

New Technology-Based Firms in the New Millennium

Edited by

WIM DURING RAYOAKEY and SALEEMA KAUSER

2001



PERGAMON An Imprint of Elsevier Science Amsterdam - London - New York - Oxford - Paris - Shannon - Tokyo

Contents

List	t of Contributors	vii
PAF	RT I INTRODUCTION	
	The Development of High-Technology Small Firms: Is it a Matter of Growth Management and Networking? WIM DURING, RAYOAKEYAND SALEEMA KAUSER RT II DEVELOPMENT AND GROWTH	r 1
2.	Fighting for Survival and Legitimacy: Growth Trajectories of Hig Technology Firms in the Netherlands TOM ELFRING AND WILLEM HULSINK	gh 4
3.	Impact of the Product Characteristics on the Internationalisation Processes of the Born Globals - The Case of the Finnish Telecommunication and Information Technology Software Suppliers and Content Providers as an Example OLLI KUIVALAINEN	n 26
4.	Developing Strategies for Growth in HTSFs: Looking Beyond Survival in an Increasingly Competitive Marketplace WILLIAM KEOGH, VICTORIA STEWART AND JOHN TAYLOR	42
	Internet Usage in Small Irish Firms JAMES GRIFFIN	57
6.	The Barriers to the Deployment of Strategic Planning in High Technology Small Firms - an Empirical Assessment NICHOLAS O'REGAN, ABBY GHOBADIAN AND JONATHAN LIU	71
7.	Equity Gaps in Depleted Communities: An Entrepreneurial Resp HARVEYJOHNSTONE	ponse 84
8.	Modelling Returns to R&D: An Analysis of Size Effects PETER BROUWERAND HENRY NIEUWENHUIJSEN	95
9.	Managing Training in SMEs for Holistic High Performance ZULF KHAN AND MARK COOPER	108
PA	RT III CO-OPERATION, NETWORKING AND CLUSTERING	
10.	Barriers in Co-operation between Small and Large Technology-I Firms: A Swedish Case Study MAGNUS KLOFSTEN AND CARINA SCHARBERG	Based 114

11.	Local Skills and Knowledge as Critical Contributions to the Growth of Industry Clusters in Biotechnology CHRIS HENDRY AND JAMES BROWN	127
12.	Entrepreneurial Networking in the Dutch Manufacturing Sector: The Role of Key Decision Leaders in SME-Based Alliances WIM DURING AND AARD J. GROEN	141
13.	New Product Development (NPD) Alliances between Research Institutes and SMEs: The Development, Technology Transfer and Spin-Off of Advanced Material Burners PETRA C. DE WEERD-NEDERHOF AND AARD J. GROEN	157
14.	Academic Spin-Off Ventures: A Resource Opportunity Approach CELINE DRUILHE AND ELIZABETH GARNSEY	175
15.	Commercialisation and Regional Economic Development: Universities and their Role in the Emergence of New Technologies SARAH Y. COOPER	191

NEW TECHNOLOGY-BASED FIRMS IN THE NEW MILLENNIUM VOLUME II

EDITED BY

RAY OAKEY

Manchester Business School, Manchester, UK

WIM DURING

University of Twente, Enschede, The Netherlands

SALEEMA KAUSER

Manchester Business School, Manchester, UK

2002



Pergamon An imprint of Elsevier Science

Amsterdam - Boston - London - New York - Oxford - Paris San Diego - San Francisco - Singapore - Sydney - Tokyo

Contents

List of Tables and Figures	vii
List of Contributors	xi
Part I Introduction	1
1. A Continuing Research Agenda Ray Oakey, Wim E. During, and Saleema Kauser	3
2. Supporting High Technology Start-ups: The Scottish Experience Hugh Ross	7
Part II Science Parks/University "Spin-offs"	17
3. The Impact of a University Spin-off Programme: The Case of NTBFs Established Through TOP <i>Peter van der Sijde, Sander Karnebeek, and Jann van Benthem</i>	19
4. Growth and Innovation Support in Swedish Science Parks and Incubators Asa Lindholm Dahlstrand and Magnus Klofsten	31
5. A Closer Look at the Process of Transformation of Scientific and Technological Knowledge as Conducted by Academic Spin-offs Margarida Fontes	47
6. The Development of High Technology Enterprise from HEIs: Some Methodological Considerations Elizabeth Chell and Kurt Allman	71
Part III Market, Strategy and Globalisation	95
7. Hotmail & Co.: The Emergence of Electronic Messaging and the Growth of Four Entrepreneurial Entrants Oliver Hugo and Elizabeth Garnsey	97

vi	Contents

8.	Market Orientation in Young High Technology Firms: Results of an In-depth Case Study Stephanie Petzold-Dumeynieux	125
9.	Exporting SMEs, Models and Assumptions: Internationalisation of a Contrasted Set of Both High-tech and Craft Small- and Medium-sized Enterprises Deirdre Hunt and Paul Kirwan	139
10.	Strategic Management in UK Engineering and Electronics SMEs: A Factor Analysis Kevin Mole, Abby Ghobadian, Nicholas O 'Regan, Howard Viney, and Jonathan Liu	153
11.	Entraining Local Knowledge for Global Competitiveness D. Jane Bower	169
Par	t IV Clusters and Networking	179
12.	SMEs, Growth, Networks and the Internet: A Strategic Perspective Martin Beckinsale and Margi Levy	181
13.	Alliances Between HTSFs and their Partners: A Multidimensional Process Approach Aard J. Groen, Wim E. During, and K. Mark Weaver	197
14.	Innovation, Small Firms and Clustering: Insights from the British Broadcasting Industry Gary A. S. Cook and Naresh R. Pandit	219
15.	The Virtual Organisation and Benefits for Small Firms: A Case Study from the Biotechnology Industry Ursula Weisenfeld, Olaf Fisscher, and Alan Pearson	247
16.	The Role of Venture Capital in the Development of High Technology Clusters: The Case of Ottawa Colin Mason, Sarah Cooper, and Richard Harrison	261