the importance of changing sociocognitive institutional pillars (see table 1). Indeed, according to Sotarauta’s (2009) study on power and influence tactics in regional development efforts, the most important forms of power are what he labels as ‘interpretive power’ and ‘network power’, and this suggests that institutional entrepreneurs work to change social filters by using their personal networks and social skills in affecting cognitions.

A core belief underlying our approach is the importance of understanding interactions between actors and their institutional settings. It is more or less impossible to understand institutional entrepreneurship without understanding how actors shape institutions they are embedded into and how institutions shape their actions. This calls for processual, relational, contextual, and systemic understanding that locates institutional entrepreneurship not in the attributes and position of individuals but in their actions and relationships connecting actors in change processes. The concept of institutional entrepreneurship raises many other intriguing questions, for example: How can actors innovate and renew institutional settings if their beliefs and actions are all determined by the very institutional environment they wish to change? Who are the institutional entrepreneurs in the cases under scrutiny? How do they earn or take their positions? How do they resolve the paradoxical situation in which they aim to change those institutions that frame their very actions?

### 3.4 Institutional entrepreneurship and leadership capacity

Institutional entrepreneurs initiate flexible institutional strategies that require collective action crossing many institutional, sectoral, and organizational borders. Therefore, to make a difference, institutional entrepreneurs need a well-developed leadership capacity. In the context of urban and regional development, the literature on institutional entrepreneurship as well as leadership is very scarce indeed (the exceptions include Benneworth, 2007; Chapain et al, 2009; Collinge and Gibney, 2010; Gibney et al, 2009; Sotarauta, 2005; 2009; Sotarauta and Linnamaa, 1999; Stimson et al, 2009). Institutional entrepreneurs are required to be able to determine the direction for change with, through, and by people, bring people together on one track, and inspire them. What they need are cultural and cognitive skills like framing and persuading to deal with various forms of established power, procedural skills to deal with procedures in the issue in question, and political and interactional skills to link the

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initiative with the dominant political agendas and to develop alliances (DiMaggio, 1988). Institutional entrepreneurs often have to overcome structural power by outmanoeuvring dominant discourses and coalitions, and therefore they are actors who have a greater range of assets than others in the region for stretching constraints, mobilizing competencies and resources, and being able to acquire needed power to do so. As Senge (1990) reminds us, leaders are responsible for building organizations in which people continually expand their capability to understand complexity, clarify vision, and improve shared mental models. Thus institutional entrepreneurs are responsible for institutional flexibility, and particularly for choreographing and directing learning processes that aim to change the three pillars of institutions (see table 1).

Institutional entrepreneurs are not only required to lead within the boundaries of the organizations and communities that authorize them, but they also consciously need to reach organizations and communities across the boundaries to reach such spheres in which their actions and words may have influence despite having no authorization (Sotarauta, 2005). As pointed out by Healey et al (1995) and from a different point of view also by Sotarauta and Kautonen (2007), the mobilization of institutional strategies can no longer be described as ‘top-down’ or ‘direct and control’ models. Institutional strategies, however, are not easily mobilized. Strategy preferences on how to mould institutions are formed and reformed by balancing different interests and seeking third solutions. Often they emerge from complex processes and are thus also dependent on the logic of the situation and political judgment as to what is feasible and what is not, and therefore the question of the nature and forms of power in the context of regional development appears to be among the key questions in regional development studies. As Gibney et al (2009, page 5) note, “knowledge-based economic development increasingly implies the adroit integration of economic, political and social life—the facilitation and stewarding of group-based learning and innovation.” They also maintain that the processes of regional development are characterized by interdependency, reciprocity, and the pooling of resources over an extended period of time. As they say, collective action requires “a form of leadership that seeks to generate, renew and sustain the collective learning cycle. It is not time-limited but time-extensive—it is leadership that is able to look beyond the short-termism of performance goals, the ‘statutory’ and the ‘contractual’” (page 9).

There is a need to see leadership in a new light. Even if leadership is often seen as a formally constituted hierarchical power, in a world characterized by interinstitutional overlaps and distributed power, and many conflicting or mutually supporting aims and policies, leadership needs to be reconceptualized and institutional entrepreneurship studies studied with three perspectives in mind: (a) the *process* perspective that informs a study on dynamism of regional innovation systems and secures a temporally conscious approach (see institutional change typology above); (b) the *network* perspective that informs about the social relationships of the actors in and beyond a regional innovation system; and (c) the *governance* perspective that informs about the wider systemic issues framing and moulding both the actual systems and journeys as well as forms of institutional entrepreneurship.

Again, fresh questions emerge: what kind of leadership do institutional entrepreneurs exercise in innovation systems; how do they aim to influence, who are their followers, and how do they interact with other key actors to mould institutions? Next, we take a look at institutions that institutional entrepreneurs aim to change.



#### 4 The concept of institution in innovation studies and beyond

Both the ‘old’ and ‘new’ strands of institutionalism emphasize the importance of institutions in economic activity and draw attention to the ‘evolutionary’ aspects of it (Parto, 2005, page 22). According to Parto, the old institutionalists are generally “commended for drawing attention to the complex and ‘instituted’ nature of the economy but criticized for vagueness on how best to incorporate complexity into economic analysis” (page 22). For their part, according to Parto, the new institutionalists “may be praised for bringing institutions into economic analysis but criticized for remaining largely within the limited bounds of the neoclassical conceptual framework” (page 22). For institutionalists, key to understanding the processes of growth and change are the institutions of the economy, as well as individual preferences. But understanding institutions requires appreciation of complexity, continuity, and evolution in historical time (page 22).

In innovation studies, and knowledge dynamic studies more broadly, institutions are usually defined fairly straightforwardly as rules of the game and organizations are seen as players (eg Edquist, 2005), but, as Hodgson (2006) maintains, an organization can also be, and often is, an institution in itself. Institutions frame the actions and choices of many actors and organizations often carry this kind of role (eg universities in their own countries and regions, and Nokia in Finland). In regional development studies the question usually is why certain institutional arrangements facilitate economic development of regions while others seem to hinder it (Rodríguez-Pose and Storper, 2006, pages 2–3). To answer this question we need to reconsider the fairly clear-cut distinction between institutions and organizations and to appreciate the notoriously complex and context-sensitive nature of the concept. Ultimately, the question is what institutions govern economic development of a specific region in specific times and hence also ‘what is an institution?’ is a context-specific open empirical question.

Of course, different schools of thought define institutions differently. From a sociological viewpoint an institution reflects societal forces (Lecours, 2005, page 8). Sociological institutionalism stresses cultural–cognitive elements while the rational choice institutionalism sees institutions essentially as coordination mechanisms (Hage, 2006; Hollingsworth, 2000) and stresses regulative elements. According to this view, institutions change constantly to compensate for changes in markets (Martin, 2000, page 83). Historical institutionalism, for its part, is complementary to these views as it adds a political dimension to institutional change by putting an emphasis on the normative elements. For historical institutionalists, institutions are systems of economic, social, and political power relations (page 83) that affect the distribution of resources and power between the actors embedded in them (Campbell, 2006, page 507). But, as Campbell notes, institutions are “settlements that are forged through bargaining and struggle” (page 507). In many institutional approaches these branches are seen as exclusionary.

For our purposes, a relatively comprehensive view on institutions that crosses the various schools of thought is needed for future theoretical and empirical studies on institutional entrepreneurship and hence the definition of Morgan (1997, page 493) provides us with a good generic point of departure. According to Morgan, institution refers to recurrent patterns of behaviour (habits, conventions, and routines), and, as Hodgson (2006, page 2) simplifies, institutions are “the kinds of structures that matter most in the social realm: they make up the stuff of social life”. For their part, March and Olsen (2005, page 4) note that institutions are “a relatively enduring collection of rules and organized practices, embedded in structures of meaning and resources that are relatively invariant in the face of turnover of individuals and relatively resilient to the idiosyncratic preferences and expectations of individuals and changing

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external circumstances.” Consequently, language, money, law, systems of weights and measures, table manners, and firms (and other organizations) may all be institutions (Hodgson, 2006, page 2).

In the systems of innovation literature such factors as intellectual property rights laws; other laws; various standards; environment, safety, and ethical regulations; organization-specific rules; industry specialization and structure; governance structure; financial system; structure of research and development (R&D); R&D investment routines; training and competence building system; as well as operational cultural factors (see eg Autio, 1998; Braczyk et al, 1998; Edquist, 2005; 2008; Howells, 1999) are raised as institutions. Consequently, given the nature of the institutions listed as important in innovation literature, changing them requires daunting efforts indeed.

The three-dimensional view on institutions introduced by Scott (2001) compiles different schools of thought in one framework and hence appears as useful for efforts to understand and explain institutional change. According to Scott, institutions are composed of regulative, normative, and cultural–cognitive elements. More or less all scholars underscore the importance of regulative aspects of institutions. The regulative pillar highlights institutions as a constraining force that regularizes behaviour. Here, rule setting, monitoring, rewarding, and sanctioning activities are the ways to attempt to influence future behaviour. The normative pillar includes both values and norms and thus lays emphasis on rules that introduce a prescriptive, evaluative, and obligatory dimension into social life. The normative pillar stresses factors that point towards what is preferred and/or desirable and to standards on which existing structures are based (Scott, 2001, pages 51–54). The cultural–cognitive pillar recognizes that external frameworks shape internal interpretation processes (page 57) and therefore abolished, renewed, and/or totally new institutions change the ways actors see, interpret, and understand themselves, their actions, and positions in wider structures.

## **5 Institutional change: incremental and abrupt, continuous, and discontinuous**

A simultaneous emphasis on dynamism of innovation systems and a need to shape institutions highlight institutional flexibility as an important factor in long-term development of regions. Institutional flexibility, however, is a rather paradoxical concept. As has become evident above, institutions are more often than not seen as sources of stability and order (Scott, 2001, page 181) and not as sources of change and innovation. However, as Harty (2005) points out, this understanding is more theoretical than empirical in nature. Innovation studies have stressed the importance of innovation facilitating institutions and hence such questions as (a) how to promote institutional and organizational change for better innovation systems and (b) how to create, abolish, and change something that is stable and a source of order and a product of emergent properties emerge as crucial. To understand better how institutional entrepreneurs aim to do all this we also need to understand the nature of institutional change. Lundvall et al (2002, page 225) argue that, in innovation system studies, there is a need for deeper understanding of transformation processes at the institutional level. They argue further that the institutions themselves are actually not important as such but the processes of institutionalization are.

The many definitions of institution highlight the fairly shared view of the constraining nature of institutions in the literature. This kind of restrictive perspective in which deviating actions are sanctioned is complemented by the recent literature that also acknowledges the enabling role of institutions (Hage, 2006; Hollingsworth, 2000; Scott, 2007). Here, an institution is interpreted both as an object of changes itself and as a constraining as well as an enabling and incentivizing structure for change (see Soskice, 1999, page 102). Howells (1999, page 78) provides a good point of departure for a

search for answers by noting that the institutional structure for innovation coevolves with actors and new technology, and the interaction between structure and actors is bidirectional.

The basic difficulty in change and development studies usually is that there is an implicit assumption that it is possible to distinguish periods of equilibrium from periods of change. According to Weick and Quinn (1999, page 363), for a long time the basic view on change remained more or less the same. It was based on Lewin's notions of change as a three-phase sequence of events: melt the old, make change, and freeze the new. From this point of view change is seen as a discontinuous period between periods of stability and continuity. More often than not, however, it is stressed that change is the normal state of affairs and stability is just an anomaly (Pettigrew, 1992; Tsoukas and Chia, 2002; Weick and Quinn, 1999). Consequently, in studies focusing on change, a distinction between abrupt, discontinuous, and periodic, on the one hand, and a continuous, incremental, and relatively linear view, on the other hand, is fairly common.

Streeck and Thelen (2005) argue that gradual transformation seems to be the most promising view on change in modern capitalistic societies instead of abrupt change leading to discontinuity (breakdown and replacement). This argument reminds us that not all incremental changes are reactive and adaptive for protection of institutional continuity (reproduction and adaptation). As a result of an accumulation over longer periods of time of subtle, seemingly minor, changes a considerable discontinuity may surface beneath the apparent stability. Streeck and Thelen's argument is in line with Campbell's (2006, page 508) conclusion that even changes that appear dramatic and radical are in practice less revolutionary than they may seem. Gradual transformation, 'creeping change', denies the possibility of an optimum state and highlights constant search as a core in any institutional (organizational) change process and, hence, a punctuated equilibrium kind of change, where radical innovations take place between institutional reproductions, is not a viable option to study change (Streeck and Thelen, 2005) (see table 2). This ontological argument is crucial. Since the optimum cannot be reached there always is a gap between the 'ideal' and the real (pages 8–9).

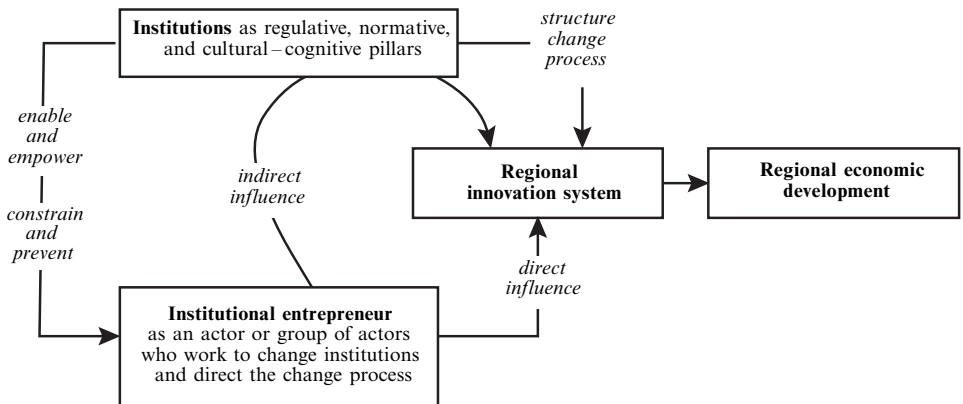
**Table 2.** The four types of institutional change (source: Streeck and Thelen, 2005, page 9).

Process of change	Result of change	
	continuity	discontinuity
Incremental	(A) Reproduction by adaptation	(B) Gradual transformation
Abrupt	(C) Survival and return	(D) Breakdown and replacement

Hall and Thelen (2009) divide the role of agency to institutional change into three main types: (a) reform (institutional change explicitly directed or endorsed by the actors); (b) defection (key actors cease behaving according to the rules and practices prescribed by a preexisting institution); and (c) reinterpretation (the actors learn new ways of thinking and consciously create new interpretations of themselves, rules, as well as practices without abolishing the institution itself). We argue that a good deal of a long process of institutional change can be understood as a coevolution between several institutions and organizations acting on them. Different actors in a region may respond to different pressures but they also need to cope with the moves made by the other influential actors. To understand these kinds of institutional change process we should ask more specifically: how do institutional entrepreneurs deal with change?

What kind of change strategies do they launch? Do they understand and use the power of creeping change or do they use brute force and aim for breakdown and replacement? And, more realistically, what is the combination of change strategies they adopt in specific situations at specific times?

The simplified research agenda behind all the questions raised in the above sections is presented in figure 1.



**Figure 1.** Relationship between an institution, institutional entrepreneurship, and other actors.

## 6 Conclusion: four sets of questions raised

Gertler (2010, page 7) poses a challenging question for all the students of regional development and innovation: “how does one account for and understand the layering of institutions and their multiscalar interaction?” We do not have an exhaustive answer to this challenge but we propose that by following and analyzing the activities of institutional entrepreneurs we might get additional analytical leverage. We endorse Gertler’s view that too-microlevel analyses on regional development would not provide much insight on institutional change. Gertler (page 4) maintains that “the still vogueish adherence to actor-network theory diverted collective attention to the minutiae of everyday practice, as reflected in texts, artefacts, and people.” In the rush to document the seemingly never-ending ways in which actors and networks produce specific outcomes, sight was lost of the larger institutional architectures that shape and constrain individual choices, and that create geographical divides and discontinuities within the global economy: in other words, “too much actor, not enough structure” (page 4). Institutional entrepreneurship might be a way to find a balance between structure and actor.

Indeed, it seems that “one of the most common pitfalls of an institutional approach is the constant temptation to want to ‘read off’ individual behaviour from national (or local) institutional structures” (page 5). Consequently, we propose that there is a need to address contemporary challenges in the field of (regional) innovation studies by analyzing the encounters of institutional entrepreneurs and institutions—that is, the ways in which actors aim to change the very institutions that govern their own activities. The proposition, however, is not to take regional innovation studies towards leader-centric approaches; on the contrary, to study institutional entrepreneurship is to study forces changing the institutions governing regional innovation systems and more broadly regional development. Hence, no causality between actions of a single actor and/or groups of actors and institutional change is predestined in this line of study. At best, institutional entrepreneurship studies are a form of process-oriented inquiry where the role of actors is fleshed out by analyzing the change processes. Consequently, taking

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institutional entrepreneurs as units of analysis might shed light on the key processes of institutional change and this might also lead to practical policy recommendations on how to influence, lead complex processes, and hence to embed the capacity to change strategically in regional innovation systems.

The wider scientific goal here is to contribute to conceptual and methodological development of knowledge-based regional development and innovation studies by taking institutional entrepreneurship under closer investigation. But who are these actors, what do they do with whom to create new institutions and/or to abolish or change the old ones, and why and how? Are they individuals, coalitions, organizations, or what? Being the first take on institutional entrepreneurship in the context of knowledge-based regional development and innovation systems, this paper does not yet answer the questions raised but frames the research agenda and the conceptual tool kit to look for answers to four sets of questions. The *first* set of questions focuses on the question of who they are. To answer this question a methodology is needed that enables a search for institutional entrepreneurs through the course of the process, instead of preselection of leaders according to their formal positions. Institutional entrepreneurship goes beyond the formal positions. There may be actors who mould the institutions without most of us even noticing it, and not all the ‘big cheeses’ can be classified as institutional entrepreneurs. Consequently, the question ‘who are they?’ must be considered as an open empirical question. Additionally, it should not be assumed that individual actors could change institutions alone. Institutional entrepreneurship ought to be studied as a multiactor and multiscalar phenomenon in time. The proposition is that there are always several institutional entrepreneurs who either compete or collaborate. Some of them lose their positions while new ones surface. Another proposition is that in each case institutional entrepreneurship is like a relay, conscious or unconscious, but nobody is in charge from ‘day one’ to the end (if the start and end can even be identified).

The *second* set of questions emerging from the above discussion focuses on the relationship between institutions and institutional entrepreneurs. Indeed, “how can these same people, by an act of will, ever step outside an innate institution and change it”, as Maskell and Malmberg (2007, page 610) put it. Can they actually do it or is institutional entrepreneurship simply an illusion and emergent properties stronger than conscious efforts to mould institutions—how do emergence and intention interact in time? Basically, the second set of questions revolves around the following research questions: (a) how do institutions facilitate and/or hamper regional knowledge-based development (or basically any relevant phenomena), and (b) how do key actors (institutional entrepreneurs) influence the course of events and aim to change the very same institutional setting in which they are embedded? All this leads to the *third* set of questions that on its part revolves around strategies adopted by institutional entrepreneurs and their leadership capacity. How do they aim to do what they aim to do, how do they establish new governance and power systems, how do they deploy the existing systems of power and governance as resources in their endeavours, what kind of power do they have, and how do they exercise influence? Additionally, more research is needed to establish in what kind of local and regional contexts institutional entrepreneurship is possible, and whether there are such local/regional operational cultures that suppress this kind of entrepreneurship and make it impossible to surface. Consequently, the *fourth* set of questions deals with the soil in which institutional entrepreneurs emerge, operate, and learn their skill.

Ultimately, to repeat and conclude, the aim of taking institutional entrepreneurship under close scrutiny is to add analytical leverage to endogenous development processes and find a fresh lens that enables studies operating in between macro and micro issues to have an intensive analytical microlevel lens—by looking close, one may see far.

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