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Conceptual Article

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Lange and Tomenendal

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The Regional Entrepreneurial Transformation Process—A Mid-Level Framework for Describing and Fostering Socioeconomic Changes

Hans Rüdiger Lange^{1*}, Matthias Tomenendal²

¹Innovationsregion Lausitz GmbH, Hubertstraße 24, 03044 Cottbus, Germany.

²Berlin School of Economics and Law, Badensche Straße 52, 10825 Berlin, Germany.

*Correspondence: lange@innovationsregionlausitz.de

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Abstract

This paper presents a conceptual framework for the socioeconomic transition of regions. It was developed in and for the region of Lusatia, which faces the challenge of becoming more entrepreneurial in order to maintain and regain economic strength. Based on theories of entrepreneurial ecosystems and structuration as well as on extensive practical experience, a mid-level framework for describing and fostering regional change is derived.

Keywords: Regional entrepreneurial transformation; Socioeconomic change; Entrepreneurial ecosystem; Mid-level framework.

1. INTRODUCTION: DISRUPTIVE CHANGE IN ELECTRICITY GENERATION AS A SOCIOECONOMIC CHALLENGE

1.1. Problem and Goal

Fossil energy sources have always been dominating energy and electricity production worldwide. Thus, the regions with natural resources that could be deployed for fossil energy and electricity production, such as the Western German Ruhr Area or the Eastern German Lusatia Area, have prospered. Here, integrated value networks have developed, from the exploitation of coal mines, the operation of large-scale power plants, to all kinds of services for the thousands of employees in the regional energy sector. The exhaustion of deposits, the availability of cheaper fossils on international markets as well as alternative sources of power has led to structural challenges in many regions over the last decades. More recently, global initiatives against climate change and for restricting global warming have given rise to a new, particular disruptive challenge: How do we ensure that the exit from CO₂-intense energy production does not leave behind large defavored regions and entire strands of society that have prospered in the past as described above? It seems that the past and present measures to support socioeconomic changes in the traditional rust belt and coal regions toward an ecologically sustainable economy have at least proven to be insufficient. Therefore, the development of technological innovations and regional socioeconomic instruments has to be accelerated. From our point of view, the requirement is a new, effective approach to regional economic transformation with a focus on strengthening entrepreneurial thinking and acting.

This paper presents a conceptual framework to tackle this challenge, which is inspired by the powerful growth methodology at work in other segments of the world economy. Mankind has seen new regional economies emerge within decades (China, Ireland, Eastern Europe), businesses of global reach rising in half a life-span (the Unicorns). Intertwined with these transformations, a set of instruments, practices, and theories have evolved, which describe and explain the phenomena enabling this speed of change and adaptation. So far, these approaches focus to a large extent on individuals, business organizations, and regional innovation networks in the context of new technologies and start-up environments. Our paper focuses on the opposite end of the life cycle of a regional economy—a mining and heavy industry area in Eastern Germany, a former socialistic economy that is facing the politically driven shut down of lignite power plants and mines in order to achieve national climate targets according to the Paris Climate Agreement. This is the region of Lausitz (Lusatia). The central question is “How can we manage socioeconomic changes in such a given regional community?”

Our paper explores answers to this question at the crossroads of two complementary perspectives: a conceptual and a practical, rather experimental, one. The practical perspective draws on observations made at the Lausitz Lab, a regional initiative of firms that have set up an accelerator type of organization intended to diversify businesses and to develop coordinated efforts into new regional developments. The theoretical perspective is a blend of theories on entrepreneurial ecosystems and socio-technological transitions, which correspond to the structuration of organizational settings. Socio-technical transitions, defined as alterations in the overall configuration of transport, energy, and agri-food systems, which entail technology, policy, markets, consumer practices, infrastructure, cultural meaning, and scientific knowledge (e.g., Geels, 2011: 24), have already successfully been studied from a multilevel perspective (MLP, Smith *et al.*, 2010). According to the MLP, socio-technical systems are composed of three levels of structures and activities, called niches, regimes, and landscapes. The idea of the MLP is analogous to Giddens' (1984) concepts of reflexive agency and structure (Smith *et al.*, 2010), which indicate that structures determine actions and are simultaneously the result of a continuous flow of activities.

In the context of the socio-technical transition of the region of Lusatia, a combination of the MLP with the framework of an entrepreneurial ecosystem (EE) appears promising. The latter describes the role of entrepreneurs and their surroundings in regional development and focuses on the question how regional contexts affect ambitious entrepreneurship (Stam, 2014; Stam and Spigel, 2016). An EE is defined as "a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory" (Stam and Spigel, 2016: 1). In line with Smith *et al.*'s (2010) call for a combination and dialogue of the MLP with other disciplines, we aim to fill this research gap by combining the MLP with the EE approach. Our research goal is to develop an MLP model for the entrepreneurial development of regions such as Lusatia, where a practical need for structural measures to support the socio-technical transition exists. A more detailed review of the respective theories will be provided in Section 2.

1.2. Methodology

We deploy a participatory case-study approach according to Baskerville (1997) with an instrumental character according to Stake (2000). First, this indicates that we study a case in order to answer our research question that is formulated in a "how to" manner, in an explorative and descriptive way (Yin, 2003: 5). Second, our case study of the Lusatia Region is instrumental in building a conceptual framework for the regional entrepreneurial transformation process in order to generate practically applicable know-how that is transferable to other regions so that the single case of Lusatia is not the sole focus of the research (Stake, 1995). Third, as the data for our case study has been derived from participatory observation of one of the authors, Hans Rüdiger Lange, who, as the managing director of Innovationsregion Lausitz GmbH is one of the central agents in the regional entrepreneurial transformation process, our method can be called a participatory case study at the edge of action research. Although Mr. Lange practically intervened as an actor during the research process, we have not iterated the conceptual model design in a systematically documented way, but rather implicitly. This somewhat diminishes the theoretical rigor of our approach (Baskerville, 1997). However, the case study still remains instrumental within the interpretative research paradigm.

1.3. Structure

The remainder of the paper is structured as follows: In the second section, we review theories on EE, socio-technical transitions according to the MLP, and the main idea of structuration theory. We combine the essential ideas of these theories to form the basis of a model for regional entrepreneurial transformations. In the third section, we build on this basis and develop the regional entrepreneurial transformation process (RETP), derived from experiential activities in the Lusatia region. The fourth section contains a conclusive summary of our contribution.

2. THEORY: MID-LEVEL FRAMEWORKS TO EXPLAIN SOCIOECONOMIC CHANGES

In this section, we will present theoretical considerations on entrepreneurial ecosystems and socio-technological transitions, analogous to the structuration of organizational settings.

2.1. Entrepreneurial Ecosystems

An EE is a fruitful habitat for new ventures consisting of stakeholders such as firms, the government, supporting industries, universities, mentors, investors, and the media (Feld, 2012). Different frameworks for the development and the operation of entrepreneurial ecosystems were developed. A seminal framework in this context has been presented by Isenberg (2011)—the “Domains of the Entrepreneurial Ecosystem.” The six domains proposed by Isenberg are as follows: enabling policy and leadership, availability of appropriate financial support, a conducive culture, quality of human capital, a range of institutional supports, and venture friendly markets for products. Although Isenberg’s framework appears rather comprehensive, it is lacking a dynamic view on the development of EEs. Thus, particularly for regions with a traditional, yet fading industrial background, a transformative view toward the direction of an EE could be helpful. In this context, the multilevel perspective can serve as a valuable complementing view.

2.2. Multilevel Perspective

According to the MLP socioeconomic transitions are regarded as nonlinear processes along three inter-related dimensions: socio-technical systems that are the tangible elements required to fulfill societal functions, social groups who maintain and refine the elements of socio-technical systems, and rules (understood as regimes) that guide and provide orientation to activities of social groups (Geels and Kemp, 2007). The MLP enhances this view and highlights three functional levels—“niche,” “regime,” and “landscape”—with increasing coordination of activities, ranging from individual technologies and grassroots movements to large-scale social structures and institutions (Nykvist and Whitmarsh, 2008). Niches can be observed as a micro-level phenomenon, interacting with the established regimes at the meso-level, within a landscape at the macro-level (Geels and Kemp, 2007).

Central to the MLP is the socio-technical regime at the meso-level (Geels and Kemp, 2007). Regimes are described as structures that are constituted from a co-evolutionary accumulation and alignment of knowledge, investments, objects, infrastructures, values, and norms that span the production-consumption divide (Smith *et al.*, 2010). The regime forms the “deep structure” that is accountable for the stability of an existing socio-technical system (Geels, 2004). As the rules, structures, and culture are manifest in slowly changing regulation, prevailing norms, and worldviews, and since practices chiefly draw on existing competencies and past investment, system innovation or substantial change is restricted (Nykvist and Whitmarsh, 2008). Regimes constitute the mainstream, and highly institutionalized, way of currently realizing societal functions in a way that change within the regimes tends to be incremental and path dependent (Smith *et al.*, 2010). Regime rules can be observed as both medium and outcome of action, analogous to the model of the “duality of structure” by Giddens (1984).

2.3. Structuration Theory

Giddens’ theory describes a firm as a definite social system comprised of the entity of relations among its employees (agents) and, respectively, their permanent interaction. As soon as the agents repeat acting in a specific way shaped by internal rules, interaction becomes an organization-specific practice. By applying the rules again and again, they become enduring. However, as soon as sufficient agents deviate from such a rule, there are changes in the rules. Giddens calls these sets of rules “structures” and the process of reproduction and change by interaction “duality of structure.” The term duality originates from the idea that on the one hand structure impacts social practices and on the other hand social practices impact structure. This permanent process gives the social system continuity in space and time. For the described process, Giddens uses the term “structuration.” In Giddens’ view, there are three dimensions of the “duality of structures,” which are “signification,” “legitimation,” and “domination.” These dimensions encompass the central elements of an organizational and possibly regional internal set-up (Tomenendal/Lange 2014) in a comprehensive way.

According to Giddens, each dimension has its specific sets of rules (modalities): Signification requires interpretative schemes, domination requires facilities, and legitimation requires norms. In the dimension of signification, interpretative schemes are necessary in order to communicate with each other (Schallnus, 2006: 55). As soon as agents refer to those schemes in their verbal and nonverbal communication, they materialize and reproduce themselves. The dimension of legitimation comprises concrete ways of acting. This activity has to follow distinct sets of norms and these norms result from the legitimate structure of a

social system. The dimension of domination describes the field of power within the system. Here, the question is “Who owns the allocative power to direct resources?” The execution of power is described by the system’s inherent hierarchy.

2.4. Integration of Different Theories

With regard to EE, understood as a manifestation of the meso-level of the MLP, actors enact, instantiate, and draw upon rules in concrete actions in local practices on the one hand; whereas, on the other hand, rules configure these actors as well (Geels, 2011). Movements within the regime open windows of opportunity for niche alternatives to compete for attention and influence. Sources for these dynamics derive from partially autonomous developments within regime components, such as firm R&D or government regulations, which generate misalignments and realignments and incremental responses as well as responses to landscape developments, or through interaction with other associated regimes (Smith *et al.*, 2010). System innovations emerge from the interplay between processes at different levels in different phases. Smith *et al.* (2010) call for a dialogue of the MLP with other research disciplines. In this context, we propose the consideration of the entrepreneurial ecosystems approach at the socio-technical regime layer of the MLP. This means that we conceptually integrate Isenberg’s (2011) domains of the entrepreneurial ecosystems model into the MLP model (Geels, 2011) at the meso-level.

3. PRACTICAL CONCEPT: THE REGIONAL ENTREPRENEURIAL TRANSFORMATION PROCESS

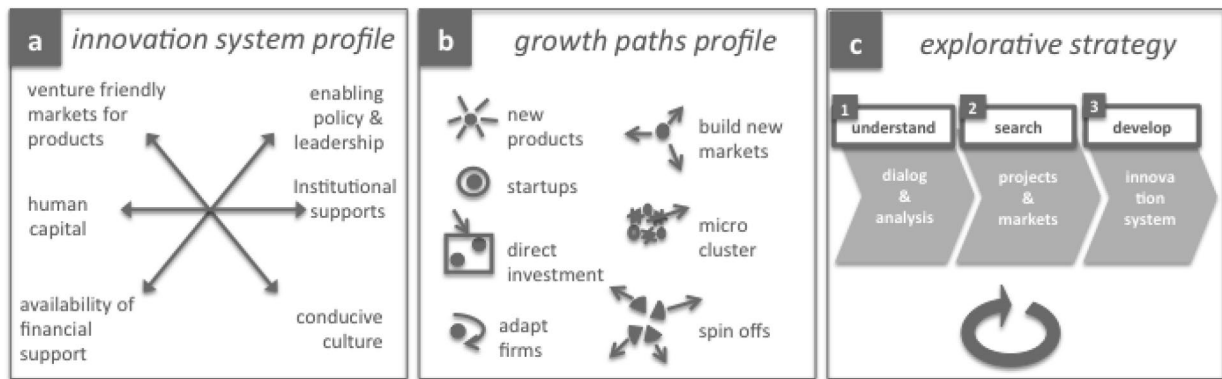
In 2015, the German government decided to shut down 2.7 GW of lignite power plants, 1 GW thereof in Lusatia. In 2018 and 2019, this will make approximately 1,000 jobs redundant. As a reaction to this development, Innovationsregion Lausitz GmbH (iRL) was founded on January 18, 2016 by business associations and higher education institutions of Lusatia with the purpose to (i) formulate a regional strategy to cope with the challenge of decarbonization of the lignite mining region, (ii) help affected businesses to adapt through workshops, and (iii) identify and foster growth projects. The team assigned to this task has set up the Lausitz Lab as an incubator and accelerator for new ideas and developed a strategy and implementation practices which were labeled RETP. Moreover, the resulting practices were labeled RETP. It is an approach that is centered on the regional players (“Akteurszentrierter Strukturwandel”) and builds on the theoretical frameworks discussed above in the second section of this paper.

3.1. Conceptual Framework for RETP

The rationale of the Lausitz Lab is that the crisis of the lignite sector offers the chance to mobilize the region for a modernization of the regional entrepreneurship culture and to build an entrepreneurial innovation system which is adapted to small and medium-sized enterprises. On the business side, such an initiative should strengthen the existing base of SMEs that have emerged in the last two decades from German reunification restructuring programs in the 1990s and provide them a thrust to diversify and further their organizational development in the areas of product and business model innovation. This endeavor can depart from a solid technology and industry level (i.e., mechanical and process engineering, energy systems management, industry automatization, industrial maintenance processes, etc.). From an innovation-system point of view, the Lausitz Lab is intended to function as a change agent and accelerator for the transition from the current, predominantly autarkic model toward a more SME-centered model. Mastering such a socioeconomic transition extends well beyond mere business issues. It implies a reorientation of institutions (e.g., reforms at the regional universities) as well as organizations of the civil society (e.g., industry associations). The socioeconomic transition triggers profound reevaluations as innovation requires economical and civil entrepreneurship. These are role models that were at least rare if not suppressed in the autarkic industry structures and the political system in the General Democratic Republic (GDR) for many decades. Although this historical background does not simplify the task, the challenge to modernize Lusatia in face of the Paris Climate Agreement offers the opportunity for a renewal of the entrepreneurship culture and tradition of the region.

The RETP methodology develops a region-specific approach along the following conceptual pillars (see Figure 1): (a) innovation system profile, (b) growth paths profile, and (c) explorative strategy of iterative

Figure 1. Three Pillars of the RETP Methodology (Source: Own illustration).

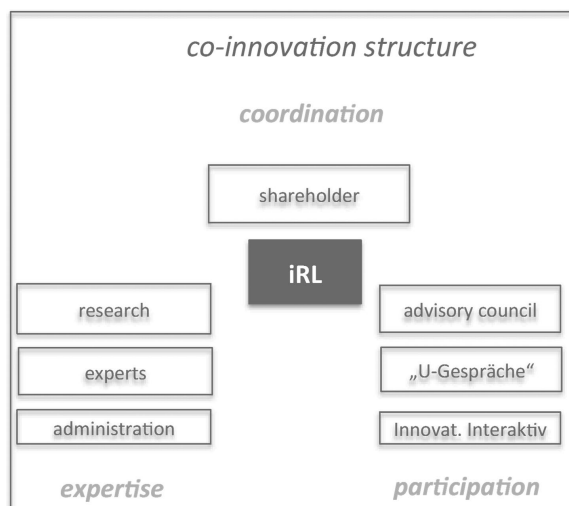


discovery and transformation to develop future regional competitive advantage. All of these three pillars are linked through a systemic understanding of this socioeconomic transformation process. They largely follow Giddens’ three dimensions of structuration.

- (a) *Innovation system profile.* An innovation system understood as an EE according to Isenberg consists of all supportive agents, infrastructure, and value dispositions of a region that contribute in a concerted manner to regional innovation processes. Such a system is a characteristic of a given region and a given situation. It corresponds to the “domination” dimension of structuration. The current system has to be understood deeply and considered as a starting point for the RETP toward a truly innovative system. The inception, design, and construction of a future innovation system are then the central aspects of the RETP.
- (b) *Growth paths profile.* Economic growth in a region can arise from a large spectrum of firm evolutions—start-ups, SME-development, spin-offs of existing corporations, direct investment, and location of foreign firms. These different processes may occur in parallel. However, certain regions and certain conjectures favor certain paths of growth in a given region at a given point of time. In this sense, the paths correspond to the “signification” dimension of the duality of structures. It is important to consider the regional profile and specific political-economic context and to adapt and focus the RETP accordingly.
- (c) *Iterative explorative strategy formulation.* As this type of socioeconomic transitions starts with a crisis in the existing regional economic system, only the down cycle is evident at the starting point whereas substitute future regional specializations are unknown. The regional innovation system therefore requires a strategy process that is able to drive a quest for emerging opportunities and regional self-organization. There should be a justification—a “legitimization” according to structuration theory—to become engaged with the exploration and creation of growth opportunities. The state of self-organization is hence a third characteristic of any given region—ranging from central planning toward the absence of economic policy organization. The RETP provides a three-step iterative strategy process. The “understand” step combines top-down analytic elements with bottom-up awareness and participative elements of dialog. The “search” step comprises activities of specialized, professional exploration of identified options and subsequent consolidation of insights with respect to project performance and market insights. The “develop” step translates these insights into a coordination and development into the regional innovation system—such as micro-clusters and strategic initiatives in order to strengthen cooperation and infrastructure.

3.2. Implementation of RETP in the Lausitz Lab

The Lausitz Lab is a co-innovation structure in the region of Lusatia (see Figure 2). Next to several business associations and the local university, the governing board comprises the representatives of the regional states of Saxony and Brandenburg as well as delegates from counties and city councils. The advisory council

Figure 2. Stakeholders of iRL and the Lausitz Lab (Source: Own illustration).

anchors the governance of the Lausitz Lab even deeper in the regional civil society as it comprises 12 members ranging from NGOs, church, and trade union representatives as well as top managers of major firms in the area. It embraces opponents on both sides of central socioeconomic conflict lines, such as employers-employees (management and trade unions) as well as pro-coal and anti-coal movements (associations “Pro Braunkohle e.V.” as well as “Windenergieverband”).

A cooperative structure is further enhanced by the implementation of panels and regular committees linking the Lausitz Lab with different types of expertise in various arenas such as academia, administration, corporations, SMEs, and craftsmen and ensures a multi-perspective view on the strategy process. The different arenas are as follows:

- *Political arena*: A “new DNA of cooperation” is created by the inclusion of opposing interest groups in the advisory council and the association of both regional governments with the supervisory board. The sessions are regularly organized as workshops, where participants work in teams on issues emerging in the Lausitz Lab.
- *Research arena*: “Quo Vadis”—a workshop format to bring together regional change managers and researchers in order to blend insights from grass-root action with critical reflection
- *Business arena*: “Unternehmergeneration 2025” (network of young potential entrepreneurs in the region) and “Unternehmergespräche” (bringing experienced entrepreneurs together with “Unternehmergeneration 2025” to exchange experience in a format of storytelling)
- *Civil society arena*: “Innovation Interaktiv”—a full day format addressing pupils and local groups to provide the opportunity to experience entrepreneurship in role plays and discussions with entrepreneurs

The core processes running in Lausitz Lab are strategy, growth projects, and general change management. In the following subsections, the practical approach according to the three pillars of the conceptual framework introduced above will be presented. The practical approach is subdivided into the top-down analysis (as a start of the iterative explorative strategy formulation), the innovation system profile analysis, the bottom-up search for growth opportunities (as a continuation of the iterative explorative strategy formulation), and the development of a growth path profile.

3.2.1. Iterative Explorative Strategy Formulation: Top-Down Analysis of Current Situation

The first year of operation of the iRL has been dedicated to the economic analysis, the dialog with firms and benchmark with other regions in transition in order to gain an understanding of the specificities of

an effective regional strategy to cope with the decarbonization challenge. The four key conclusions of this analysis were as follows:

1. *Lusatia is an industrialized, peripheral region framed by the cities of Berlin, Leipzig, Dresden, and Wrocław:* At present, lignite mining, electricity generation, chemical industry, and various manufacturing activities are at the core of the value creation. Comparatively, high value creation and wages in the energy and chemical industry are the source of prosperity.
2. *Lusatia is fragmented on the political-institutional level:* It is divided both by an international (Polish-German) and by a relatively recent (1990) German interstate border (states of Sachsen and Brandenburg). Subsequently, the formation of a single economical-political center of action is at least complicated if not unrealistic.
3. *Lusatia is still characterized by a void of strategic corporate centers capable of driving regional development from the business side:* Centralization and nationalization in times of the GDR as well as the privatization focus on a subunit level in the 1990s have left the region deprived of robust, strategically integrated, typical German “Mittelstand” firms. Most local firms are fairly young (<25 years) and rather small (10-150 employees).
4. *Persisting bleach-out of entrepreneurial tacit knowledge, practice, milieus, and networks after 40 years of socialism:* Although the 1990s produced a sprawl of courageous entrepreneurs, the depth and breadth of entrepreneurial experience in the region is still thin. Forty years of systematic expulsion of firm owners, eradication of ownership in civil society, and stigmatization of the entrepreneur and capitalist in education and culture have left a void that is only partially recovered by the entrepreneurs of the 1990s.

These four key findings have led to the conviction that the required entrepreneurial renewal should be developed and orchestrated through a pre-dominantly bottom-up, highly cooperative, and challenge-driven approach from within the region.

3.2.2. Innovation System Profile

According to Michael Porter “(c)ompetitive advantage is created and sustained through a highly localized process. Differences in national economic structures, values, cultures, institutions, and histories contribute profoundly to competitive success. The role of the home nation seems to be as strong as or stronger than ever. While globalization of competition might appear to make the nation less important, instead it seems to make it more so. With fewer impediments to trade to shelter uncompetitive domestic firms and subsidies, the home nation takes on growing significance because it is the source of the skills and technology that underpin competitive advantage” (1990: 19). In Lusatia such a highly localized process and system has been developed over decades for the energy sector—and experiences another socioeconomic transformation now. In order to capture the phenomenon outlined by Porter in a systematic manner, this article uses Isenberg’s domains of the EE to characterize the regional innovation system of Lusatia at three separate points of time: the late GDR time (around 1980), the post reunification situation around 1995, and the now arising situation of structural change driven by climate and decarbonization strategies (see Table 1). Moreover, Isenberg’s approach allows to shed light on industrial policies over the different dimensions of this concept.

3.2.3. Iterative Explorative Strategy Formulation: Bottom-Up Search for Growth Opportunities

The Lausitz Lab has set up a collective search process for growth options in Lusatia. The central instrument for this process is a portfolio of growth projects. To qualify for support, a growth project should fulfill three requirements: (1) an entrepreneur pursuing a measure that leads to (2) growth in the form of additional employment or turnover within (3) the next 5 years. The first precondition ensures that opportunities are grounded in businesses in the region—companies from beyond are welcome and matched with local partners if necessary. The second precondition provides a focus on growth opportunities—if possible for markets outside of the region. The short time horizon corresponds to the speed of decarbonization and focuses on close-to-market projects. These projects are described, analyzed, and further developed jointly by the Lausitz Lab and the firms. In the portfolio, the Lausitz Lab uses a performance indicator system in order to steer the support allocation and priorities of projects.

Table 1. Innovation System Profile of Lusatia (Source: Own analysis).

| Domain | GDR economic system (around 1980) | Post reunification economic system (around 1995) | Emerging entrepreneurial system (now, around 2017) |
|---|--|--|--|
| Enabling policy and leadership | Lusatia is reorganized after 1945 into the “energy district,” which combines mining-related counties. | Post-unification restructuring shuts down old power plants and modernizes a core of energy business via the VEAG company; headquarters are relocated from Berlin (electricity) and Senftenberg (mining) to Cottbus; on an administrative level, the historical states of Brandenburg and Sachsen are formed. | Climate policy on national level leads to shut down of power plants in Jänschwalde. Politicians on state level still call for continuity in mining business. Discussions about restructuring programs start in 2017. Change of paradigm is still in the making. |
| Availability of appropriate financial support | Planned economy allocates massive resources to the region. At the end of the GDR, the general lack of resources leads to rapid degradation of industrial infrastructure with high environmental costs. | Private investments via utilities Eon, RWE, etc. before they are forced to sell shares to Vattenfall. The closed mines are taken over by LMBV, a restructuring and land reconstruction agency for devastated mining areas in public ownership. | Ample discussion. First financial assistance dedicated for structural change to be available in the beginning of 2018. |
| A conducive culture | Official programs and policy provides recognition and cultural status to miners and industrial workers in general. Cities and industrial units are among the most favored in the GDR. | The region buys into this renewal (high unemployment rate: >25%); region claims to be an “energy region,” refounded universities call themselves “energy universities” (Cottbus, Senftenberg, Zittau), counties and cities invest into new lignite technology (Cottbus, Senftenberg). | In comparison to former energy infrastructure, new initiatives seem still fragile and small. Entrepreneurship remains still at relatively low levels. |
| Quality of human capital | Qualifications are centrally organized, vocational higher education institutes in the region (Bergingenieurschule, Energiehochschule). | Oversupply of highly qualified personnel, companies in the region can choose from a wide range of experienced and large pool of young people. | School graduates at approximately 50% of 1990 levels. Challenge to keep high qualification level of entry classes. High demand in the job market. |
| A range of institutional supports | Large economic units of national importance are situated in the region (Kombinat Schwarze Pumpe, Mining in Senftenberg). Special incentives (pay, housing) attract young people to the region. | All levels (state, region, counties, cities) are united in attempts to keep employment in the region. In the 2010s, EU funding for CCS (carbon capture and storage) technology. | In the making. Politics and regional players are still in a formation process; no overall structure in place; on national level, central commission is to be formed in 2018; various regional actors (iRL, WRL, WiRe eV). Merger of two universities: Cottbus and Senftenberg in 2011. |
| Venture friendly markets for products | Planned economy. Successive elimination of entrepreneurship and private businesses. | 1998-2006 is a period of overcapacities after market liberalization in 1998. Period of high energy prices 2006-2010 leads to new investments (Boxberg plant R, CCS project). Since then, falling prices owing to the increase of renewable capacities. | Energy sector dominated by elements of central planning. High political uncertainties and signs of overregulation make it difficult for newcomers (high regulatory risks). Overall economy is in a boom cycle. |

Table 2. Growth Path Profile of Lusatia (Source: Own analysis).

| Growth path | Lusatia growth path profile |
|-------------------|---|
| New products | Product development capabilities are comparatively low owing to sector profile (engineering, utilities, chemistry, services), many brands lost their national and international reach in GDR times (Reiss furniture, etc.), and reunification left the region with a large part of firms as subsidiaries of national or international corporations. |
| Start-ups | Lusatia shows some recent start-ups related to technology spin-offs from research institutions or e-commerce applications. However, the start-up performance of the local university is very low on a national comparison. This issue has been recognized at the university level with the intention to improve. |
| Direct investment | A series of post reunification successful major direct investments such as BASF (Schwarzheide), Classen (Baruth), Hamburger Spremberger (Schwarze Pumpe), Siemens (Görlitz), Bombardier (Görlitz), and less performing ones such as Lausitz Ring (Ruhland), Cargo-Lifter (Brand), or Schmid Silicium Pilot Plant (Schwarze Pumpe). Direct investment faded away with European restrictions and more favorable investment conditions just across the border in Poland (most favored status). More recent projects include Daimler Battery Production (Kamenz) and in discussion Chinese Electric Car production (Rothenburg). These activities are managed through economic development agencies on the state level and therefore not in the responsibility of the region. |
| Adapt firms | Many firms emerged from the re-unification situation, a large part of them as subsidiaries of corporations from outside. The freedom and capabilities such as strategic planning and business development are often outside of the region or in the hand of the owner. At the moment when those firms in the energy sector are facing decarbonization trends, many of the owners in these firms are just turning into the age of retirement. This is at the same time a management challenge and an opportunity for renewal. |
| Build new markets | The “Energiewende” is about changing the market structure for utilities. However, the particular policy intervention on lignite power plants is concentrated in just three regions in Germany and does not go with a particular scheme for these regions in terms of market access to the renewables. The transformation of former mining zones into a lake area creates a very narrow local market—but too small to serve for more than a jump board for external markets. |
| Micro-cluster | Brandenburg has a cluster strategy on the state level. None of these clusters exhibits a particularly strong basis in Lusatia. At the regional universities, there are hints for new poles of expertise emerging: specialized light metal constructions, plastics, and digitalized processes. None of these has attracted businesses to the region so far—but intentions are there to reach this importance. |
| Spin offs | BASF has developed a strong strategy of spin-offs and reconfiguration of value chains at the production site in Schwarzheide. This has led to some dynamic. Bombardier, Siemens, and Vattenfall have rather reduced activities with no spin-offs after the initial reunification restructuring. Spin-offs could be particularly interesting for Vattenfall/LEAG in order to keep viable competencies in business in an otherwise shrinking firm. |

Project themes are communicated in an anonymized way to regional audiences—without revealing specific technologies or naming firms in order to protect confidential information. The staff of Lausitz Lab offers interested firms to connect to potential business partners with complementary skills and capabilities. This network and transparency function is indeed a crucial value contribution of the RETP.

Examples of projects are as follows:

- Power to gas industrial plants with gas applications in transport or chemistry.
- Design and development of an electrical storage system (rotating mass).
- Boats powered with nonfossil fuels (hydrogen, electricity).

The companies have the possibility to develop their projects further in cooperation with the Lausitz Lab. Four workshop formats structure this process. They are (I) Strategy (provides an analysis and orientation of the firm in the context of the “Energiewende”/decarbonization), (II) Product Innovation (offers design thinking and creativity instruments to address a given development challenge of the client firm), (III) Business Model Optimization (provides a systematic analysis and axis of improvement for a given or intended business model), and (IV) Design Sprint (develops ideas, prototypes, and business plan for a given design challenge). Each workshop is customized for the client firm. These workshops last between half a day and five days. The strategy workshop generally involves the management team, whereas, workshops II–IV are conceived to connect the firm to outside expertise and provide third parties offering a fresh look at the challenges. A workshop team comprises 8-15 people.

Although Lausitz Lab serves as an “on-board” business development unit for the client firm, the project portfolio serves at the same time to discover emergent market opportunities and potentials for a regional specialization. The overall portfolio of some 90 projects (in May 2017, after 12 months of operation) exhibits thematic concentrations of projects. Thereby, the project portfolio functions as a self-learning loop of the region to identify emerging growth potentials. These indications can be combined with the top-down analysis and provide a basis to focus higher-level management measures such as meet-ups, micro-clusters, research programs, or public attention onto these emerging specialization potentials.

3.2.4. Growth Path Profile

Growth in terms of new employment sources in a region can emerge through a range of activities. For the purpose of the RETP, the Lausitz Lab has produced a simple set of potential growth paths, which are listed in Table 2. The characterization in the second column refers to the specific profile of activities in each growth path category in the Lusatia region.

It can still be observed that firms affected by the decarbonization issues and the energy transformation are highly represented with regard to growth projects introduced to the Lausitz Lab. In addition, the first low-level activities observed are the projects of product innovation. More complex and elaborate strategies of cooperation in micro-clusters, restructuring, and joint developments of markets only emerge when collaboration and efforts mature. Clearly, dynamic developments in a niche according to the MLP framework are developing; this could be the prerequisite for a subsequent regime change. For such a socioeconomic transition to happen, the RETP has to be consistently followed and developed further.

4. CONCLUSION

In this paper, we have presented a mid-level framework for socioeconomic changes. We have integrated Isenberg’s six domains of an EE into the MLP approach, following the main idea of structuration theory. In this context, we have presented a participatory case study on the region of Lusatia, diving deeply into the experimental activities of the iRL with its Lausitz Lab. The Lausitz Lab is the central actor in applying and further developing the RETP. So far, our contribution has been to introduce the RETP as a conceptual framework for socioeconomic transitions toward an entrepreneurial ecosystem. Elaborating and validating the framework as well as specifying it from specific theoretical and practical perspectives shall be the next steps in the research process.

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About the Authors

Dr. Hans Rüdiger Lange is the managing director of Innovationsregion Lausitz GmbH where he developed the Lausitz Lab as an incubator and accelerator for business innovation in Lusatia. He has been working in the international utility sector for more than 18 years. After a diploma and a PhD in physics, he completed his MBA at HEC Paris. Besides writing papers in natural sciences, he continuously contributes to publications on issues of higher education and regional industry structure.

Prof. Dr. Matthias Tomenendal is a professor of management and consulting at the Berlin School of Economics and Law and serves as the director of the Berlin Professional School. He holds business degrees from the Universities of Bielefeld, Georgia (USA), and Saarland and has worked as a strategy consultant for Boston Consulting Group. His current research interests focus on the themes of modern leadership, regional innovation, and firm growth.