Technology Change and the Rise of New Industries

JEFFREY L. FUNK
CONTENTS

List of Illustrations xi
Acknowledgments xiii

1 Introduction 1

PART I. WHAT DETERMINES THE POTENTIAL FOR NEW TECHNOLOGIES AND THUS NEW INDUSTRIES?

2 Technology Paradigm 21
3 Geometrical Scaling 41

PART II. WHEN DO TECHNOLOGICAL DISCONTINUITIES EMERGE?

4 Computers 67
5 Audio and Video Recording and Playback Equipment 82
6 Semiconductors 99

PART III. OPPORTUNITIES AND CHALLENGES FOR FIRMS AND GOVERNMENTS

7 Competition in New Industries 119
8 Different Industries, Different Challenges 131

PART IV. THINKING ABOUT THE FUTURE

9 Electronics and Electronic Systems 145
10 Clean Energy 158

it Conclusions 177
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Appendix: Research Methodology</td>
<td>199</td>
</tr>
<tr>
<td>Notes</td>
<td>203</td>
</tr>
<tr>
<td>References</td>
<td>223</td>
</tr>
<tr>
<td>Index</td>
<td>241</td>
</tr>
</tbody>
</table>