

- Achievement, need for, 113
 Acquisition, 66, 81-82, 203
 Administration, 178
 Administrator, 92
 Alfa-Laval, 12, 14, 16, 21-28, 32-39, 41-44,
 47-53, 57-58, 62-68, 74, 80-82, 94-101,
 105, 118-122, 133-137, 140, 143, 155,
 161-166
 Ansoff, H.I., 79
 Appropriability, problems of, 188, 193, 196
 Astra, 21-28, 30-36, 41-44, 47-53, 57, 62-70,
 80-84, 94-100, 106, 118-122, 131-132,
 140, 143, 148-150, 155, 161-163
 Astra-Hässle, 30-31, 33, 38, 43-44, 69-70, 97,
 102, 107, 108, 131-132, 148-150, 164

 Babbage, C., 181-182
 Baranson, J., 58
 Barriers to innovation, 127, 180, (definition)
 159, 162-174
 Bayer, 57
 Blake, S.P., 183
 Bohlin, H., 118
 Boliden, 12, 21-28, 32-36, 44, 49-51, 62-68,
 80-82, 94-101, 106, 118-122, 132-133,
 140-143, 161-163, 170
 Bounded rationality, 178, 186, 188, 194, 199
 Braybrooke, D., 79
 Budgeting decisions, 65, 84
 Burns, T., 157, 183

 Capitalist, 7
 Carlson, S., 55, 111
 Centre concept, 51-52
 Central R&D budget, 120-122
 Central R&D laboratory, 120-122, 127-128
 Chandler, A.D. Jr., 124-125, 181
 Channon, D.F., 126
 Collective R&D, 120, 201
 Competition, 185
 Internal, 201
 Conflict, (definition) 145
 Groups of, 146-147
 Dynamics of, 147-154
 Effects of, 154-155
 Consumer markets, 136-137
 Coordination, multinational, 52-54, 56
 Corporate board, role of, 93, 109-110
 Corporate entrepreneurship, 112-115, 209
 Corporation, definition, 8
 Cultural change 140-143

 Cultural structure, 139-140
 Culture, (definition) 130
 Cost overruns, 89-90

 Dahmen, E., 11, 12
 Decision making, strategic, 80-85
 Decision making, R&D, 85-91
 Decisions
 Administrative, 79
 Operative, 79
 Strategic, 79
 Tactical, 79
 Decentralization, 54, 67, 204
 Development, 4-6
 Development centre, 51, 54, 121
 Deviant behavior, 103-104
 Diffusion, 7-8
 Diversification, (definition) 16-17, 20, 22-25,
 32-37, 43-44, 50, 62, 124, 126, 184, 192
 of R&D, 27-28, 35-37
 Diving, 100, 110-111
 Division, definition, 118
 Divisionalization, 67, 118, 124-128, 187
 Drucker, P.F., 182
 Du Pont, 125, 181

 Eastman Kodak, 57
 Elites, heterogeneity of, 194-196
 Embryonic decision making, 90
 Engineering industry, 133-135
 England, 18, 48, 126
 Entrepreneur, (definitions) 6-7, 15-17, 92,
 157-158
 Establishment chain, 55-57

 Fayol, H., 111, 114, 208-209
 Fear of failure, 113, 115, 209
 Forestry, 135
 Freeman, C., 4

 General Electric, 183
 General Motors, 125, 181-182
 Germany, 18, 48, 57, 163
 Gerstenfeld, A., 88
 Graduate education, 139-141
 Grassroots R&D, 25-26, 39, 184
 Growth, definition, 20
 Goal interrelatedness, 63-64

 Hierarchy, 186-187, 190-192

von Hippel, E., 128
Horizontal integration, 20, 188

IBM, 57

Idea, (definition) 159

Iggesund, 2, 13, 21-28, 32-36, 44, 49-51, 62-68, 80-82, 94-101, 118-122, 135, 161-163, 170

Industrial Research Institute, 172-174

Industrialization, 10-11

Information, 178-179, 186-187, 190, 194-195.
See also Knowledge

Information impactedness, 186, 188

Innovation by invasion, 74, 140, 172

Innovation definition, 7-8
Embryonic, 201
Financial innovation, 7, 11, 12
Incremental, 13-14
Managerial innovation, 7, 177-186, 198-200, 205
Organizational, 181
Technological innovation, 177-186, 198-200, 205
Radical, 13-14, 201, 205

Innovation chain, 127

Innovation company, 198, 120-122

Innovation, system for, 187, 197

Innovation take-over, 197

Innovator, 7, 157-158

Invention, 14

Inventor, 15-18

Invention based corporations, 12-15, 54-55

Integration, 187

Inter-organizational relations, 187

Inter-organizational decision making, 88

Integration, 8, 20, 126-127, 190, 196, 198, 204

Interaction, 196, 201

International marketing, 15, 18-19, 51

International product life cycle theory, 57

Internationalization, (definition) 16-17, 46, 47-53, 62, 124, 126, 184, 192

Internationalization of R&D, 53-54, 56-58

Jantsch, E., 5, 183

Japan, 2, 90-91, 179, 184

Jewkes, J., 4, 171, 182

Johansson, J., 55

Joint ventures, 66

KemaNobel, 14, 16, 17, 21-28, 32-38, 44, 49-51, 62-68, 80-82, 94-101, 106, 118-122, 135-136, 161-163, 170

Knowledge, 4-5, 179-180. See also Information

Kreuger, Ivar, 14

Latent economies, 195

Levitt, T., 73-74

Licensing, 8, 00, 191, 200

Lindblom, C., 79

Little, A.D., 172-174

M form. See Multidivisional-structure

Management (definitions) 6-7, 92, 116, 160, 163-165, 177-205, 186

Management composition, 110

Management, limitations of, 184-185, 192-196

Management succession, 110

Management science, 205

Manager (definition) 92, 179, 190

Managerial control, 180

Managerial economics, 180

Managerial implications, 155, 172-173, 200-205

Manning decisions, 84, 88, 96, 127

Mansfield, E., 56

March, J., 145

Market, (definition) 8, 136-137, 172-173, 186-200

Marketing, 17-18, 26-27, 51, 99, 105-106, 136-139, 147, 161, 166, 172-173

Marx, K., 6

Military markets, 137-139

Mintzberg, H., 79, 111-112

MNC, 46

Multidivisional structure, 118, 124-126, 181, 185, 187, 198-199

Multinational R&D, (definition) 46, 186

Multinationality, 46

Need for achievement, 113

Nelson, R., 178, 198

NIH (Not-invented-here), 44, 167

Nobel, Alfred, 15, 16, 17, 182, 185

Nyström, H., 127

Opportunism, 186, 188, 194, 199

Organization (definition) 116, 186-200
Divisional definition, 116, 118
Functional definition, 116, 118
Inner definition, 116
Outer definition, 116

Patent, 180, 183, 191

Penrose, E.T., 180

Permeability, 44, 127

PERT, 183

Pharmaceutical industry, 131-132

Philips, 2, 21-28, 34, 37, 47-54, 57-58, 62-68, 118-122, 135-136, 163

Phillips, A., 187-189, 193, 196

Philips-Sweden, 2, 62, 80-85, 101, 106, 138-140

Pluralism, 126, 171-173, 201-204

Pluralistic R&D organization, 201-204

Policy conflicts, 71

Policy-evasive behavior, 71-73, 75-77

Policy making, 67-77

Policy-seeking behavior, 71-73, 75-77

Politicizing, 90-91

Price, D. de S., 5, 199

Process technology, 13-14

Producer markets, 136-137

Product area, definition, 20

Product line, definition, 20

Product technology, 13-14

Production function, 177-178

Professionalization, 92, 130

Profit centre, 51, 128, 200

Quasi-integrated forms of organization, 196-200

Quinn, J.B., 75-78

Raw material based corporations, 12-15, 54-55

Raw material based industries, 132-133

Recruitment, 102-103

Research, 4-6

R&D, (definitions) 4-6

R&D management, (definition) 77, 92, 101-109, 111-114

Ringi system, 90

Roles of R&D managers. See R&D management

Roles of top management. See Top management

Romeo, A., 56

Ronstadt, R., 56

Russia, D., 18, 48

Sahal, D., 198, 199

Satellite organization, 106, 201

Sawers, D., 4, 171, 182

Schmookler, J., 42-43

Schon, D.A., 128, 140, 172

Schumpeter, J.A., 6-7, 184-185

Science, 4-5

Scientific advisory board, 100, 121-122

Scientific management, 181, 185

Sector, (definition), 20

Significant actors relations among, 150-154
roles of, 15-18

Simon, H., 145, 186

Size, effects of on R&D, 37-39, 124, 165-166, 173

SKF, 2, 12, 14, 16, 21-30, 32-39, 43-44, 47-54, 57-58, 62-68, 80-87, 90, 94-101, 118-122, 142, 155, 161-166, 170

Sloan, A.P., 128

Smith, A., 180

Sources of ideas (definition), 159, 159-162, 171

Staker, G.M., 107, 100

Steele, L.W., 55-56, 90, 112-114, 127

Stillerman, R., 4, 171, 182

Strategy, (definition), 60, 124-125

Strategic decision, definition, 79

Strategic planning, 68

Strategy/structure-hypothesis, 124-125

Strategizing, 87-91

Structural variety, 126. See also Pluralism

Structure, (definition) 116, 124-125

Subculture, (definition) 130, 147
within science and technology, 131-136
within marketing, 136-139
professional, 139-143

Sweden, 1, 2, 9-18, 137

Taylor, F.W., 181-182

Technical ventures operation, 183

Technological forecasting, 183

Technological innovation. See innovation

Technological levelling, 1

Technological substitution, 74

Technologists, 179

Technology, (definitions) 4-5, 177-186

Technology based companies, 13

Technology exploitation strategies, 66

Technology procurement strategies, 66

Technology sharing, 1

Technology transfer, (definition) 8, 127, 200

Technology trade, (definition) 8

Teece, D., 56

Temporalistic R&D organization, 204-205

Top management, 75-77, 92-101, 109-111

Transaction, 186-189, 194-196

Uncertainty, 141, 157, 178, 186, 194

United States, 1, 18, 48, 56, 124-125, 137, 179, 185

Venture development company, 201-204

Venturism, 128

Vernon, R., 57

Vertical integration, 20, 25, 187-188, 201

Volvo, 2, 14, 16, 21-28, 31-39, 47-54, 62-68, 70-71, 80-84, 94-101, 118-122, 136-137, 161-163

Volvo Flymotor, 32-33, 38, 44, 137-138

Wiedersheim-Paul, F., 55

Williamson hypothesis, 186, 200

Williamson, O.E., 175, 181, 183, 186-200, 211

Winter, S., 178, 198

Wrapp, H.W., 75-78

Yoshino, M.Y., 90, 184

Zeitgeist, 161