Non-market strategy and the risk of second order path dependence in the commercialization of cleantech

Rolf Wüstenhagen

rolf.wuestenhagen@unisg.ch

University of St. Gallen

Institute for Economy and the Environment (IWÖ-HSG)

Tigerbergstrasse 2

CH-9000 St. Gallen, Switzerland

Tel. +41-71-224 25 87

Fax +41-71-224 27 22

Non-market strategy and the risk of second order path dependence in the commercialization of cleantech

Abstract:

The challenges that large incumbent firms face in making sense of innovation has been a recurring theme in California Management Review (Tushman & O'Reilly 1996, Sharma 1999, Chesbrough 2000, Day & Schoemaker 2000) and elsewhere (Burgelman 1984, Henderson & Clark 1990, Christensen & Bower 1996, Miles & Covin 2002, Teppo & Wüstenhagen 2011). While challenges are numerous, there has also been a wealth of recommendations that can help the management of incumbent firms to avoid those pitfalls. The toolbox for managing innovation in large firms includes working together with external venture capitalists (Chesbrough 2000), creating a "radical innovation hub" (Leifer 2001) or establishing boot camps far away from corporate headquarters. Also, it has been suggested that large firms team up with small firms, a strategy that may be particularly appropriate when dealing with eco-innovation because of the environmental credibility of smaller firms and their ability to challenge existing business models (Hockerts and Wüstenhagen 2010). On an aggregate level, the challenges of large firms to deal with innovation lead to path dependence (North 1990), and lock-in effects (Unruh 2002). One specific feature of eco-innovation is the double externality problem (Rennings 2000), i.e. the environmental benefits cannot be fully appropriated by the innovating firm and its customers. This can basically be overcome by environmental regulation, which aims at internalizing externalities. Because environmental markets are characterized by regulatory risk and opportunity, the ability to manage those risks through effective non-market strategies has become a key element of successful corporate strategy. The problem is that large firms are now facing a second order path dependence problem. Not only are they entrenched with their existing market strategy and a network of existing customers and suppliers, but also with their non-market strategy and a dense network of stakeholders in the policy arena. As a consequence, even firms whose top management has succeeded in overcoming the first-order challenges of corporate venturing may eventually fail unless they find ways of successfully overcoming the path dependence in their firm's non-market strategy.

While the focus of the paper is a conceptual contribution, its arguments will be illustrated using a set of case studies from the European energy sector, where market and non-market strategies have collided. These include:

- The Swiss utility Axpo, where a division for New Energies has been set up, but its growth is constrained by the parent firm's intense lobbying for nuclear power plants
- The German utility RWE, which invests in renewable energies through its subsidiary RWE Innogy, but pursues conflicting objectives in its non-market strategy by pushing the government towards favourable conditions for coal and nuclear
- German car manufacturers' significant efforts to develop electric cars, which are counteracted by their association's lobbying against EU carbon regulation

- The non-market strategy of European appliance manufacturers, whose association (CECED) has successfully lobbied against an attempt to revise the EU energy efficiency label in a way which would have led to less consumer confusion, which in turn might have translated into competitive advantage for manufacturers of highly efficient appliances.

It is argued that these cases provide evidence for the challenges that well-intended corporate leaders are facing when they fail to align their firms' market and non-market strategies in pursuit of eco-innovation.

However, incumbents are not doomed to fail. There are different ways for them to address the challenges outlined above. These include:

- Translating some of the lessons of corporate venturing into the development of adequate non-market strategies, for example setting up a corporate political venturing hub to address the needs of the new business.
- Teaming up with non-governmental organisations to develop successful non-market strategies for the new business (a strategy pursued by, for example, GE in developing its Ecomagination initiative).
- Joining newly emerging industry associations (e.g. ABB's membership with swisscleantech association).
- Deliberately pursuing eco-innovation outside of the firm's home market to overcome the challenges of strong network ties in the domestic political arena (e.g. RWE's differential strategies in UK vs Germany)

Keywords:
Corporate Venturing, Eco-Innovation, Non-Market Strategies, Path Dependence, Regulatory Risk

.

REFERENCES

Burgelman, R.A. (1984): Managing the Internal Corporate Venturing Process, Sloan Management Review, 25 (2): 33-48.

Chesbrough, H. (2000): Designing corporate ventures in the shadow of private venture capital, California Management Review, 42 (3), 31-49.

Christensen, C.M. and Bower, J.L.. (1996). Customer power, strategic investment, and the failure of leading firms', *Strategic Management Journal*. 17, 197-218.

Day, G.S. and Schoemaker, P.J.H. (2000): Avoiding the pitfalls of emerging technologies. *California Management Review*, 42 (2), 8-34.

Henderson, R.M. and Clark, K.B. (1990): Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms. *Administrative Science Quarterly,* 35 (1), 9-20.

Hockerts, K. and Wüstenhagen, R. (2010): Greening Goliaths versus Emerging Davids – Theorizing about the Role of Incumbents and New Entrants in Sustainable Entrepreneurship. Journal of Business Venturing, 25 (5), 481-492.

Leifer, R., 2001. Implementing radical innovation in mature firms: the role of hubs. The Academy of Management Executive, 102–113.

Miles, M.P. and Covin J.G. (2002): Exploring the practice of corporate venturing: some common forms and their organisational implications. *Entrepreneurship Theory and Practice*. 26 (1), 21-40.

North, D.C. (1990): Institutions, Institutional Change and Economic Performance, Cambridge University Press.

Rennings, K. (2000): Redefining innovation: eco-innovation research and the contribution from ecological economics. Ecological Economics 32 (2), 319–332.

Sharma, A. (1999): Central dilemmas of managing innovation in large firms, California Management Review, 41 (3), 146-164.

Tushman, M.L. O'Reilly, C.A. (1996): Ambidextrous organizations: Managing evolutionary and revolutionary change, California Management Review, 38 (4), 8-30.

Teppo, T. and Wüstenhagen, R. (2011): Why Corporate Venture Capital Funds Fail - Evidence from the European Energy Industry, in: Wüstenhagen, R., Wuebker, R. (eds., 2011): Handbook of Research on Energy Entrepreneurship. Edward Elgar Publishing, Cheltenham UK and Lyme US (forthcoming).

Unruh, G.C., 2000: Understanding carbon lock-in. Energy Policy, 28(12), 817-830.