
The commercialisation environment of advanced materials ventures

Elicia Maine*

Technology Management,
Faculty of Business Administration,
Simon Fraser University,
515 West Hastings Street,
Vancouver, British Columbia,
Canada V6B 5K3
E-mail: emaine@sfu.ca

*Corresponding author

Elizabeth Garnsey

Innovation Studies,
Centre for Technology Management,
Institute for Manufacturing,
University of Cambridge,
Mill Lane, Cambridge CB2 1RX, UK
E-mail: ewg@eng.cam.ac.uk

Abstract: Advanced materials have been hailed as the third wave of revolutionary innovation after IT and biotech, but have been poorly studied in the management literature to date. Similarities and differences in commercialisation incentives and challenges have not been adequately addressed. What role do start-up ventures play in the advanced materials sector? How does an advanced materials venture differ from any other emerging technology venture? To address these questions, we first present longitudinal data on firm size, suggesting that smaller and newer firms are playing an increasing role in the advanced materials sector. We then develop an open systems model of the transaction environment of advanced materials ventures and present evidence from two advanced materials ventures which reveals the distinctive potential and challenges of emerging firms in this sector. Whereas emerging technology ventures share many commercialisation challenges, this analysis reveals sector specific levels of complexity in these challenges and the resultant commercialisation processes. Proposed policy recommendations focus on the distinctive challenges facing advanced materials ventures.

Keywords: advanced materials; technology entrepreneurship; technology commercialisation; open systems; management of technology; technology innovation networks; technology policy; ventures; New Technology-Based Firms (NTBFs).

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