

Production Management Handbook

Second edition

B. H. Walley

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Gower

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First edition published 1980.

Second edition published 1986 by
Gower Publishing Company Limited,
Gower House,
Croft Road,
Aldershot,
Hants GU11 3HR,
England

Gower Publishing Company,
Old Post Road,
Brookfield,
Vermont 05036,
U.S.A.

British Library Cataloguing in Publication Data

Walley, B.H.

Production management handbook.—2nd ed.

1. Production management

I. Title

658.5 TS155

ISBN 0-566-02532-9

Typeset by Guildford Graphics Limited, Petworth, West Sussex.
Printed in Great Britain by Redwood Burn Limited, Trowbridge.

Preface to second edition

Since the first edition of this book was compiled in 1979, industrial companies in Western Europe and the U.S.A. have had to face a severe and prolonged recession. Whole industries have been shattered when they failed to respond to new and dangerous times. Most of the manufacturing units that have survived have required major redundancy programmes to ensure their continuity.

It is fashionable to blame governments for giving insufficient support to industry. From time to time industrial managers have asked for more grants for capital expenditure, import controls to keep out unwelcome products from overseas competitors and draconian measures to control trade union activities.

The true reason for industrial decline lies nearer home. Those of us who have held senior positions during the last five years must explain why in many organisations it needed the recession to produce realistic manning levels, or a view of economic reality which ensured that sufficient cash was generated to permit required capital expenditure.

This second edition could quite easily have been a chronicle of how the brink of disaster was avoided. Instead it reiterates the assumptions of the first edition. If managers in industry become capable of analysing the environments which impact on industry and then reflect the need for change through the production system, there should be no reason for going near the brink at all. For the reader the pain of experience will be missing from this book. What remains is the opportunity to review the analysis and methods which, having ensured survival, will now go on to provide the basis for industrial resurgence.

This is still not a conventional book on production management although it covers in detail the techniques needed within the function. It suggests that the production activity should be seen as a system, conditioned by its environment

and only capable of being drastically improved if all the factors making up the system are taken into account. These, it is suggested, can be regarded as a framework, comprising work organisation, methods of motivation, the resources needed in production and the systems of planning and control. One element of the framework cannot be altered without some effect on the others.

Using this approach, many industrial managers have realised the many opportunities, as well as problems, that rapidly changing environments have brought. The use of computers, microprocessors and robotics, all allied to flexible manufacturing systems, provide even the smokiest of smoke-stack industries with the means of lowering production costs and so competing in world-wide markets. There is strong recognition in this second edition of the need to deploy computers and microprocessors wherever they can be cost-justified. Applications can be as diverse as in well-developed costing systems, guided vehicle usage in a warehouse, or in ensuring the efficiency and flexibility of the manufacturing system.

Cash, together with control of working capital, has often proved decisive in ensuring the viability of an industrial organisation. The combination of such functions as stock control, materials requirements planning, and factory scheduling, into an operational planning unit has proved the most suitable organisational structure for the purpose. Hence the importance attached to operational planning in this edition.

Costing and cost control too have been given an enhanced status in keeping with the need to ensure that accurate costs and appropriate control are available for all products and processes.

It may be difficult for Westerners to duplicate the culture which has proved so successful in Japanese industry, but those aspects which can be introduced – the Kanban system of stock control or Quality Circles, for example – have been recorded.

The recession has taught us that there is no substitute for effective management. There is now much healthy criticism of the diversions away from profit and cash generation which mis-applied techniques (especially those relating to behavioural problems) have produced. The chapter on so-called behavioural science remains, with no amendment to the critical assessment made when it was first written. In another chapter the problems of successfully applying participation have been changed in only a minor way. The pendulum has swung towards management and away from democracy and this is reflected throughout the second edition. The substantial additions and revisions to the original text reflect the profound technological, social and cultural changes which have occurred in the last five years. The way in which they can be determined, analysed and applied within the production system still forms the basis of this book. While every production unit is unique in some way, the approach outlined provides a radically different way of looking at, and improving, production efficiency.

B. H. Walley

Preface to first edition

This is not a conventional book on production management, although it covers in detail the techniques needed within the function. Its chief objective is to present, to production and other managers who can influence the operation of manufacturing units, a way of looking at environments and the production system that will help them determine an appropriate series of alternatives for each unit's change strategy. The subject is a vital one, and a serious look at it may represent the difference between organisational life and organisational death in the next decade.

The view from the factory gates for most production managers is uninspiring. In the UK at least, industry is not held in high regard. Its productivity is comparatively low, while national economic policies seem at times to deny the capital investment needed for its improvement. Social attitudes appear to be fostered which make it difficult to use either the carrot or the stick for increasing productivity.

My own experience in industry suggests that it is not for the want of trying that UK production performance remains obstinately low. Most production managers can point to a long list of activities they have been involved with - work study, budgetary control, production planning, cost control. Yet the fundamental problems remain the same. How can the labour force be motivated adequately? How can conflicts over responsibility, authority and power between trade unions and management be resolved? How can change be undertaken without a major upset in the industrial relations situation?

Perhaps it is not the solutions that have proved inadequate but the way the problems were analysed in the first place. The profound social and cultural changes now taking place must continue to affect the shopfloor more and more. A prime requirement of any production manager therefore is an ability to analyse his external environment and then determine what changes he must introduce in order not to be overwhelmed by external influences.

A second reason why productivity continues to stay low may lie in the training of production managers. They often seem to be technique-orientated – work measurement, incentives, labour control systems, and so on. The techniques have usually been applied piecemeal, without regard for their effect on the production process generally.

So what this book suggests is that the production activity should be seen as a system, conditioned by its environment and only capable of being improved if all the factors making up the system are taken into account. These, it is suggested, can be regarded as a framework comprising work organisation, methods of motivation, the resources needed in production and the systems of planning and control. One element of the framework cannot be altered without some effect on the other parts.

While every production unit is unique in some way, this approach provides a radically different way of looking at and improving production efficiency.

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Contents

List of Illustrations	xiii
Preface to second edition	xv
Preface to first edition	xvii

PART I THE PRODUCTION FRAMEWORK

1 The production framework	3
The production function	3
Planning the production function	4
Diagnosis in the production system	4
Environmental influences on the production system	7
Production performance in the late eighties	7

PART II ENVIRONMENTAL ANALYSIS

2 The production audit	15
Introduction	15
Key data	15
Operational information	17
Environmental links	21
Summary	22
Corporate productivity – an input-output model	22
Conclusions	23

3 Major environmental influences	25
Introduction	25
The future	26
Dilemmas in production management	29
Aspects of change	31
The law and the production manager	34
Industrial tribunals	35
Planning for adaptation to environmental change	36

PART III PRODUCTION RESOURCE PLANNING AND CONTROL SYSTEMS

4 The internal environment	43
Introduction	43
The legislation	43
Safety policy	45
The working environment	48
General safety procedures	59
Housekeeping	60
5 Information systems	64
Introduction	64
Cross functional systems and operation planning	64
Management and management information systems	65
Resource systems	66
Information needs the business appraisal	66
Systems and the production environment	71
6 Data for production systems and data bases	74
Introduction	74
Information	74
Product information	75
Production cost information	75
Common information systems data bases	77
Data sheets	77
Detailed information	81
7 Production objectives and planning	83
Introduction	83
Goal conflict	83
Setting objectives	89
Management by objectives	90
Related plans	91

CONTENTS

vii

8 Costing production	92
Introduction	92
Costing principles	92
Basic information and data books	93
Levels of information	94
Information required	94
Establishing standards	95
Types of cost	96
Budgets	97
Costing in practice	98
Development	110
Costing by computer	116
9 Operational planning	120
Introduction	120
Failure to deliver on time	121
The organisation for operational planning	121
Operational planning objectives	123
Types of production activity	123
Data for operational planning purposes	124
National philosophies	125
Operational planning modules	125
Elements of material control systems	137
Inventory control	142
Just in time – or the KANBAN system	153
Organisational linkages	154
Use of computers in operational planning	159
10 The use of computers in production systems	161
Introduction	161
Computer applications	162
Designing production computer systems – a procedure	162
The building block approach to using a computer for production systems	164
Computer use	165
Data processing equipment	171
Distributive processing	174
Easing the use of computers	175

PART IV WORK ORGANISATION

11 Work organisation	181
Introduction	181
Changing work organisations	182
The work organisation system	182

12 Traditional organisations	186
Introduction	186
Some traditional concepts	186
Hierarchies	189
Effective organisations	191
13 Conflict and its possible containment	194
Introduction	194
Conflict – its nature	194
Some causes of conflict	195
A summary of solutions	200
Conclusion	204
14 Industrial democracy	205
Introduction	205
Why participate?	206
Participation – scope and type	206
Structures for participation	207
Union attitudes to participation and industrial relations generally	208
A code of practice	210
Practical participation – some basic questions	213
An exercise in participation	215
The Fifth Directive and ‘Vredeling’	220
Conclusion	221
15 Job study and design	223
Introduction	223
Job descriptions	223
Performance appraisal	225
Job evaluation	226
Merit rating	230
Target setting	230
16 Group job design	232
Introduction	232
Groups – a definition	232
Why people join groups	233
Decision making and groups	234
Leadership	235
Group structures	236
Designing group jobs	236
Impact of new job design	239
Quality circles – a new form of work organisation	241

CONTENTS

ix

17 Recruitment, training and manpower planning	244
Introduction	244
Recruitment	244
Training	248
Manpower planning	252

PART V MOTIVATION AND PAYMENT SYSTEMS

18 Motivation	261
Introduction	261
Is money the only motivator?	261
The industrial psychologists' approach to motivation	264
The links between financial and non-financial motivation and the external environment	266
Conclusion	267
19 Work measurement	269
Introduction	269
Traditional work measurement work study	269
Reasons for requiring work measurement	270
Work measurement. Time study	270
Other forms of work measurement	282
Work booking	287
Trade union attitudes towards work measurement	289
20 Traditional wage payment systems	292
Introduction	292
History of payment schemes	292
Other factors in wage payment systems	302
General comment on pay systems	303
Recent trends	307
Incentives in the future	308
21 Wage policies and associated negotiations	312
Introduction	312
Aspects of wages policy	312
Methods of establishing a wages policy	313
Operation of pay policies	315
Wage and other negotiations	317
Long-term pay deals	318
Workers' handbooks	319
Conclusion	321

22	Second generation incentives and wage payment systems	322
	Introduction	322
	Why a new approach may be needed	322
	Characteristics of second generation incentives	323
	Considerations in designing second generation incentives	323
	Added value	324
	Applications of second generation incentives	337
	Second generation incentives and wage payment schemes	337
	General comment	339
	Implementation	339

PART VI PRODUCTION RESOURCES

23	Capital resources management	343
	Introduction	343
	Capital investment – the traditional view	344
	Post-compietion review	347
	Investment decision models	347
	Terotechnology	347
24	Manufacturing in the late 1980s	355
	Introduction	355
	Trends	356
	Flexible manufacturing systems	358
	Robotics	360
	Computer and manufacturing control software	361
	Microprocessors	362
	CAD/CAM equipment	362
	Automated trucks/automated guided vehicles	364
	Other equipment	364
	Conclusion	366
25	Plant layout	367
	Introduction	367
	Constraints	368
	Carrying out plant layout changes	369
	Materials handling	371
	Functional relationships	371
	Environmental factors	372
	Process versus product layouts	372
	Principles and technology	372
	Group technology	375
	Flexible manufacturing systems	375

CONTENTS

xi

26 Materials handling	377
Principles	377
Unit loads	378
Total cost of handling (TCH)	378
Objectives of a materials handling system	378
Analysis	379
Improvement in materials handling systems	384
Developments	384
Summary	386
27 Materials productivity and storekeeping	387
The approach to materials productivity	387
Approaches to improving materials productivity	393
Materials cash loss	400
Security	401
Stores records	401
Accounting procedures for stock and raw materials	402
Make or buy decisions	404
Conclusions	405
28 Labour productivity	406
Introduction	406
The economic power of labour	406
Influences on labour productivity	409
Measuring labour productivity	410
Improving labour productivity	412
29 Quality control	415
Introduction	415
100 per cent inspection and sampling	415
What is quality control?	416
Quality control organisation	417
Quality control procedures	417
Improving quality	420
30 Maintenance, tooling and tool control	421
Introduction	421
Objectives	421
Organisation of the maintenance function	423
Planning and control of maintenance work	424
Types of maintenance	427
Maintenance bonus schemes	429
Tooling and tooling control	430
Conclusion	433

PART VII PERFORMANCE IMPROVEMENT

31 The approach to performance improvement and the management of change	437
Introduction	437
Improving long-term productivity	438
Individuality in performance improvement	442
The management of change	442
Change and stress	442
Why change is resisted	443
Considering change	444
Vehicles for change	447
Changes in organisational structure	447
Resources utilisation teams	451
32 Key techniques	454
Introduction	454
Techniques	455
Bibliography and useful addresses	465
Index	477

Illustrations

Figure

1.1	The production system	5
1.2	The production framework	9
1.3	Interrelationships	10
5.1	The production framework – systems design	73
6.1	Common data requirements sheet	76
6.2	Capacity assessment data sheet	78
6.3	Production loss – cause and effect	79
6.4	Time lost from standard performance	80
7.1	Production objective – increased profit	84
7.2	Production objective – improving fixed asset utilisation	85
7.3	Production objective – improved cash flow	86
7.4	Employees' objective – improving their conditions	87
7.5	Goal conflict – linkage and dichotomy	88
8.1	Product cost sheet	103
8.2	Weekly operating statement	106
8.3	Product group contribution statement	109
8.4	Break-even chart	111
8.5	Cost-profit-volume calculation	112
8.6	Limiting factor analysis	114
8.7	Costing by computer – the file design	117
9.1	A typical operational planning system	122
9.2	Capacity planning	127
9.3	Production requirements planning	129
9.4	Materials requirements planning	131
9.5	Production scheduling and sequencing	132
9.6	Stock re-ordering sheet	151

9.7	Operational planning data	156-7
9.8	Operational planning associated computer systems	160
10.1	Potential computer usage - operational planning	166
10.2	A logic diagram	170 and 171
10.3	Use of local data processing	173
11.1	Work organisation - the system	183
13.1	Hierarchy of needs	202
17.1	Employee requisition - job description for shopfloor operative	245
17.2	Manpower planning as a system	254
17.3	Termination form	257
19.1	Work measurement - the general approach	271
19.2	Observation sheet	274
19.3	Study summary	275
19.4	Selection of rest allowances	279
19.5	Therbligs	283
19.6	Daily work card	288
19.7	Analysed daycard achievements	290
22.1	Added value performance	327
22.2	Wage budgeting sheet A	329
22.3	Wage budgeting sheet B	330
22.4	Added value - production volume chart	333
23.1	Discounted cash flow - assessment of expenditure	345
23.2	Resource management system	349
23.3	Some examples of relationships between life-cycle functions and relevant techniques	350-1
24.1	FMS and the manufacturing system	359
25.1	Plant layout travel diagram	371
25.2	The plant layout system	374
26.1	The materials handling system	380
26.2	Improving the materials handling system	382-3
27.1	Material utilisation	390
27.2	Material utilisation and cost control	391
27.3	Material loss evaluation sheet	392
27.4	Material control record	394
27.5	Material utilisation report	395
28.1	Break-even graphs with labour a fixed and variable cost	408
29.1	Quality control chart	419
30.1	Line status report and related maintenance costs	422
31.1	Productivity improvement within the production framework	440
31.2	The production framework and improvement	441
31.3	Motivators for change	448