

THE PRACTICE OF CONSTRUCTION MANAGEMENT

People and Business Performance

Barry Fryer

with contributions from
Marilyn Fryer

FOURTH EDITION
revised by

Charles Egbu, Robert Ellis & Christopher Gorse



Blackwell
Publishing



Contents

<i>Author Biographies</i>	x
<i>Preface to the Fourth Edition</i>	xii
1 The Development of Management Thinking	1
Early contributions to management thinking	2
Management and the social sciences	4
Systems management	6
Situational or contingency management	9
Dynamic engagement	12
The new Ps of management: post-industrial portfolio, pragmatic, post-modern	13
Quality and environmental management	15
Summary	15
Discussion and questions	16
2 Managers and Their Jobs	17
The tasks of management	17
How managers spend their time	22
The manager's skills	23
The manager's power	25
Empowerment	27
Professionalism and construction management	29
Summary	30
Debate motions and presentation topics	31
3 Organisation	32
Organisational activities	33
Objectives	34
Characteristics of organisations	36
Types of organisation	42
Summary	46
Discussion topics	47
4 Leadership	48
The characteristics of the leader	49

Leadership style	50
The leader and the situation	53
Leadership, goals and social exchange	57
Task and socio-emotional roles	59
Formal and informal leaders	59
The leader's competence	60
Summary	60
Discussion topics	61
5 Communication	62
Communication process	63
Functions of communication	66
Communication structure	68
The direction of communication	68
Why communication fails	70
Communication methods	74
Plain talking and writing	78
Graphic and numerical communication	81
Information management	82
The manager's behaviour: communication and influence	84
Personal skills and interaction	86
Summary	88
Group communication exercise	89
6 Conflict and Conflict Management	93
Definition: functional and dysfunctional conflict	93
Conflict emergence and development	95
Managing conflict	99
Conflict and disputes	104
Summary	106
Conflict management exercise	106
7 Individual/Group Behaviour and Teamwork	111
Personality and individual behaviour	111
Individuals and groups	111
Developing group performance	112
Observing and analysing group behaviour	117
Summarising individual and group behaviour	122
Teamwork	123
Features of a good team	125
Teamwork roles	127
Team leadership	127
Team leadership and the self-managed team	129
Training in teamwork and team leadership	130

Evaluation of teamwork training	132
Summary	133
Exercise	133
8 Motivation and Human Performance	134
People and work	134
Employee performance	135
Motivation	144
Sub-contractors	149
Job design	150
Time management	151
Summary	153
Discussion	153
9 Problem-Solving and Decision-Making	154
Types of problem and decision	155
Stages in problem-solving and decision-making	157
Human reasoning and problem-solving	158
Group decision-making	161
Suspending judgement in problem-solving	167
Creative problem-solving	168
Summary	171
Exercise	172
10 Managing Change	173
Future studies	174
The process of organisational change	174
Managing change	176
Strategic management	177
Marketing	180
Organisational development	184
Changing people's attitudes	187
Managing creativity	190
Summary	192
Exercise	193
11 Value and Risk Management	195
Best value	195
Collaborative agreements	196
Value management	196
Value management and enhanced team-working	198
Value management interventions	198
Risk management	201
Collaborative workshops	204

Summary	204
Student activity	205
12 Managing Innovation in Construction	207
Challenges associated with managing innovations in organisations	208
Knowledge management and innovations: building and maintaining capabilities	209
Organisational innovations and strategies: critical success factors	210
Measuring innovation success	213
Knowledge management and improved innovations: issues of strategy, process and structure	214
Managing knowledge and organisational learning for innovations	216
E-business initiatives and the construction industry	218
Challenges facing organisations in using the Internet for business activities	219
Summary	221
Discussion and questions	221
13 Managing Supply Chains and Construction Networks	222
The nature, types and importance of supply chains in construction	222
A model of SCM in construction	223
Mechanisms used to set up successful collaborative relationships – implementing SCM in construction	223
Partnering	224
Prime contracting	227
Public private partnerships (PPP) and Private Finance Initiatives (PFI)	228
Discussion and questions	231
14 Personnel Management and HRM	232
Personnel management or human resources management?	232
The personnel function	233
The tasks of personnel management	234
Personnel policy	235
Strategic planning and organisational development	237
Employee remuneration	237
Counselling	238
Administration and records	239
Summary	239
Exercise	240
15 Recruitment and Staff Development	241
Employment planning	241
Forecasting and budgeting	242
Producing the plan and an action programme	243
Planning for projects	243

Recruitment	245
Personnel selection	248
Staff development	253
Performance appraisal	253
Education and training	257
Systematic staff development	258
Approaches to staff development	259
Staff development methods	261
Mentoring	263
Management development	264
Continuing professional development (CPD)	265
Construction Industry Training Board (CITB)	267
Summary	267
Mind map tasks	268
16 Health and Safety	269
Safety	269
Health	275
Effective communication and managing health and safety	279
The common law on health and safety	280
The Health and Safety at Work etc. Act 1974	282
Construction regulations	286
Safety representatives and committees	287
Protective equipment	289
Summary	289
Discussion and questions	290
17 Industrial Relations	291
Employers' associations	292
Trade unions	293
Collective bargaining	295
Employee participation and industrial democracy	298
Employment and workplace relations	299
Summary	305
Discussion and questions	305
18 Managing Quality and Environmental Impact	306
Quality management	306
Installing a quality management system	311
Environmental impact	315
Environmental and quality auditing	320
Summary	320
Discussion and questions	321
<i>References</i>	322
<i>Index</i>	341

Index

- ability, 138
ACAS, 302, 303
accommodating, 102
Adair, J., 126, 127, 131
Adams, E.C. and Freeman, C., 216
adjudication, 105
administration and records, 239
advertisements, 247, 248
alertness, 142
Alexander, G., 272
Allied Trades Joint Industrial Council, 296
alternative dispute resolution, 104
Anderson, C. M., Riddle, B. L. and Martin, M. M., 70
Ansoff, H. I., 155
anxiety, 142
APM, 30, 202
arbitration, 106
Arbitration Act, 106
Argyle, M., 87, 113, 117
Arsenault, A. and Dolan, S., 143
artificial intelligence, 159–160
asbestos, 276
Asch, S., 115
assertiveness, 86
attitude change function, 67
auditing
 external, 312
 internal, 312
auditing of suppliers and subcontractors, 312
autonomous work group, 150
Averill, J. R., 72
avoiding, 101

Baden Hellard, R., 124, 308, 311

Bales, R. F., 65, 70, 100, 118, 119, 121
Ball, P., 311
Barnes, S. and Hunt, B., 218
Barrett, P., 306
Battikha, M.G., 306
Belbin, R. M., 93, 113, 127
Bell, M. and Lowe, R. J., 35
benchmarking, 307–8
Bennett, J. and Jayes, S., 225
Bennett, R. and Gabriel, H., 215
Bennett, S., 195
Bennis, W., 48
Bennis, W., Parikh, J. and Lessem, R., 315
best value, 195
Bhatt, G.D., 216
BITF, 35
Blake, R. R. and Mouton, J. S., 56, 50, 99
Bogdanov, J., 218
brainstorming
 reverse, 170
 techniques, 168–9
BRE, 308, 316
Bresnen, M. and Marshall, N., 225
British Quality Award, 308
brochures, 183
Brown, R., 163
Brown, W. and Jaques, E., 4
Brundtland commission, 35
Bruner, J. S., 146, 147, 148
BS5750, 306, 308, 309
BSRIA, 316
Burns, T. and Stalker, G. M., 11
business and the environment, 315
Business Impact Task Force, 34
business process re-engineering, 186

- Byrne, R., 215
- Cannon, T., 218
- Capers, B. and Lipton, C., 72, 165
- CAPM, 18
- Carnegie, D., 84
- CBPP, 181, 195, 198
- CDM regulations, 201, 271, 272, 273, 282, 317
- change, 32
- implementing, 176
 - people's attitudes, 187
 - planning organisations, 175
- characteristics
- effective teams, 126
 - leader, 49–50
 - organisations, 36–42
- Christopher, M., 222
- CIC, 207
- Cicmil, S. J. K., 32
- CIOB, 21, 197
- CIRIA, 15, 195, 202, 306, 309, 316–18
- CITB, 258, 267
- Clarke, N., 120
- client expectations, 96–7
- Cline, R. J. W., 65, 72, 162, 163, 165
- closed questions, 71
- cognitive consistency theories, 145
- Cole-Gomolski, B., 215.
- collaborative
- agreements, 196
 - workshops, 204
- collecting information, 157
- collective bargaining, 295–97
- commercial employment agencies, 247
- communication
- direction of, 68–9
 - dominance, 70–71
 - downward, 69
 - failure, 70
 - functions of, 66
 - group, 65
 - influence, 84
 - lateral, 69
 - methods, 74–8
 - process, 63–8
 - skills, 63
 - spoken, 74
- subcontractors, 69
- structure, 68
- training, 64
- upward, 69
- written, 77
- competence models, 147
- compromise, 101
- computer-aided learning, 261
- conceptual skill, 23
- conflict
- change, 97
 - disputes, 104–6
 - dysfunctional, 93–5
 - emergence and development, 95
 - functional, 93–5
 - management, 93–110, 102, 167
 - objectives, 95
 - processing, 64
 - resolution, 97
- Constable, J. and McCormick, R., 265
- Construction Best Practice Programme, 195
- Construction Confederation, 269, 292–3, 296
- Construction Industry Advisory Committee, 285–6
- construction personnel, 232–3
- Construction Quality Forum, 308
- Construction Regulations, 286–7
- Construction Round Table, 310
- Construction Skills Certification Scheme, 269, 293
- contingency
- management, 9
 - theory, 6, 16
- contract sum development, 201
- contracts of employment, 299
- contractual relationships, 124
- contributory negligence, 281
- controlling, 20
- Cooper, C. L., 143, 148
- corporate identity, 183
- corporate social responsibility, 35
- COSHH regulations, 276, 277, 289
- counselling, 143, 238
- Cox, A. and Ireland, V., 223–4
- Cox, A. and Thompson, I., 225
- Cox, C. J. and Cooper, C. L., 87
- CPD, 265–7

- creative problem-solving, 168, 191
 crises and breakdowns, 33
CRISP, 207
 cultures and multiculturalism, 12
 curiosity, 147
- Dainty, A. R. J., Bryman, A. and Price, A. D. F., 28
 Dainty, A.R.J., 301, 302
 Davis Langdon, 200
 Davis, H. and Scase, R., 190
 Day, D., 129
 Dearlove, D., 217
 De Bono, E., 167, 191, 199
 debate motions, 31
 decision making, 24
 decisions
 administrative, 156
 non-programmed, 156
 operating, 155
 programmed, 156
 reaching and acting on, 158
 strategic, 155–6
 Defence Estates Organisation, 198
 Defence Housing Executive, 227
 Delegation, 124, 153
 Delphi method, 170
 Demming, E., 307, 311
 developing
 creative thinkers, 191
 group performance, 112
 organisations, 33
 people, 17
 staff, 21
 development activities, 259
 development programmes
 evaluating, 259
 planning, 258
 direct labour, 149
 directing, 19–20
Disability Discrimination Act, 302
 disagreement, 72
 disciplinary procedures, 302–3
 discrimination and equal opportunities, 300
 disjunction, 73
 dismissal, 303–4
 disputes procedure, 303
- dominating, 100
 Donald, M., 210
 Drake, C.D. and Wright, F.B., 283
 Drennan, D., 87
 drive reduction theory, 144
 Drucker, P. E., 17, 37, 158, 215
 Drummond, H., 313
 DTI, 35, 207
 dual process hypothesis, 159
 dynamic engagement, 12–13
- e-business initiatives, 218–19
 EC Directive, 272, 287, 289, 319
 education and training, 257
 Edvinsson, L., 209
 Egan, J., 33, 173, 222
 Egbu, C. and Botterill, K., 218
 Egbu, C. O., 24, 207–9, 212, 218
 Elliman, T. and Orange, G., 187
 Ellis, D. G. and Fisher, B. A., 71
 Ellis, R. C. T and Wood, G. D., 196, 199, 200, 203, 259, 261
 Emmitt, S. and Gorse, C. A., 66, 94, 100, 104, 105
 empathy, 85
 employee
 participation, 298
 performance, 135–44
 remuneration, 237–8
 employer
 associations, 292
 duties, 283
 federations, 292
 employment and workplace relations, 299–304
 employment planning, 241
 Employment Protection Act, 299
 empowerment, 27–9
 empowerment culture, 129
 encouraging
 dialogue, 189
 interaction, 116
 enquiries and contracts, 183
 Environment Agency, 317
 environmental
 action planning, 319
 impact assessment, 315–20
 management, 316, 317

- objectives, 35–6
- scanning, 178
- Environmental Protection Act, 317
- ergonomics, 151
- ethics and social responsibility, 12
- European Commission, 35
- Evans, H., 79
- Evans, M. G., 57
- Evenden, R. and Anderson, G., 240
- expectancy theories, 145
- experiential learning, 260
- expert determination, 105
- express and implied terms, 300
- external labour supply, 243

- Fahey, L., Srivastava, R., Sharon, J. S. and Smith, D. E., 218
- Fairclough Report, 2
- Farmer, S. M. and Roth, J., 103
- Farnham, D., 298
- Fayol, H., 2
- Federation of Environmental Trade Associations, 293
- Federation of Master Builders, 296
- feedback, 7, 20
 - extrusive, 137
 - intensive, 137
- Festinger, L., 145
- Fiedler, F. E., 55
- Field, D., 281
- financial incentives, 149
- Finnigan, J. P., 314
- Fitts, P. M. and Posner, M. I., 136, 139, 142
- Flanagan, R. and Norman, G., 203
- Flowers, R., 83
- forecasting and budgeting, 241–2
- Foundation for Management Education, 264
- Francis, S., Shemmings, S. and Taylor, P., 287, 318
- Frey, L. R., 65
- Fryer, B., 15, 20, 87, 117, 125, 147, 151, 264, 316, 318
- Fryer, M., 5, 190, 191, 192
- future studies, 174

- Galuinic, D. C. and Rodan, S. A., 210
- Gameson, R. N., 71, 96
- Gann, D. M., 209
- Gardiner, P. D. and Simmons, J. E. L., 93, 97, 98
- Garnett, N. and Pickrell, S., 180
- Gayle, A., 301
- Gibb, J. R., 71, 127
- globalisation, 12
- GMB, 295
- goal-setting theory, 148
- Godfrey, K., 202
- Gordon, W. J. J., 169
- Gorse, C. A. 65, 71, 94, 95, 100, 102, 118
- Gorse, C. A. and Whitehead, P., 166
- Gould, J. D., 137
- Grant, R. M., 210
- graphic and numerical, 81–2
- Greed, C., 301
- grievance procedures, 303
- Griffith, A., 311, 317, 318, 319
- group
 - behaviour, 117–22, 164
 - core sureness, 113
 - decision making, 161–7
 - polarisation, 163
 - think, 163, 165
- Grundy, T., 177

- Hackman, J. R., 164
- Hall, R., 209
- Hammer, M. and Champy, J., 13, 186
- Handy, C., 13, 38, 50, 53, 56, 95, 264, 265
- Hannagan, T., 13, 185
- Hare, A. P., 70
- Harris, F. and McCaffer, R., 149
- Harrison, F. L., 45
- Harry, M., 83
- Hartley, P., 163, 165
- Harvey-Jones, J., 14
- Haslett, B. B. and Ruebush, J., 70
- Hastings, C., Bixby, P. and Chaudhry-Lawton, R., 125, 128, 129
- Hawkins, K. and Power, C. B., 71
- Hawley, R., 191
- Hax, A. and Majluf, N., 178
- health and safety administration, 284
- Health and Safety at Work Act, 269, 277, 281, 282, 317

- health and safety, 275–9
 - commission, 284
 - common law, 280
 - effective communications, 279–80
 - files, 273
 - plans, 273
 - safety inspectors, 284–5
 - safety management, 279
 - team approach, 272–3
- help seeking, 72
- Hersey, P., Blanchard, K. and Johnson, D. E., 56
- Hertin, J., Berkhout, F., Gann, D. M. and Barlow, J., 35
- Hewison, R., 14
- high-risk activities, 273–5
 - demolition, 274
 - excavations, 274
 - falsework, 275
 - maintenance, 275
 - painting, 275
 - roof work, 275
 - scaffolding, 274
 - site transport, 275
 - steel erection, 274
- Highways Agency, 270
- Hirokawa, R. Y. and Poole, M. S., 164, 165
- Hirowaka, R. Y., Erbert, L. and Hurst, A., 165
- HM Inspectorate of Pollution, 318
- HM Treasury, 202, 270
- Hollander, E. P., 57
- Hollander, E. P. and Julian, J. W., 60
- Hopson, B., 239
- Horne, D., 14
- Housing Corporation, 195
- Housing Grants and Construction Regeneration Act, 104
- HSE, 269, 272, 273, 276, 280
- Hudson, L., 167
- Hull, C. L., 144
- human performance, 136
- human resources management, 232
- human skill, 23
- Hunt, J., 161, 162
- ICE, 198, 202
- identifying development needs, 258
- improvement notice, 285
- individuals, 122–3
- induction, 159
- industrial
 - democracy, 298
 - relations, 291–305
- Industrial Training Act, 21
- Industrial Training Boards, 21
- industry action, 309
- information communication technologies, 217
- information
 - function, 67
 - handling, 25
 - management, 82–3
 - technology, 82, 143
- innovation strategies of organisations, 208
- Innovative Teamwork Programme, 131
- Institute of Management, 264, 319
- Institute of Public Policy Research, 230
- instrumental
 - conditioning, 146
 - function, 67
- interaction analysis, 117
- intermediate stress, 140
- ISO 14000, 318
- ISO 9000, 306, 309, 312, 317
- ISO 9004, 317, 318
- Jacobs, A., Jacobs, M., Cavior, N. and Burke, J., 65
- Jahoda, M., 189
- Jarboe, S., 165
- JCT 98 with Contractor Design, 200
- job
 - centres, 247
 - description, 38, 41, 245
 - design, 143, 150
 - enlargement, 150
 - enrichment, 150
 - evaluation, 238
 - plans, 199
 - rotation, 151
 - specifications, 245
 - stress, 140
- Johari window, 240
- Joyce, R., 286
- just in time, 222

- Kahn, R. L., 134
 Kalakota, R.M.R., 218, 220
 Kanter, R. M., 14
 Katz, R., 23
 Keel, D.K., 264
 Kelly, J. and Male, S., 197, 198, 197
 Kelly, J. and Poynter-Brown, R., 197
 Kennedy, C., 13
 Key Performance Indicators, 139
 Keyton, J., 65
 Kilmann, R. and Thomas, K., 100, 102
 Kirkpatrick, D. L., 259
 knowledge
 innovations, 209, 214–16
 integration, 97
 sharing, 214
 Korman, A., 145
 KPI Report, 139
- labour turnover analysis, 242
 Langford, D., Hancock, M., Fellows, R. and Gale, A., 292
 Lansley, P., Sadler, P. and Webb T., 11
 lateral thinking, 167
 Latham, M., 2, 33, 222, 310, 311
 leader
 authoritarian, 50
 competence, 59
 decision-making, 52
 setting, 55
 situation, 53–7
 style continuum, 51
 task, 54
 leadership
 democratic, 50
 employee-centred, 51
 formal, 59, 171
 functions, 127
 goal setting, 58–9
 informal, 59, 171
 path goal, 57
 situational, 55–6
 structuring, 50
 style, 50–53
 supportive, 50, 56
 Learndirect, 21
 lectures, 262
- LeDoux, J., 63
 Lee, F., 71, 72
 Leonard, D. and Strauss, S., 216
 Leonard-Barton, D., 210
 liability
 occupiers, 282
 personal, 281
 vicarious, 281–2
 Likert, R., 51
 Lin, F.R. and Shaw, M.J., 223
 line and staff organisations, 42–3
 listening, 85–6
 litigation, 106
 Littlepage, G. E. and Silbiger, H., 170
 Littler, C. R. and Innes, P., 39
 Lloyd, S. R., 86
 Locke, E., 148
 Locke, M., 197, 204
 Loosemore, M., 97
 Loosemore, M., Nguyen, B. T. and Denis, N., 103
 Love, P. E. D., 23, 186
 Lowe, R. J., 35
- Macan, T. A., 151
 Mace, C. A., 136
 Madden, J. F., 301
 Maddocks, R., 297
 Madique, M. A., 210
 Major Contractors Group, 269
 Malhotra, Y., 219
 management
 classical, 2
 information systems, 83
 management development, 264–5
 innovation, 266
 strategic, 265
 power, 25
 selection consultants, 247
 skills, 23–5
 social sciences, 4–6
 tasks, 17–22
 time, 22
 training, 143
 managing
 change, 173–94
 conflict, 99–104
 creativity, 190–2

- innovation, 207–21
- knowledge, 216–18
- quality and environmental impact, 306–21
- supply chains, 222–31
- Management Charter Initiative, 265
- market research, 181
- marketing, 180–4
 - audit, 184
 - strategy, 182
- Maslow, A. H., 145
- matrix organisations, 43–6
- Maude, B., 78
- May, G. H., 174
- Maylor, H., 33
- Mayo, E., 4
- McCannell, A. S., Clare, L. M. and Gitters, S. H., 217
- McClelland, D. C., 145, 265
- McCroskey, J. C., 70
- measuring innovation success, 213–14
- mediation, 105
- meetings
 - action points, 75–6
 - clients, 183
 - project, 76
 - site, 76–7
- mentoring, 263–4
- merit rating techniques, 238
- method choice, 73
- Miller, E. and Rice, A. K., 6
- Miller, G., 144
- Mintzberg, H., 4, 22
- MoD, 227
- Monte Carlo simulation, 203
- Moran, P. and Ghoshal, S., 210
- Morrison, E. W., 72
- Morse, J. J. and Lorsch, J. W., 11
- Moscovici, S. and Zavalloni, M., 163
- motivation, 144–9
 - human performance, 134–53
 - intrinsic, 146
 - job satisfaction, 148
- Movement for Innovation, 196
- Mowrer, O. H., 144
- Mullins, L. J., 38, 113, 243
- multiple observation methods, 121
- Murdoch, J. and Hughes, W., 29, 30
- Murphy, L. R., 141, 143
- Murray, H. A., 145
- mutual recognition, 29
- National Joint Council for Building Industry, 293, 295
- National Rivers Authority, 318
- National Training Organisation, 267
- National Working Rule Agreements, 296–7
- negative socio-emotional interaction, 65
- negotiation, 105, 297
- NHBC, 310
- NHS plan, 230
- Noise at Work Regulations, 289
- Nolan, V., 126, 131, 132
- Nonaka, I. and Takeuchi, H., 209
- Norman, D., 159
- norms, 114–15
- Northledge, A., 31
- Novelli, L. Jr and Taylor, S., 48
- O’Neil, P., 93, 100
- objectives
 - economic, 34
 - organisational, 34
 - policies, 33
- occupational health hazards, 276
- OGC, 195
- optimal stress, 142
- organisation
 - centralisation, 39–40
 - charts, 41
 - committees, 42
 - decentralisation, 39–40
 - downsizing, 39
 - flexibility, 40–41
 - hierarchy, 38–9
 - issues, 41
 - manuals, 41
 - paperwork, 42
 - procedures, 41
 - product-based, 42
 - rigidity, 40–41
 - size, 40
 - specialisation, 37–8
 - structure, 36–7
 - survival, 36

- organisational
 activities, 33–4
 area based, 42
 change process, 174
 climate, 175
 development, 184–7
 environments, 12
 innovations, 210–12
 review, 257
 organising, 19
 Ostmann, A., 93
 overloading, 73
- Palmer, A., 197
 Parnes, S. J., 157
 partnering, 222–7, 316
 commitment, 226
 early involvement, 226
 equity, 226
 evaluation, 227
 implementation, 227
 mutual goals, 226
 timeliness, 227
- Patchen, M., 72
 Patel, M. B., McCarthy, T. J., Morris, P. W. G.
 and Elhag, T. M. S., 216
 Payne, R., Fineman, S. and Jackson, P., 143
 Pearce, P., 182
 Pemberton, C. and Herriot, P., 232
 Penrose, E. T., 209
 people management, 13
 performance appraisal, 37, 253–7
 Perry, J. G. and Hayes, R. W., 202
 personal and corporate relationships, 183
 personal digital assistants, 152
 personal
 power, 26
 skills, 86–8
- Personal Protective Equipment at Work
 Regulations, 289
- personality of individual behaviour, 111
 personnel
 action programme, 243
 function, 233
 management, 232–40
 management tasks, 233–5
 policy employment, 236
- policy, 235–7
 general, 235–6
 health and safety, 237
 industrial relations, 236
 remuneration and employee services, 237
 staff development, 236
- selection
 curriculum vitae, 250
 group methods, 252
 interviewing, 250–51
 measures of performance, 251
 tests and questionnaires, 251
 work try outs, 253
- specification, 246
 statement, 235
- persuasion, 188
 Peters, T., 13, 310, 311, 313,
 Petit, T., 7
 Pettinger, R., 181
 Pheng, L. S., 181
 physical health hazards, 277–9
 dusts, 277–8
 radiation, 279
 skin troubles, 278–9
 toxic fumes, 278
 vibration and noise, 278
- plain talking, 78–81
 plan implementation, 179
 planning
 business, 178
 corporate, 178
 functional, 178
 projects, 243–4
 strategic, 178–9
- Porter, L. W. and Lawler, E. E., 145
 portfolio management, 13–14
 position power, 26
 positioning, 182
 positive socio-emotional interaction, 65
 post-industrial era, 13
 post-industrial society, 13
 post-modern management, 14
 Prahalad, C.K. and Hamel, G., 215
 Preece, C. and Male, S., 184
 present labour force, 242–3
 prime contracting, 227–8
 Prince, G. M., 131

- priorities, 157
- Private Finance Initiative, 197, 228, 229
- problem definition, 157
- problem solving
 - decision making stages, 157, 172
 - human reasoning, 158
 - suspending judgement, 167
 - techniques, 169
- problem types, 155–6
- process change, 187
- productivity bargaining, 238
- professionalism, 29–30
- profit, 34
- prohibition notice, 285
- project
 - information, 152
 - organisation, 44
- propaganda, 188
- protective equipment, 289
- Pruitt, D. G. and Rubin, J. Z., 99
- Public Private Partnerships, 228–31
- QUAD, 89, 167
- quality and environmental management, 15
- quality
 - attitudes, 311
 - benefits, 310
 - control, 307
 - culture, 313
 - definition, 307
 - in service organisations, 313
 - management, 308–11
 - manual, 313
- Rackham, N., 118
- Rackham, N., Honey, P. and Colbert, M., 118
- Rahim, M. A., 100
- recognition, 84–5
- recruitment
 - procedures, 246
 - web sites, 248, 249
- reports, 77–8
- resource power, 25–6
- Revans, R., 131, 264
- review and control performance, 180
- reward power, 25–6
- Ribeiro, F. L. and Henriques, P. G., 218
- RICS, 21, 196, 202
- risk
 - analysis, 203
 - identification, 203
 - management, 201
 - registers, 203
 - response continuum, 204
- risky shift, 163
- Robbens Committee, 282
- Roberts, P., 15, 319, 320
- Rogers, C. R., 238
- Rogers, E. M., 210
- role
 - ambiguity, 117
 - behaviour, 116
 - clarity, 135
 - conflict, 117
 - expectations, 116
 - play, 262–3
 - power, 26
 - related function, 68
 - set, 117
 - storming, 170
- roles, 116–17
- Rothwell, R., 207, 210
- Ruikar, K., Anumba, C. F. and Carrillo, P. M., 187
- Saad, M., Jones, M. and James, P., 223
- Sadgrove, K., 307, 313
- safety, 269–75
 - attitudes, 271–2
 - policy, 283–4
 - regulations and committees, 287–9
- Scarborough, H., Swan, J. and Preston, J., 217
- scenario building, 192
- Schachter, S., 145
- Schein, E., 177
- Schmidt, N. H. and Finnigan, J. P., 48, 307
- scientific management, 2
- Sector Skills Councils, 267
- self-managed teams, 20, 28–9
- Selwyn, N., 304
- Shepherd, C. R., 65
- Shimmin, S., Corbett, J. and McHugh, D., 272
- Simon, H. A., 159
- situational management, 9

- skills
 analysis, 242
 development, 138
- Skinner, F. F., 146
- Slocombe, T. E. and Blectorn, A. C., 151
- SMART, 189
- Smith, A. J. and Piper, J. A., 259
- Smith, P. B., 51
- Smode, A., 138
- SMOT, 121
- Snyder, R. A. and Williams, R. R., 145
- social relationships function, 67
- specialisations, 3
- Srivastava, A., 300–302
- staff capabilities, 40
- staff development
 approaches, 259–60
 methods, 261–3
- Standing, N., 196
- Stein, M., 190
- Stewart, A. M., 130
- Stewart, R., 1, 17, 28, 209
- Stoner, J., Freeman, A. and Gilbert, D., 12, 28, 39, 113
- Strategic Defence Review, 227
- strategic
 management, 177
 planning, 237
- stress, 142–3
- subcontract labour, 149
- subcontractors, 143
- subordinates, 54
- succession plan, 242
- Sullivan, P. H., 215, 217
- supply chain management, 222–4
- sustainable development, 35, 123, 317
- SWOT analysis, 182
- SYMLOG, 120, 121
- systems
 management, 6–9
 theory, 6
- Tannenbaum, R. and Schmidt, W. H., 52
- targets and performance standards, 143
- tasks
 closed, 159
 generative, 159
- socio-emotional roles, 59
- task-based interaction, 66
- Tatum, C. B., 210, 216
- Tavistock Institute, 5, 6
- team leadership, 127–30
- teamwork, 123–5, 131
 roles, 127, 128
 training, 130–32
- team building, 124
- Tece, D. and Pisano, G., 210, 216
- termination of contract, 304
- terms and conditions, 299
- TGWU, 293
- Thomas, K. W., 100
- Thomason, G., 48
- Thoms, P. and Pinto, J. K., 33
- time management, 151–3
- Toakley, A. R. and Marosszky, M., 306
- Tolman, E. C., 57
- Torrance, E. P., 190
- total quality management systems, 28
- TQM, 298, 307, 314
- Trade Union and Labour Relations Act, 295
- trade unions, 293
- training
 plans, 242
 team leadership, 130–32
- Turban, E., Lee, J., King, D. and Chung, M. H., 218
- UCATT, 293
- UK-Online, 218
- unanimous agreement, 162
- unique selling proposition, 182
- University for Industry, 21
- Urwick, L., 2
- value management, 195–206
- value engineering, 197
- value stream mapping, 197
- VanDemark, N. L., 191, 192
- Van de Ven, A. H., Angle, H. L. and Poole, M. S., 210, 216
- VanGundy, A., 168
- Vroom, V. H., 52, 145
- Walker, D. H. T., 181

- Wallace, W. A., 70, 95, 97
Wason, P. C., 146, 159
Waste Regulation Authorities, 318
Weber, R. J., 166
Weisberg, R. W., 191
Weitzman, M. L., 210
West, M., 192
Wheelan, T. L and Hunger, J. D., 178, 180
White, M. and Trevor, M., 51
White, R., 145
Winch, G. M., 175, 209
Winslow Taylor, F., 2
Wolfe, R. A., 207
women in construction, 301
Wood, G. D., 44
Woodman, R. W., Soyer, J. E. and
Griffin, R. W., 215
Woodward, J., 10
work-based learning, 260, 263
work breakdown, 152
Workplace Regulations, 287
World Commission on Environment and
Development, 35
Wright, A., 238
Yisa, S. B., Ndekugri, I. and Ambrose, B., 181
Zaltman, G., Duncan, R. and Holbek, J., 216