

# THE SOCIAL DYNAMICS OF INNOVATION NETWORKS



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THE GLOBAL FORUM FOR CITY  
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DEVELOPMENT AND POLICY

— REGIONS AND CITIES —

EDITED BY ROEL RUTTEN, PAUL BENNEWORTH,  
DESSY IRAWATI AND FRANS BOEKEMA

# The Social Dynamics of Innovation Networks

*The Social Dynamics of Innovation Networks* captures the important role of trust, social capital, institutions and norms and values in the creation of knowledge in innovation networks. In doing so, this book connects to a long-standing debate on the socio-spatial context of innovation in economic geography, which is usually referred to as the Territorial Innovation Models (TIMs) literature.

This present volume breaks with the TIMs literature in several important ways. In the first place, this book emphasizes the role of individual agency because individuals and their networks are increasingly recognized as the principal agents of knowledge creation. Second, this volume looks at space as a continuous field of opportunity rather than as bounded territory with a set of endowments, such as knowledge base and social capital. Although individually these elements are not new to the TIMs literature, it has thus far failed to grasp their critical implication for studying the social dynamics of innovation networks.

The approach to the socio-spatial context of innovation in this volume is summarized as Knowledge Economy 2.0. It emphasizes that human creativity is now the main source of economic value and that human creativity and knowledge creation is not an organized process within organizations, but happens bottom-up in formal and informal professional and social networks of individuals that cut across multiple organizations.

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# **The Social Dynamics of Innovation Networks**

**Edited by  
Roel Rutten, Paul Benneworth,  
Dessy Irawati and Frans Boekema**



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**To: Jules van Dijk; Leanne and Theodore Hendrick; Dessy's Indonesian and Dutch family, and also Joanna Berry and David Charles; and the whole Social Dynamics of Innovation Networks community**

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# Acknowledgments

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# Preface

This book began, as we suspect many do, with a very convivial discussion in a café. The occasion for the meeting was rather functional – to think about where to go following the completion of a previous book project. The problem was the fact that the book, *The Learning Region: foundations, state of the art, future* hoped to be the last word on the Learning Region concept. That volume had been published in 2007 and launched at a conference where three authors of this volume were present. Some papers from that event had been selected for a special issue of *Regional Studies* and, as those papers were progressing through the review process, more and more questions were emerging about whether there was anything more to say. The criticisms of and the limitations to the whole Learning Region concept were becoming clearer, and it was starting to seem that it would be more fruitful to respond to these increasingly vocal critics by completely rethinking what we were doing, rather than just attempting another iteration of a 15-year-old.

So there we were, sat in Café Langeboom on a sunny June day in Tilburg with the metaphorical blank piece of paper, trying to work out what we were really interested in in studying territorial innovation processes. What suddenly struck us was how the team had evolved in the preceding three years. Whilst the *Learning Region* was the brainchild of Roel and Frans, there were suddenly two new faces around the table. And how to explain the strange set of events had brought us to be sitting there? Paul had participated in the launch event for the previous book, knowing Roel and Frans from the Regional Studies Association, and in particular from the RSA London conference. And it had been the RSA that had brought Roel and Dessy together as an international couple, through a Research Network event held at Nijmegen. Dessy had only been at that event at Paul's recommendation, as they were then colleagues at Newcastle University Business School.

Then it struck us – what had brought us all together as an international team sitting together in the gentle Brabant summer sun was a series of social networks that were international, but also highly local. We knew the same places in Newcastle, where the team would come together again the following year for the completion of the nuptials. At the same time, we had also met because we circulated in the 'global' network space of the RSA. Dessy had come from Indonesia



to study at Newcastle University and yet over the course of a decade would put down deep roots that persist even to this day and entwine in that great city. Paul had moved from Newcastle to the University of Twente, Enschede in the Netherlands, where he had built up his own social circles over five years of research into high-technology firms in the Twente region. Paul had dovetailed a study trip in Enschede, with the Learning Region conference in 2007 giving him the entry into the 'inner circle'.

Reflecting on those stories, we couldn't help but be struck that this spoke to many of the criticisms of the Learning Region concept, in particular the 'spatial envelope' that placed everything about a person in a region. Our meeting was taking place in Tilburg, as would many subsequent ones, but we all borrowed and brought in experiences, knowledge and contacts from our other regions to create a new idea. Innovation is 1 per cent inspiration and 99 per cent perspiration, and so that first meeting was the start of a lengthy and tiring journey to this point. The end point of the journey would prove to be writing the final words of this book, which will be the first to be read, sitting in the Culture Café at Radboud University, Nijmegen, the site of Roel and Dessy's fateful meeting, one of our later workshops and home as institution or city to a number of authors of this volume.

That work has taken us to workshops and conference sessions in Newcastle, Nijmegen, Delft, Aachen, Glasgow and Tampere, and we hope in the near future to Heerlen. Our journey has connected together a community of 50 scholars from a range of countries, embedded within the wider 'global' Regional Studies Association framework, alongside individuals' local environments and national disciplinary traditions. Christian, Hugues and Olivier coin the phrase multi-local valuation milieu to describe their vision on how local and global communities come together in particular places to innovate. This book certainly draws on a wider set of multi-local networks, and we sincerely hope that in these pages you will find a value in what we have done.

This journey has been the effort of a team beyond those who have contributed chapters. We have run our own events at Nijmegen, Aachen and Glasgow, with institutions, departments and individuals too numerous to mention working beyond the call of duty to create inspiring venues for engaging and entertaining discussions. Many thanks are due to the RSA for allowing us to run workshops within their European conferences, publishing the call for papers, and for managing a book series within which we are honoured to appear. Many thanks to the participants and discussants at the various events we have run, for contributing their own thoughts selflessly to the discussion and helping us to better refine and capture our central themes and messages. And a special thanks for our publishers, Rob Langham and Natalie Tomlinson at Routledge for the professional, efficient but above all enthusiastic way that they have supported us along the way.

At some point, a multi-local team loses its collective voice and wants the opportunity to pay that local, personal thanks. Roel wishes to thank all those who inspired him, in particular at this point his mentor and friend Professor Jules van Dijk, who passed away 3 October 2013. The one thing that gave Paul the inner

peace to write was when he could stop being an international family and was reunited with his beloved Leanne and Theo in Enschede. Dessy wishes to thank her Indonesian and her Dutch family as well as Joanna Berry and David Charles for their love and support in the past 12 years. Frans, the real senior in the team, was inspired from the very beginning by the rest due to their working power, humour, creativity and ambition: this book was another very fruitful learning experience in knowledge sharing. And it is to these personal supporters, without whom this book would not have happened in one way or another, that we dedicate this volume.

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**Part I**

# **Introduction**

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# 1 The social dynamics of innovation networks

## From learning region to learning in socio-spatial context

*Paul Benneworth, Dessy Irawati, Roel Rutten and Frans Boekema*

### Introduction

One of the persistent conundrums of regional studies is the relationship between innovation and space, critical given the centrality of innovation to contemporary economic growth and social well-being. A realization that ‘space matters’ has led to the development of a rash of ‘territorial innovation models’ (TIMs) drawn from a wider range of disciplinary backgrounds seeking to understand why some places become specialized in innovation in particular technical or economic sectors (Moulaert and Sekia 2003; Legendijk 2006; Spencer *et al.* 2010). However, at the same time there is a realization that a focus on the ‘region’ as a site of innovation risks missing the important global networks that shape the evolutionary trajectories of those regions (Cooke 2005; Yeung 2009). These two arguments are held in balance by a realization that although not all innovation is determined in regions and other territorial constructions, still matter (Morgan 2004). And yet the constructive use of these theories is still hampered by the fact that they are vulnerable to valid critique for their regional framing and boundedness (Hassink 2007).

This volume seeks to get beyond this dilemma and provide fresh insights into arguably one of the greatest challenges for scholars of regional studies: to better understand the dynamics of places in the knowledge economy. The volume draws together a coherent set of contributions from a range of national and disciplinary backgrounds to critically interrogate this idea and provide a better understanding of the territorial embeddedness of the social dynamics of innovation networks. The emphasis is rooted in understandings of innovation as more than a purely mechanical economic set of transactions, but as a social process with unpredictable spillovers and externalities (Legendijk 2007). Current research has focused on this issue, but with a primary emphasis on looking at the interplay between corporate cultures (as organizations where innovations take place) and regional cultures (Clifton *et al.* 2011). The effect has been to create a problem of over-embeddedness and determinism in analyses by assuming that there is a simple and functional relationship between regional and economic development needs (Keating *et al.* 2003; Oosterlynck 2007).

At the same time, we note that it no longer makes sense to assume that innovation takes place in regions, or takes place exclusively within companies (Shearmur

2011). Whilst companies are positioned by which innovation can be tracked, innovation as a creative process draws upon knowledge from a range of provenances, from clearly owned corporate intellectual property through to the intangible knowledge assets of Marshall's 'something in the air'. It is not just the region, but also the nature of the corporation, and the very nature of innovation that has been changed by liberalization, globalization and digitalization of contemporary cultures. And yet TIMs remain rooted in these Fordist, Mode-1 conceptions of the firm and innovation. It is this weakness that this volume seeks explicitly to address, by focusing explicitly on the social dynamics of those innovation networks freed from being bounded by particular framing constructs such as firms, regions and institutions. At the same time, we remain mindful of the risks of talking in general terms about a disciplinarily eclectic group of models (Martin and Sunley 2003; Lagendijk 2003; Benneworth and Henry 2004).

In order to resolve this issue, we focus our attention on one particular territorial innovation model: the Learning Region (Rutten and Boekema 2007). The Learning Region has been chosen because it exemplifies our dilemma. As a theory, it has achieved popularity and critique – popularity for capturing something that clearly matters, but at the same time critique for focusing on institutions in regions rather than learning processes concentrated in particular localities. We argue that the Learning Region model should deconstruct its categories in recognition of these wider changes in the nature of the economic salience of learning. We, in turn, propose a framework to explore learning in socio-spatial contexts, characterized by three key categories:

- **Places** where people carry out both social and economic activities;
- **Networks** by which people both access resources and exist as social creatures; and
- **Communities** where people make their lives and attack instrumental goals.

This volume sets out in detail a model for learning in socio-spatial contexts using these three categories in order to make a case for how the TIM family more generally could resolve its core problems. The volume is structured around three sections, each of which presents a range of chapters from leading scholars in the field of territorial innovation models, which seek to reframe and redefine these categories. In addition to this, there are introductory and analytic sections that seek to establish the nature of the critique and the changing world, alongside presenting a more comprehensive model for learning in socio-spatial contexts, and a reflection on rethinking territorial innovation models more generally. The remainder of this introduction provides more detail about the critique and the new conceptual framework in order to explain the logic behind the volume's structure.

### **The Learning Region as a TIM in the Knowledge Economy 1.0**

The Learning Region is one of the TIMs seeking to explain why some regions are more conducive places for learning and innovation than others. The concept of

the Learning Region emerged in the early 1990s as the latest member of the TIM family, which also includes the innovative milieu, regional innovation systems and industrial districts (Moulaert and Sekia 2003). The Learning Region benefited from a growing theoretical understanding of the changing nature of the economy from a post-Fordist industrial economy to a knowledge economy. It connects two quite distinct literatures – networks and innovation – as well as economic geography in an effort to focus on the process of learning and innovation as a driver of regional competitiveness and economic development. Despite its early promise, the Learning Region endured the same problems as the TIM perspective in general, namely lacking a capacity to satisfactorily explain what makes regions into conducive environments for learning and innovation. This volume is rooted in proposing key reasons of this failure, offering a diagnosis of the problem and developing an alternative conceptual approach to understanding the relationship between space and learning.

The Learning Region, like the TIM literature in general, has a strong intraregional focus based on the assumption that regional conditions and path dependent development shape regions' economic fortunes. In the context of the Learning Region theory, the intraregional focus produced the hypothesis that it was regionally embedded knowledge that drove learning and innovation in networks of regional firms. That raised the possibility that regions could develop their own unique knowledge and innovations, in order to distinguish themselves from other regions, and drive regional competitiveness and economic development. The Learning Region approach, more than other TIMs, was focused on regional renewal, a process primarily salient to experiences of knowledge-based regional economic development in old industrial regions, which saw their competitiveness undermined by low-cost competition from Central and Eastern Europe and Asia Pacific, and the newly industrializing regions and Asian Tigers of the early 1990s.

Regional renewal aimed to deliver its promise of knowledge-based regional development by encouraging learning and innovation in regional networks based on regionally embedded knowledge, thereby creating knowledge and innovations unique to those places, which could not easily be exploited or copied in other lower-cost locations. Important to the idea of the Learning Region was its explanation for regional differences in this capacity for indigenous knowledge-based economic development, dependent on regional variations in the quantity and quality of firms but also in different regional cultures. More open and involving cultures were argued to be more conducive for learning and innovation than traditional cultures, with high levels of regional social capital argued to encourage the flow of knowledge among actors. In short, the notion of the Learning Region proposed a framework whereby regions could manage their internal connections, identify potential unique globally valuable knowledges and create local value chains around those knowledges, thereby creating sustainable regional advantage.

In terms of theory and economic development, the Learning Region can appear to be increasingly simplistic, and whilst it is easy to criticize the position of the