NEW INDUSTRY EMERGENCE: THE MULTI-INDUSTRY TERRAIN OF NANOTECHNOLOGY ENTREPRENEURSHIP (SUMMARY)

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SUMMARY

NEW INDUSTRY EMERGENCE: THE MULTI-INDUSTRY TERRAIN OF NANOTECHNOLOGY ENTREPRENEURSHIP

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Principal Topic

Studying the rise of the cochlear implant industry, Garud and Van de Ven’s (1988) model of new industry emergence focuses on the iterative cycles during which new technologies are developed, legitimized and extended to form a new industry. Viewing emerging industry boundaries as blurry--at best--for radical technologies, this research aims to map the multi-industry terrain of industry emergence for nano entrepreneurs.

If it is possible to speak of an emerging nanotechnology industry, the industry is interweaving with-- or has the potential to affect--industries as varied as Energy, Electronics, Imaging, Biotechnology and Information Technology, among others. A particular challenge with radical technologies is that the industry contexts where a technology may create its greatest value and spawn successful ventures may not be known initially, particularly until critical business models are discovered to complement new technological advances. This suggests entrepreneurs focusing on radical technologies may straddle various market spaces in an attempt peer into and develop inter-linkages among different entrepreneurial opportunities and industry contexts.

Asking what is the terrain of industry emergence for nano entrepreneurs, this research provides direct contrast to Garud and Van de Ven’s single-industry framework of new industry creation. The empirical study examines messy boundaries and what is best characterized as varying multi-industry participation by nano entrepreneurs in a forming nanotechnology arena.

Method

This study exploits network analysis and network visualization (Wasserman and Faust, 1994; Freeman, 2004). A major research aim is to assemble and visualize longitudinal network data on nano entrepreneurs’ “footprints” in the ill-structured nanotechnology industry. Data come from the Project on Emerging Nanotechnologies (PEN), and particularly the Consumer Products Inventory of over 1,000 products launched by nearly 500 companies in 8 major sectors and 34 distinct industries in the last 5 years.

Results and Implications

An empirical study, this is an important contribution to entrepreneurship research because it examines the multi-industry, versus single-industry, nature of industry creation, a critical context for entrepreneurs looking to exploit radical new technologies. This research extends Garud and Van de Ven’s work by considering how radical new technological platforms gestate multi-industry environments where the boundaries of entrepreneurial opportunities are unclear and where industry participation among entrepreneurs is varied and shifting.

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