Chapter 14
Resilience, Innovation, and Knowledge Transfer:
Conceptual Considerations and Future Research Directions

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ABSTRACT

Resilience is obtaining a considerable attention in social sciences. It has particular interest by regional studies as a bouncing forward characteristic of territories that are able to create new paths, based in their explicit and latent capabilities, to cope with shocks and disruptions. Inspired by the evolutionary perspective of resilience, this chapter debates the notion of resilience and presents its relevance to the understanding of innovation and knowledge transfer. Innovation is presented as a crucial collective process to create new possibilities to transform regional economies. Knowledge transfer, from public research organizations to firms, assumes a crucial function by structuring important networks, generating social capital and opening innovation to catalyze the social valorization of research results.

INTRODUCTION

Resilience has become a rather popular word. Whether in scientific contexts or in the common sense, it has gained a considerable degree of attention (Bahadur, Ibrahim & Tanner, 2013). Resilience was even one of the most searched entries on a popular Portuguese online dictionary in 2016, something that seldom happens with scientific concepts. If anything, this fact alone tells us that resilience has transcended science and been adopted in political debates and in everyday conversations – even becoming what some authors call a buzzword (Martin & Sunley, 2015). Being an apparent simple and malleable concept to apply to scientific studies, policy and political discourses, it is not difficult to understand how it entices

DOI: 10.4018/978-1-5225-5849-1.ch014

so many (Sensier, Bristow & Healy, 2016), especially those who often emphasize quick and simple answers, pushing beyond what science can justify or support (Pinto & Pereira, 2018).

Much could and indeed should be said about this trend. The careless and often irresponsible political use of scientific concepts damages the scientific project and leads to misrepresentations and ideological appropriations of meanings, as it happened with such terms as globalization or global warming (Grundmann, & Krishnamurthy, 2010; Therborn, & Khondker, 2006). These appropriations, rather than the scientific meaning of the terms, end up being reproduced by press and other types of groups, shared throughout social media, creating a public notion of the subject that no longer bears any resemblance to their original scientific foundations (Boykoff, 2008).

With these considerations in mind, we decided to dedicate this chapter to the clarification of the debate between the linkages of resilience, innovation and knowledge transfer, in order to give our contribution to the advancement of resilience. As a scientific concept we believe it can be useful to comprehend both innovation and knowledge transfer. Thus, the chapter will be organized as followed: the first section will conceptualize resilience and make a critical appreciation of its history and trends within economy. The second section introduces innovation and discusses its relation to resilience at a regional level. Finally, the last subchapter will address knowledge transfer networks within the scope of regional economies and its role in regional resilience.

BACKGROUND

An Overview of Resilience

The scientific interest in resilience has grown significantly over the last few years. This can be explained in part by the volatile socioeconomic situation that the world has been facing over the last decade, prompted by the subprime crisis of late 2007 and the economic depression that ensued.

As the years passed and some countries began to recover, one of the main observations that could be made was how some territories dealt differently with the crisis and recovered faster than others (Sensier et al., 2016). Not only that was evident, but the effects of the crisis had been felt to different degree in different countries. For example, in the European Union, major disparities were evident in economic weaknesses, recovery and resilience, both between countries and regions within countries (Cuadrado-Roura, Martin & Rodríguez-Pose, 2016).

Regional studies soon developed a keen interest in the subject and began to extensively research how different regions dealt with the aftermath of the crisis and why its consequences varied so much. This resulted in resilience showing up as a major concept in the ensuing discussion, greatly contributing to the research of the "performance and adaptability of territories in the wake of damaging events and extreme pressures" (Bailey & Turok, 2016, p. 557). But before discussing the merits and contribution of resilience research it would make sense to explore the recent history of the creation and consolidation of the concept.

The concept of resilience originated in the natural sciences, more specifically in physics, and referred to the stability of materials and their resistance to external shocks. During the 70s, Holling published a seminal work in which he applied the concept of resilience to ecosystems, in a similar understanding to that of physics, maintaining its focus on a system's ability to absorb shocks and retain its structure and function. He referred to it as "a measure of the persistence of systems and of their ability to absorb