



# THREE ESSAYS ON THE CREATION OF NEW MARKETS FOR SUSTAINABLE TECHNOLOGIES AND SERVICES

Bogdan Prokopovych  
University of Rhode Island

May 2012

## ABSTRACT

This dissertation examines the roles and strategies of actors in establishing new market structures for sustainable technologies and services in fields with different degrees of institutionalization of market practices. In the first essay I ask why some organizations succeed when operating under conditions of weak market-supporting institutions, while others fail. Drawing on qualitative evidence from Tajikistan, I explore the strategies of organizations setting up markets for small-scale renewables. In the second essay, using qualitative data from interviews with participants of the German bioenergy field, I explore the work of industry associations in the creation of new markets. Finally, in the third essay I investigate the relationship between membership in shellfish industry associations and firms' participation in environmental projects using a dataset I collected through a survey of US shellfishermen on the East Coast.

**Category:** Institutional Theory, Entrepreneurship, Economic Sociology

**Keywords:** new market creation, institutional voids, industry associations

## EXECUTIVE SUMMARY

While significant scholarly attention has been dedicated to the study of markets, the area concerning how new markets come about remains underdeveloped (Fligstein and Dauter, 2007). Many studies have been based on the assumption that markets already exist, taking for granted the entrepreneurial actions and events that lead to their creation. While entrepreneurs seek to take advantage of markets and/or alter them to their benefit (Santos and Eisenhardt, 2009), their role in launching new markets remains unclear. Drawing on research in the sociology of markets (White, 1981; Beckert, 2009) and institutional theory (DiMaggio and Powell, 1983; Greenwood, Suddaby, and Hinings, 2002; Lawrence and Suddaby, 2006; Scott, 2007), in this dissertation I seek to address this gap by exploring the role of organizations in the creation of new markets.

The overarching theme connecting the three essays of this dissertation is the establishment of markets for environmentally friendly technologies and services in different institutional settings: a nascent market in a developing country (the creation of a market for small-scale renewable energy systems in Tajikistan), a market in a developed country (establishing a market for bioenergy in Germany), and a nascent market in a developed country (the creation of a market for environmental services among US shellfisheries). In this research, I draw upon the sociology of markets literature that suggests that markets emerge as a result of firms' watching each other and signaling (Granovetter, 1985; Podolny, 2001; White, 1981; Zelizer, 1978) and that the stable social order of markets gets established through the resolution of three coordination problems – value, competition, and cooperation (Beckert, 2009). I also draw upon the institutional literature that provides

theoretical underpinnings for the characterization of institutional conditions in the organizational field and suggests how actors are capable of escaping the influence of institutions that define their actions (DiMaggio and Powell, 1983; Scott, 2007; Seo and Creed, 2002). The entrepreneurship literature, meanwhile, provides insights on the actions of market actors pursuing opportunities in the organizational field (Dorado, 2005; Sarasvathy and Dew, 2005).

New markets differ from stable markets, which are characterized by developed rules and shared understanding of how transactions take place (Fligstein, 2001). They are business environments in the early stages of formation that lack a dominant logic guiding social exchanges, involve ambiguity, and do not have well-defined product categories and industry structures (Porac et al., 2002; Santos and Eisenhardt, 2009). New market institutions emerge through institutional entrepreneurship, a process that entails identification of opportunities and support for new structures that run against the grain of the existing institutional status quo. However, the successful functioning of markets requires the presence of certain institutional conditions, such as defined rules of exchanges, protection of property rights, and independence of courts. By drawing on the three institutionally diverse empirical settings, I juxtapose entrepreneurial action and institutional conditions to shed light on the contribution of organizations acting under different institutional constraints.

In the first essay, I examine the creation of a new market for small-scale renewable energy systems in Tajikistan and study the strategies of organizations acting under weak-market supporting institutions. The successful functioning of markets requires the presence of certain institutional conditions, such as defined rules of exchanges, the protection of property rights, and independence of courts (Rodrik, 2000). However, what happens when market-supporting rules disappear or when they do not exist in places where they should? Experiences from developing countries, especially those that transitioned from centrally-planned to market economies, suggest that the emergence of new market structures may arise even when some of these institutional arrangements appear to be

compromised (Stark, 1996). The organizational literature refers to this lack of institutional support for market functioning as institutional voids (Khanna and Palepu, 1997; Mair and Marti, 2009). Studying market creation under institutional voids requires an extreme case – an organizational field with weak market supporting institutions and actors determined to develop a new market.

Drawing upon the case of Tajikistan, a post-Soviet country in Central Asia, and the development of a market for small-scale renewable energy technologies there, I investigate why some actors in a nascent market escape the effects of institutional voids, while others fail. Tajikistan offers an interesting empirical setting for studying processes of new market creation taking place after a shock to the existing institutional environment. While going through an economic and political transition after the collapse of the Soviet Union and then a Civil War in the 1990s, some of Tajikistan's institutions related to the command economy proved to be obsolete, and others needed for a well-functioning market have yet to be formed. A severe energy crisis in 2008 worsened the economic situation and led to considerable environmental damage. Drawing upon the institutional literature, I make theoretical propositions based on analysis of qualitative data seeking to extend our understanding of the processes underlying the creation of new markets and their institutional constraints. The main theoretical contribution of this work is to uncover what characteristics allow some organizations to succeed in an environment plagued by institutional voids. I find that organizations with power and access to resources that have decentralized decision-making, target a broader range of institutions in their market creation strategies and utilize existing networks in the organizational field are capable of overcoming these constraints and developing innovative institutional solutions.

In my other two essays, I focus on the role of industry associations – collective action organizations – in the development of new markets. The second essay explores strategies of German bioenergy associations to establish a market in a field with a high level of institutionalization of market supporting practices. As argued in the seminal work of Greenwood, Suddaby, and Hinings

(2002), associations as institutional entrepreneurs contribute to institutionalization of the field by legitimating institutional change. This essay seeks to reinvigorate the discussion of associations as institutional entrepreneurs and suggests that associations do not only legitimate change, but engage in the pursuit of opportunities by leveraging support for new institutional arrangements that serve their interests (Dorado, 2005), i.e. act as institutional entrepreneurs.

In my analysis, I draw upon a theoretical framework of the social order of markets (Beckert, 2009). Building on Polanyi's (1944) notion of embeddedness of markets in institutions that serve as a stabilizing precondition for the functioning of markets, Beckert (2009) argues that in order for stable markets to emerge, three coordination problems need to be resolved – the problem of value, competition, and cooperation. According to Greenwood et al. (2002), associations perform three important functions, including serving as arenas in which organizations represent themselves to each other, representing their constituents to communities outside their organizational field, and monitoring and enforcing norms. In this essay, I explore how associations contributed to resolving the market coordination problem by performing these three functions. To address my research question, I turn to the case of the creation of the market for bioenergy, such as biodiesel, biogas, and wood, in Germany. In the 1990s, the German Farmers' Association saw an opportunity in advancing the interests of its constituents by promoting the development of energy crops on the fallow land. It helped found new associations that represented different bioenergy technologies and sectors. Despite competing interests among associations representing parallel technologies, including wind and solar energy industries, the German bioenergy associations were able to present a unified message to policy makers that fundamentally changed the regulatory institutions and led to the creation of markets for bioenergy.

My final essay explores how associations help organization-members respond to environmental and institutional conditions by promoting their involvement in environmental projects, thus creating a new market space. Drawing on the case of US shellfisheries associations to study their

role in creating a market for environmental services for their constituents – the shellfish industry, in this study I ask whether membership in industry associations is related to whether firms extend beyond their traditional markets. In many industries, changing economic and institutional environments may lead firms to seek out new markets. I use a unique dataset from a survey of US shellfishermen on the East Coast to empirically examine the relationship between membership in associations and participation in new markets. Traditionally, shellfishermen have been growing and harvesting shellfish for human consumption. However, under pressure from increasing regulations and environmental disasters, some have begun engaging in alternative revenue-generating environmental projects, such as coastal restoration, clean-up and research. Drawing on the organizational literature on associations and new market formation, I test hypotheses about whether associations contribute to value creation and promote cooperation among their members, thus helping new markets to emerge (Beckert, 2009; Greenwood et al., 2002; Lepak et al., 2007; Smith et al., 1995). I find that shellfishermen who are members of industry associations are more likely to participate in alternative revenue-generating activities and derive revenues from environmental projects. The more associations in which a shellfish farmer or harvester is a member, the greater the likelihood of participating in environmental projects and deriving revenues from them. Using trust among participants of environmental projects as a proxy for cooperation, I find a positive relationship between increasing levels of trust and association membership. Based on my findings, I argue that industry associations play an important role in firms' decisions to pursue new markets by creating value and promoting cooperation.

In addition to contributing to the body of the organizational literature on new market creation, this dissertation has practical managerial implications. As society becomes increasingly cognizant of the consequences of the warming climate, businesses will be required to incorporate environmental considerations into their decision-making process. This process requires a paradigmatic shift in how businesses perceive the environment – seeing the improvement of environmen-

tal conditions as an opportunity versus a risk, and understanding the societal consequences of the negative externalities produced by pollution and human induced climate change. This dissertation shows that there is an important role for organizations in responding to the challenges society faces in finding a balance between economic motives and the ecological consequences by contributing to the emergence of sustainable industry practices. This dissertation adds to the growing body of research that sheds light on ways to mitigate and adapt to the changing environmental conditions and the important role of organizations in this process.

## BIBLIOGRAPHY

- BECKERT, J. (2009): "The Social Order of Markets," *Theory and Society*, 38, 245–269.
- DIMAGGIO, P. J. AND W. W. POWELL (1983): "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields," *American Sociological Review*, 48, 147–160.
- DORADO, S. (2005): "Institutional Entrepreneurship, Partaking, and Convening," *Organization Studies*, 26, 385–414.
- FLIGSTEIN, N. (2001): *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*, Princeton University Press.
- FLIGSTEIN, N. AND L. DAUTER (2007): "The Sociology of Markets," *Annual Review of Sociology*, 33, 105–128.
- GRANOVETTER, M. (1985): "Economic Action and Social Structure: The Problem of Embeddedness," *American Journal of Sociology*, 91, 481–510.
- GREENWOOD, R., R. SUDDABY, AND C. R. HININGS (2002): "Theorizing Change: The Role of Professional Associations in the Transformation of Institutionalized Fields," *Academy of Management Journal*, 45, 58–80.
- KHANNA, T. AND K. PALEPU (1997): "Why Focused Strategies May Be Wrong for Emerging Markets," *Harvard Business Review*, 75, 41 – 51.
- LAWRENCE, T. B. AND R. SUDDABY (2006): "Institutions and Institutional Work," in *Handbook of Organization Studies*, ed. by S. R. Clegg, C. Hardy, T. B. Lawrence, and W. Nord, vol. 2, 215–254.
- LEPAK, D., K. SMITH, AND M. TAYLOR (2007): "Introduction to Special Topic Forum: Value Creation and Value Capture: A Multilevel Perspective," *Academy of Management Review*, 32, 180–194.
- MAIR, J. AND I. MARTI (2009): "Entrepreneurship In and Around Institutional Voids: A Case Study from Bangladesh," *Journal of Business Venturing*, 24, 419–435.

- PODOLNY, J. (2001): "Networks as the Pipes and Prisms of the Market," *American Journal of Sociology*, 107, 33–60.
- POLANYI, K. (1944): *The Great Transformation: The Political and Economic Origins of Our Time*, Beacon Press.
- PORAC, J., M. VENTRESCA, AND Y. MISHINA (2002): "Interorganizational Cognition and Interpretation," in *The Blackwell companion to organizations*, ed. by J. Baum, London: Blackwell, 579–598.
- RODRIK, D. (2000): "Institutions for High-Quality Growth: What They Are and How to Acquire Them," *Studies in Comparative International Development*, 35, 3.
- SANTOS, F. AND K. EISENHARDT (2009): "Constructing Markets and Shaping Boundaries: Entrepreneurial Power in Nascent Fields," *Academy of Management Journal*, 52, 643–671.
- SARASVATHY, S. D. AND N. DEW (2005): "New Market Creation Through Transformation," *Journal of Evolutionary Economics*, 15, 533 – 565.
- SCOTT, W. W. R. (2007): *Institutions and Organizations: Ideas and Interests*, Sage Publications, Inc, 3rd ed.
- SEO, M. AND W. E. D. CREED (2002): "Institutional Contradictions, Praxis, and Institutional Change: A Dialectical Perspective," *Academy of Management Review*, 27, 222–247.
- SMITH, K. G., S. J. CARROLL, AND S. J. ASHFORD (1995): "Intra- and Interorganizational Cooperation: Toward a Research Agenda," *Academy of Management Journal*, 38, 7–23.
- STARK, D. (1996): "Recombinant Property in East European Capitalism," *American Journal of Sociology*, 101, 993.
- WHITE, H. (1981): "Where Do Markets come From?" *American Journal of Sociology*, 517–547.
- ZELIZER, V. A. (1978): "Human Values and the Market: The Case of Life Insurance and Death in 19th-century America," *American journal of sociology*, 591 – 610.