

Index

Note: Page numbers in italics represent tables and figures.

- administrative management vs.
 - institutional leadership 146
- agglomeration economies 104
- agro-industrialization, of the poultry industry 260
- Althoff, Friedrich 19
- Althoff system 19
- AluCluster 225, 227
- artificial intelligence, development of 16
- Audretsch, David 102, 228
- Austrian School of Hayek 3

- Baumol, William J. 72
- behavior system, renewing of 151
- binary logit model, for knowledge transfer 90, 92–3, 96–7
- blue-collar workers 177
- Bombardier 131
- Brazilian Association of Poultry Producers and Exporters (ABEF) 262
- Brazilian Institute of Geography and Statistics (IBGE) 262
- Bureau of Labor Statistics (BLS) 40
- business development policy 213–15, 225
 - cluster-oriented 218, 220
 - implementation of 221
 - practical-oriented 217
- business services 107–8, 214, 220, 223
 - knowledge-intensive 109, 127
 - occupations in 205

- Canadian Survey of Innovation 119
- Capitalism, Socialism and Democracy* 58
- capitalist market system 58

- career development 184–5
- chance encounters 123
- Chesbrough, Henry 63
- Clinton, Bill 26
- closed system innovation 119
- cluster-oriented development policy 213
- clusters
 - beneficial effects of proximity and shared skills 227
 - business development policy 220
 - concepts of 214–18
 - definition of 215
 - development policy in Denmark 221–6
 - core elements of 222
 - for economic development 216
 - features of 214
 - growth forum and its partners of cooperation 231
 - high-tech 214
 - identification of potential 225
 - importance of 216
 - and knowledge economy 9–11, 218–20
 - triple-helix model 218, 227
 - life cycle of 233, 244, 248
 - partnership of innovation triangle 219
 - regional policy aspects 220
- cognitive proximity 122, 247
- cognitive skills 35, 40
- Colbjørnsen, T. 179, 186
- Collins, Harry 27
- communication skills 105
- community development 148–9
- Community Innovation Survey 119
- competitive city 35
- creative activities, types of 151
- creative leadership 140, 143
 - analysis 144
 - concept of 139

- creative leadership (*continued*)
 definition of 144–5
 framework of 150–52
 behavioral system, renewal of 152–3
 creative and innovative leadership,
 outcome of 152
 transformation system, restructuring
 of 153–4
- Haram case
 brief summary of 147–8
 mission and vision 148
 new community plan 149–50
 situation 148–9
 value creation, paradigms of 148
- integrated 145–7
 learning cycles 155
 in practice 147–50
 roles of 145
- cultural capital 25
 curriculum 27
- Dagens Næringsliv* (newspaper) 187
 Danish Ministry of Economics and
 Business 221
- data 40–42
 databases 25
 decision making, garbage can model of
 241
- Denmark, cluster development policy
 221–6
 core elements of 222
 new administrative structure 232
- didactics 27
- division of labor 191–92, 198, 214
 intra-industrial 200–201, 208–9
 production and functional 213
 qualification-related 205
 skill-related 201
- Drucker, Peter 34
- dual system of vocational education
 (DSVE) 194, 196
- employer branding 187
- employment growth
 coefficient estimates of industry-
 specific (de-)concentration
 processes 206–7
 median industry effects by region type
 204
 by qualification class 196, 197
- qualification-specific 193
 components of 200
 shift-share regression of
 baseline specifications 200
 components of regional employment
 growth 200
 concentration processes 201–8
 empirical model 197–9
 region type effects vs. industry
 effects by region type 200
 in skilled occupations 208
 sources of 105
- employment statistics' classification,
 four-digit level code of 195
- entrepreneurial learning 103
- environmental knowledge circulation
 process (EKCP) 35
- European Union 26
- experimental learning 35, 167
- expert systems 15
- explicit knowledge 7, 20, 35, 63–4,
 72–3, 166, 168, 177, 220
- explicit learning 167
- external learning, categories of 259
- face-to-face (F2F) interactions 101, 108,
 111, 181, 233, 247
- Fagerberg, J. 59, 269
- Federal Employment Agency 195
- firm level productivity
 empirical approach, variables and
 modeling 107–9
 empirical results for measurement of
 109–12
 factor scores of principal components
 of 107
 knowledge externalities in 102–3
 firm-specific characteristics in 103–4
 spatially bounded 104–6
 multilevel models for analysis of
 115–16
 regression results of alternative models
 explaining 110–11
- formal learning 167
- fortuitous encounters 123
- Frascati Manual* 83
- Freefall* 3
- fringe benefits 183–4, 188
- functional specialization, theory of 200,
 205, 208–9

- game theory *see* non-cooperative game theory model
- General Educational Development-Reasoning Scale (GEDR) 40–42
- Generation-X workers 177
- geographic proximity 122
- German Network ‘Learning Regions’ 167
- Gini coefficient 108
- globalization 26, 216, 218, 240
- gold-collar workers 177
- Googleplex 187
- Great Places to Work Institute 187
- Growth Forum Spring (2009) 226
- Haram case
 - brief summary of 147–8
 - mission and vision 148
 - new community plan 149–50
 - situation 148–9
 - strategy-focused change program 151–2
 - system design process 155
 - value creation, paradigms of 148
- Hartley, J. 141, 154
- Harvard Business Review* (1992) 25
- head-hunting competition 183
- high-tech clusters 214
- Hillestad, T. 177
- human capital 24–5, 108, 113, 182, 244, 246
 - difference with creative capital 105
 - indicators 191
 - labor pooling effect 192
 - spatial division of 208
- IAB (Institute of Employment Research)
 - Pallas Online 195, 197
- implicit knowledge 29, 166
- implicit learning 167
- incidental learning 167
- industrial design 264
- industrial districts *see* clusters
- industrial economy
 - Marshall, Alfred, growth theory 22
 - science-based 19
- industrial society 20, 29, 176, 178
- informal learning 161, 167
 - processes of 168–71
- information and communication technologies (ICT) 34, 104–5, 108, 111, 139, 168, 193, 218, 221, 223, 233
- information exchange 122, 172, 193
- innovation 3–7
 - closed system 119
 - comments on Schumpeter 57–9
 - definition of 60–61
 - and documentation of changes and impacts 152
 - empirical evidence of connection between accessibility and 127–9
 - empirical example of
 - analysis during production of Valhall steel jacket 68–72
 - data collection 66–8
 - project background 64–6
 - regression results for process innovations 70
 - framework for integrating innovation findings 62
 - geographic pattern of 124–7
 - framework for understanding 125
 - two-dimensional typology of establishment location 126
 - interaction-intensive 123
 - vs. knowledge 63–4
 - in late 1980s
 - explanations and measurement of innovative behavior 60–63
 - systems of innovations 59–60
 - local *see* local innovation systems
 - market-oriented 244
 - micro-level motivation for 118
 - national systems of 59, 119
 - in poultry production 260
 - poultry slaughter and processing industry, Parana (Brazil) 258–60
 - process of 124
 - in public sector 140–43
 - radical 259
 - regional systems of 59
 - role in social development 57
 - sectoral systems of 59
 - systems of 59–60
 - technical vs. non-technical 106
 - types of 120, 123–4
- innovative behavior, explanations and measurement of 60–63

- innovative cluster 35
- innovative leadership 146, 151
 - elements of 152
- 'innovativeness' with indicators 106
- institutional capacity building 147
- institutional proximity 122, 163
- intellectual capital 24–5, 176, 183
 - development of 182–3
- interaction environments, types of 125–6
- interactive learning 119, 124, 133–4
- inter-firm relationships 108, 111, 168
- internal learning, categories of 259
- International Virtual Industry Cluster (IVIC) 9, 234–9
 - characteristics of 238
 - concept of 234
 - global markets of 248
 - indicators of 235–7
 - policy process framework for 241
 - policy recommendations for supporting SMEs 239–40
 - absorptive capacity and policy 248–9
 - change in capacity and capabilities and policy 245–6
 - culture and policy 242–3
 - infrastructure and policy 246–7
 - IVIC self-identity 243–4
 - leadership 241–2
 - markets and policy 248
 - mechanism for using and tapping 247
 - outcomes and policy 249
 - recommended process 240
 - strategy and policy 244–5
 - sustainable development and policy 249–50
 - vision 244
 - stages of the policy process for 240
- international virtual mega-region (IVMR) 234, 238
- international virtual teams 243
- intra-class correlation (ICC) 109, 116
- ISI (Institute for Scientific Information)
 - Highly Cited database 75, 77, 80, 91
- isomorphism, types of 181
- Italian industrial districts 214
- IT systems, for automation of knowledge processes 15
- Jacobs' externalities 104, 108
- Jensen, Hans Siggaard 2, 139
- 'know-how' 21–3, 104
- knowledge
 - by acquaintance 29
 - for analysis of regional development processes 162–4
 - codification 181
 - definition of 105
 - by description 29
 - different types of 167–8
 - and educational attainment 35
 - vs. innovation 63–4
 - leadership 182
 - measurement process 39–40
 - meta-cognitive 27
 - micro-level model of 165–6
 - personalization 181
 - poultry slaughter and processing industry, Parana (Brazil) 258–60
 - role in economic growth 21
 - strategies for managing 181
 - tacit vs. explicit 20
 - and value creation in the firm 24–6
 - as a value creator 20–23
 - workers 37, 39–40, 44, 46, 106, 112–13 *see also* human capital; knowledge-based workers
- Knowledge and its Limits* 18
- knowledge-based city, evolution and growth of 34–5
- knowledge-based entrepreneurship 228
- knowledge-based organizations
 - characteristics of 177, 179
 - leadership in 181, 189
 - recruitment, problem of 176
 - workers in 177–9
- knowledge-based systems 15, 24
 - artificial intelligence of 16
- knowledge-based workers 183
 - characteristics of 177, 179
 - demands and expectations of 185
 - leadership challenges 179
 - leadership roles and personnel policy 178, 185
 - recruitment of 179
 - strategies for management of intellectual capital perspective 182–7
 - organizational recipes, use of 179–81
 - psychological factors, significance of 187–8

- tailoring strategies 181–2
- see also* gold-collar workers; knowledge, workers
- knowledge capital 39, 66–8, 176–7
- knowledge concept, definition of 2
- knowledge ‘content’ 1
- knowledge creation 103, 143
 - impact of 153
 - self-reinforcing mechanisms of 164
- knowledge economy
 - definition of 1
 - indicators of 105
 - ‘natural’ growth of 46
 - theoretical considerations 2–3
- knowledge externalities, spatially bounded 104–6
- knowledge in production, significance of 34
- knowledge-intensive business services (KIBS) 109, 127, 129
- knowledge-intensive occupations 35, 108–9
- knowledge-intensive organizations 34
 - basic building blocks of 35
 - value of labor in 35
- knowledge-intensive workforce
 - cognitive skills of 35
 - growth of 36
- knowledge management 20, 24, 30, 155
 - evolution of 139
- knowledge processes, IT system for
 - automation of 15
- knowledge society 15, 19, 140, 176, 178
 - key factors in development of 139
- knowledge transfer
 - binary logit model of 90, 92–3, 96–7
 - modes of 90–91
 - ordered logit model of 90, 94–5
- knowledge types and forms, importance of 26–30
- Kyoto school 25
- labor force
 - cognitive skills 35
 - educational level of 36
 - intra-industrial division of 201, 208–9
 - skill-related division of 201
- labor market
 - conditions for low-skilled workers 194
 - pooling effect 192, 208
- leadership 143
 - administrative management vs. institutional 146
 - creative *see* creative leadership
 - entrepreneurial 151
 - innovative 152
 - International Virtual Industry Cluster (IVIC) 241–2
 - in knowledge-based organizations 181–2
 - and managerial capabilities 151
 - Leadership in Administration* 139
- learning
 - for analysis of regional development processes 162–4
 - development of 7
 - different types of 167–8
 - interactive 119, 134
 - internal and external 259
 - micro-level model of 165–6
 - poultry slaughter and processing industry, Parana (Brazil) 258–60
- learning-by-cooperating process 269, 272
- learning-by-interaction process 269
- learning-by-searching process 272
- learning economy, definition of 164
- learning region 34, 161, 164, 168
- learning society 178
- LISA database 109
- local innovation systems
 - development of 118–20
 - evolution of 133
 - geographic pattern of 124–7
 - framework for understanding 125
 - two-dimensional typology of establishment location 126
 - innovation and non-local external factors, influence of 120–24
 - macro-economic policy 118
 - and regional development policies 119–20
- localization economies 104, 108
- Løwendahl, B. R. 179
- Lundvall, B-Å. 59, 119, 124, 134, 166, 168
- Lyotard, Francois 15
- McCann, P. 123–4, 129–30, 218
- Machlup, Fritz 19, 35

- March, James 189
 market-oriented innovation 244
 Marshall, Alfred 22, 34, 163, 257
 industrial districts 119, 214
 Marshallian (technical) externalities 104
 Marx, Karl 21
 Massey, Doreen 7, 191
 material-based production systems 218
 meta-cognitive knowledge 27
 Microcensus 194–5
Microtheory of Innovative Entrepreneurship, The 72–3
 mobilization 143, 147, 150–51
 multi-activity nomads 178
- Nash equilibrium 3, 39, 43
 national innovation policies 244
 national systems of innovations, concept of 59
 Nesheim, T. 178–9, 186
 network governance and partnership, reform strategy under 143
 new economic geography (NEG) 120, 192
 new public leadership 143
 new public management (NPM) 143, 154
 concept of 140
 reform strategy and innovation 141
 Nonaka, Ikujiro 25
 non-cooperative game theory model 37
 outcomes 37–8
 pay-offs 38–9
 players 37
 rules 37
 non-formal learning 167
 Norwegian Administrative Research Fund (AFF) 185
 Norwegian municipality 6, 139–40
- occupational employment 40
 occupational pay-offs, measurement process of 39–40, 45–7
 occupational skill, classification of data and cluster analysis 194–5
 descriptive results 195–7
 occupations
 classification of 105
 knowledge-intensive 35
 mean annual salaries in 2005 and 2008 43
 measurement process 39–40
 ordered logit model, for knowledge transfer 90, 94–5
 organizational identity 186
 organizational knowledge 5, 139–40, 155, 164, 171, 266
 organizational proximity 122
 organizational recipes, use of 179–81, 188
 Oslo Manual 60–61, 128, 132
 outsourcing 215–16, 218
- partnership of innovation, definition of 219–20
 patents 25, 90
 pay-offs, occupational 44
 measurement process 39–40
 Penrose, Edith 24
Philosophical Investigations 27
 Polanyi, Michael 7, 25, 30, 64, 72
 Polenske, Karen R. 60, 247
 policy maker, role of 141
 Popper, Karl 17
Post-modern Condition, A Report on Knowledge, The 15
- poultry slaughter and processing industry, Parana (Brazil)
 Brazilian Association of Poultry Producers and Exporters (ABEF) 262
 concentration in western region 260–61
 features of the companies of 262–4
 innovation process and learning 260
 process innovations 264–71
 product innovations 264
 knowledge, learning and innovation 258–60
 MAR effects 257
 methods used in case study of 261–2
 pragmatic institutionalism 140
 problem solving 40, 145–6, 180
 gold-collar workers 177
 process innovations 70, 120, 264–71
 of companies between 2005 and 2007 267
 in companies during the 2005–7 period 265

- impact on companies 269
 - regression results for 71
- product development 123, 236–7, 264, 266
- product innovations 120, 264
 - of companies between 2005 and 2007 268
 - impact on companies 269
- production process, economic model of 151
- productivity, in context of knowledge economy 9–11
- product life cycles 123, 193, 250
- proximity, types of 122
- public administration 141, 143, 154, 168
- public management 140–41, 143, 152, 155–6
- public policies, indicators for 236–7
- public sector, innovation in 140–43
- public value creation
 - paradigms of 142
 - in public organizations 141
- quality of service ‘delivery’ 142
- Quebec, Canada
 - economic activity 128
 - innovation, types of 127, 129
 - local innovation systems, evolution of 133
 - peak probabilities of establishment-level innovation, location of 130
 - policy implications of innovation activities 132–4
 - simplified urban system and regional boundaries 128
- radical innovation 123, 259, 268, 272
- readiness for cultural change prerequisite test 242
- recruitment, problem of 176
- regional development processes
 - individual learning for 171–2
 - learning and knowledge for analysis of 162–4
 - Rheintal 171
 - Walgau 168–71
- regional employment growth, components of 200
 - regional externalities, components of 104
 - regional innovation systems, concept of 59, 119
 - regional knowledge clusters, concept of 235
 - regional policy aspects, of clusters 220
 - relationship capital 182, 183
 - research and development (R&D) 105, 113, 244
 - with indicators 2, 106
 - partnerships 86, 90
 - research system 15, 29, 72
 - resource-based theory, of the firm 24
 - Rolf, Bertil 25
 - Romer, Paul 21–2, 34, 257
 - Russell, Bertrand 29
 - Russ, Meir 234, 238
- salary 36, 38, 40, 42, 45, 183–4, 188
- Schumpeter, Joseph A. 63–4
 - Capitalism, Socialism and Democracy* 58
 - innovation, analysis of 57–9, 72
- science and technology, role in
 - development of industrialized societies 20
- scientific knowledge 15, 17–18, 21, 80, 249
 - social use of 29
- search-learning processes 145
- sectoral systems of innovations, concept of 59
- self-directed learning 167
- self employment 178
- Selznick, Philip 139–40, 146
- semantic knowledge 23
- service delivery system 153–4
- Silicon Valley 187, 214, 239
- skill-biased employment growth 191
 - employment and educational structure, by qualification class 196
 - localization effects on low-skilled employment 208
 - occupational skill classification data and cluster analysis 194–5
 - descriptive results 195–7
 - region type effects vs. industry effects, assessment of 200–201
 - theory 192–4

- skilled labor 139, 191, 200
 - role of 192
- skilled occupations 196, 200–201, 205, 209
 - employment in 208
- skills development, in organizations 176–7, 183
- skills of employees, indicators of 113, 176
- skills requirements distribution 41
- small and medium-sized enterprises (SMEs) 219
 - policy recommendations for
 - supporting IVIC 239–40, 244
 - absorptive capacity and policy 248–9
 - change in capacity and capabilities and policy 245–6
 - culture and policy 242–3
 - infrastructure and policy 246–7
 - IVIC self-identity 243–4
 - leadership 241–2
 - markets and policy 248
 - mechanism for using and tapping 247
 - outcomes and policy 249
 - recommended process 240
 - strategy and policy 244–5
 - sustainable development and policy 249–50
 - vision 244
- social capital 25, 163, 239, 247–8
- social institutions 15, 29, 271
- social insurance 194–5
- social networks 217–18, 226, 243
- social proximity 122, 237
- society development 150
- Solow, R. 21, 118
- star scientists, engaged in regional knowledge transfer
 - academic productivity 76
 - concepts and previous literature 76–80
 - empirical analysis of factors
 - influencing
 - data and methodology for 80–85
 - dependent variables 88
 - descriptive analysis 85–7
 - explanatory variables 89
 - sample characteristics I 81–2
 - sample characteristics II 84
 - statistical models for 87–91
 - and intraregional knowledge transfer activities 79
 - types and intensity of regional sharing activities 86
- strategic management, components of 141, 147
- strengthening, of management system 151
- structural capital 182, 183
- structure frames habitus frames practice 167
- supply chain 131
- sustainable development 141, 155, 249–50
- systems of innovations (SI), concept of 59–60, 119
- tacit knowledge 20, 24, 30, 64, 122, 168, 233, 269, 271
- Taylor, Frederick 20
- Technological Innovation Research (PINTEC) 262
- technological product and process (TPP) innovations 61
- territorial capital 164
- Third Community Innovation Survey for the Netherlands 106
- Torre, A. 122–3
- transformation system, restructuring of 145, 150–51, 153–4
- triple-helix model, for cluster development in a knowledge economy 218
- urban externalities, components of 104
- urbanization economies 104
 - density indicator for measurement of 108
- US National Occupational Employment Statistics (OES) data 40
- value chain 215–16
 - ‘decoupling’ of 234
- value creation in the firm, role of knowledge in 24–6

- virtual organizations 217, 226
- virtuous cycle 36, 46
- vocational education 194–7, 208
- vocational training 194
 - participation rate in 196
- wages, occupational 46
- Ward's linkage procedure 195
- white-collar workers 177
- Williamson, Timothy 18
- Wittgenstein, Ludwig 27
- workplace, anti-standardization of 178

