THE FUTURE DEVELOPMENT OF

MANAGERS IN THE DUNLOP

ORGANISATION

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This research examines how a large multinational manufacturing company can provide its managers with the abilities that will be needed in senior positions some time in the future.

A study of forecasts yields the conclusion that such managers will have to cope with novel, complex problems, and will need to be able to learn continuously from their experience.

Use was made of an experiential model of learning, which postulates relationships between types of environment encountered and types of learning ability developed. A comprehensive questionnaire survey was conducted, based on the model, and dealing with various aspects of managers' total careers, and the knowledge and skills managers thought they had gained, stage by stage.

The data suggest some important deficiencies in the model. Particular career experiences did not, in themselves, foster an ability to learn. An appropriate interpretation of the experiences was also required. It is proposed that realistic self-confidence, or expectation of self-efficacy, is an important factor in interpreting career experiences, and in developing learning ability.

It is concluded that the research can make a contribution to career development, and the revised model of learning which is proposed forms the basis of recommendations for the development of the Company's future senior managers.

CAREERS

EXPERIENCE

FUTURE

LEARNING

MANAGEMENT DEVELOPMENT

ACKNOWLEDGEMENTS

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PREFACE

This research was carried out under the Interdisciplinary Higher Degree (IHD) Scheme at the University of Aston in Birmingham. This Scheme was set up with the purpose of encouraging links between the University and industry, thus enabling research to be carried out which has direct applications for practical, current problems in organisations. This project was carried out for Dunlop Limited.

Since the inception of the IHD scheme, Dunlop has shown an active interest in it as a means of attracting graduates to the Company and of solving some problems which would not otherwise be the sole responsibility of any one manager. Proposals for research are discussed with IHD tutors, to assess whether they are suitable material for a research project. If they are considered suitable, either the Company or IHD find a student who has an interest in that area of study.

On this basis, I was recruited directly by Dunlop and was employed by the Company for the three years during which the project was carried out. During that time I was located in the Central Training Department at Fort Dunlop, Birmingham. As a Dunlop employee, my role as an IHD student was ambiguous. I had different responsibilities from the rest of the department. I needed to spend quite a lot of time at the University, particularly at the beginning and end of the project. After two years I was appointed as Assistant Instructor in the Central Training department, but, as an IHD student whose principal concern was the research project, I was still primarily responsible to my academic tutor, Dr Diana Pheysey, and to my industrial tutor, who was Mr Manly Bircumshaw, the General Manager, Management Development.

The role of the IHD student is neither that of an academic nor fully that of an employee. The subject of the research, although not fully defined, was decided by the Company, and the in depth studies carried out had to meet Company expectations and interests. As an employee, however, one has more informal knowledge of the Company than would be available to a researcher from outside. Some time was therefore spent getting to know the Company. This attachment to the organisation means, however, that one is more isolated from other people carrying out research, or who have interests in the particular area, than is usual for post-graduate students.

This dual role of student and employee on an applied research project involves the researcher in trying to meet both the practical, immediate demands of the organisation and the demands of the University for a lasting contribution to knowledge in the field of study.

CHAPTER 1

INTRODUCTION TO THE COMPANY AND

BACKGROUND TO THE RESEARCH PROJECT

1.   Objectives of Chapter 1

The research project was conducted within one company, Dunlop Limited. It had identified a need for some research on the future development of Senior Managers for the next decade. This chapter describes the company background and the research proposal put forward by the General Manager, Management Development. The company background influenced the development of the research, providing both constraints and opportunities.

2.   Product Range

Dunlop is usually associated with tyre manufacture. This is the largest part of Dunlop's business but the range of products made by the company is very wide. Dunlop has never been slow to diversify; in 1906, sixteen years after the original company had been founded, the company realised that tyres and wheels should be thought of as a single unit, and so acquired a Wheel Manufacturing division. As well as diversifying its product range at this time, the company made investments in rubber plantations in Malaya in order to meet its growing need for high quality natural rubber. Further diversification has taken place since then. For example, in 1925 Dunlop acquired the Mackintosh group, still the home of the General Rubber Goods Division. As Dunlop sports goods grew from sports shoes made by the Dunlop Footwear Company, the company acquired a tennis racquet factory at Waltham Abbey, John Letters Limited, The Slazenger Group, Carlton Plastics, makers of shuttlecocks and racquets for badminton and tennis, and Litesome Sportswear. Dunlop Semtex produces Vinolay, thermoplastic and carpet tiles.

Dunlopillo Division produces latex foam both for consumer use (beds, furniture) and industrial use. The company has a division producing fire fighting equipment, a division producing irrigation equipment, divisions producing hose and belting for marine and industrial use. A list of some of the Dunlop products gives an indication of the diverse product range (Table 1.1).

Table 1.1 Showing Diversity of Dunlop Product Range	
Tyres	Fluid seals
Wheels	Industrial hose and belting
Brakes	Hydraulic hose and assemblies
Suspensions for Vehicles	Precision Rubbers
Footwear	Printers' Blankets
Floor coverings	General Rubber Goods for example, Hot Water Bottles
Beds and other furniture	Saflote (floating hose)
Racquets for tennis, badminton, squash	Anti-vibration mountings
Golf balls, squash, balls, shuttlecocks	Starglyde Transport System
Cricket ball	Sports surfaces
Sportswear	Fire fighting equipment
Glues	Oil for margarine

This list is not exhaustive but illustrates the wide range of products now produced by the company.

3.   Factory Sites and Selling Companies

The company has both manufacturing units and selling companies throughout the world. It has manufacturing divisions, for example, in India, New Zealand, Nigeria, South Africa.

Examples of selling companies' sites are Argentina, Canada, Peru, Thailand, Norway. In addition to its world wide interests, Dunlop has manufacturing units throughout the U.K.; for example,

in Inchinnan, Speke, Washington, Birmingham, Coventry, Leicester, Grimsby, Harrogate, Brymawr, High Wycombe, Skelmersdale, Manchester, Horbury, Wakefield, Thame, Totton, Bentham and Head Office in London.

It is estimated that at the moment Dunlop has about 130 factories spread over 22 countries throughout the world. Selling companies are in addition to these. A recent corporate advertisement showed a globe nearly empty except for a few scattered, small islands. These were the few places where Dunlop does not operate. Moreover, since Dunlop makes brakes (out of a new carbon-fibre compound) for Concorde, and also hose for offshore tanker points, its products may be found not only in most lands but also in sea and air! (See section 4.1 onwards for further details)

4.   Organisation

In 1971 Dunlop and Pirelli came together to form the Dunlop/ Pirelli Union. As a result of the Union, the company, which was at that time known as the Dunlop Company Limited, changed its title to Dunlop Holdings Limited. The main subsidiary is Dunlop Limited, which is the main European Operating Company. Together the Dunlop/Pirelli Union has a combined turnover of £2,000 million. The two groups are geographically complementary; while Dunlop manufacture is mainly in Northern Europe, Africa, South East Asia and Australia, Pirelli operates mainly in Southern Europe and Central and South America. The Union, therefore, helps to spread risks and gives a better opportunity for growth in the world-wide market. A company which has such a large product range and operates throughout the world must obviously sub-divide its business interests into manageable concerns. This research project is only concerned with Dunlop Limited.

4.1 Division into Product Groups

There are five broad divisions:-

Tyre

Engineering

Consumer

Industrial

Overseas

However there are exceptions which do not fit into this structure:-

International Sports Company

Angus Fire Armour Division

Dunlop International Projects Limited

These are not responsible to any of the five Product Group Directors but now have a Director responsible for each individually.

Each division, or company, is fully responsible for the success of its own operations, as Dunlop believes in a policy of de-centralisation. Thus a divisional General Manager is independent and has full responsibility for the profitability of his company or division. However, divisions can always use the expertise of some centrally organised departments. These are listed in Table 1.2.

Table 1.2 Dunlop Central Specialised Services	
Career Development	Legal
Central Personnel	Licensing
Central Research	Material Supplies
Central Training	Patents
Corporate Planning	Publicity
Finance	Safety, Health and Welfare
Industrial Relations	

These are available to provide additional assistance at the
request of divisions. Funds available for divisions are allocated
from the Centre and divisions must comply with overall Company
Policies.

4.1.1 Tyre Division

Tyres still have the biggest share of the Company's operation.
Tyres in the U.K. are produced at Fort Dunlop in Birmingham, Inchinnan
in Scotland, Washington in County Durham, Speke near Liverpool and
Cork in Southern Ireland. Products include traditional car tyres
(radials, crossplies , the runflat Denovo Tyre and Wheel Unit,
Dunlop Worldbeaters, tyres for motor cycles (Red Arrow), aircraft
tyres, Earthmover tyres. India tyres (as distinct from Dunlop
tyres made in India) also belong to Tyre Group. Tyre group is also
involved in the retreading business of tyres. National Tyre Service
with 450 retail outlets falls within the boundaries of Tyre Division,
as does United Reclaim.

4.1.2 Engineering Group

This group is centred in Coventry and is based on the Aviation
Division which was established in the mid 1930's when production
grew from tyres to wheels and brakes. Just before the Second World
War they began making hydraulic and pneumatic operating and control
systems and gun-firing mechanisms. Suspensions Division makes products
for the commercial vehicle industry such as the Maxaret anti-jack-
knife system for articulated vehicles, the air-ride Kestral seat for
commercial vehicles, as well as Pneuride, Hydrogas and Hydroelastic
suspension systems. This Product group produced the new carbon-fibre
brakes for Concorde.

4.1.3 Consumer Group

Consumer group, as its name suggests, makes goods to be sold for
the public's consumption rather than goods sold to other industries.

Both the production of golf balls which began in 1908 and the acquisition of the Mackintosh factory in 1925 contributed to the development of Consumer Group. Dunlop Textiles still has as its base a factory in Rochdale opened in 1916. This makes rayon, nylon and polytester tyre cords among other products. Dunlop Footwear belongs to this group and makes Wellington boots and sports shoes. Dunlopillo Consumer Division has factories at Harrogate, Hirwaun and High Wycombe and makes beds and furniture. Dunlop Semtex based in Birmingham and Brymawr produces floor tiles and adhesives.

4.1.4 Industrial Group

The full title of the group is Dunlop-Angus Industrial Group, after the Newcastle firm of George Angus and Company Limited which was taken over by the Company in 1968. Principal products of D-AIG include: fluid seals, industrial hose and belting, hydraulic hose and assemblies. Oil and Marine division in Grimsby recently intro-duced a floating hose (SAFLOTE) which prevents oil pollution from off-shore operations, Polymer Engineering Division, at Leicester, produces railway suspension springs, anti-vibration mountings, flexible bearings, flexible couplings and other rubber bonded to metal products. General Rubber Goods division at Skelmersdale and Hindley Green produces printers' blankets, life rafts and timing belts. Belting group produce, among other belting products, the Starglyde Transport system used at airports. Sports Surfaces International at Speke produce Olympic Standard running tracks and also cricket pitches. Hydraulic Hose Division also belongs to Industrial Group.

4.1.5 Overseas Group

It was mentioned above that Overseas Dunlop has both selling and manufacturing companies. Overseas manufacture includes a range of products ranging from tyres, to golf balls, to adhesives. Dunlop also has plantations located at Dunlop Estates, Berhad and

Dunlop Plantations Limited Malaysia. By the 1920's Dunlop was the largest owner of plantations in Malaysia. Most of the output is sold on the world market in the form of latex foam. The demand for natural rubbers has fallen since man-made substitutes were invented. Many acres of rubber plantation have therefore been planted with oil palm, which is a ground crop occupying space under the rubber trees. These oils are used to make margarine.

4.1.6 Direct Subsidiaries of Dunlop Limited

In 1977 the Angus Fire Armour Division became a direct subsidiary of Dunlop Limited, trading under the name of Angus Fire Armour Limited. It makes fire fighting equipment of every sort ranging from a complete fire engine through Duraline Fire Hose to simple fire extinguishers.

International Sports Company used to be part of Consumer Group but is now a separate division comprising the Slazenger Group, Carlton Plastics, John Letters and Litesome Sportswear. This is spread over Speke, Barnsley, Normanton, Horbury, Waltham Abbey and Saffron Waldon and Keighley in the U.K. (It is associated with the Wimbledon Lawn Tennis Championships and the Dunlop Masters Golf Tournament).

Dunlop International Projects Limited (DIP Ltd) is also a subsidiary company of Dunlop Limited and is concerned with various projects such as setting up factories for developing countries.

4.2 Directors

Each product group and subsidiary has a Director (of General Manager Status) responsible for the success of that group. Directors have also been appointed with responsibility for parts of overseas operations, on a regional basis. In addition, there are directors with specialised responsibilities; Finance, Administration, Central Research and Tyre Technical Development. These appointments are shown in figure 1.1.

4.3 Personnel Management in Dunlop

Table 1.2 listed the central departments which are available to all divisions requiring specialist assistance. Amongst these is a Central Personnel Division which comprises Industrial Relations on the one hand and Management Development on the other. Two General Managers, responsible for each of these, report to the Director of Administration (shown in Figure 1). The Central Personnel Division helps divisions when called upon to do so and also produces company policy plans and decisions on Personnel issues. Management Development includes Career Development based at Head Office and Central Training based at Fort Dunlop in Birmingham. Career Development is responsible for recruitment of graduates, career development of people with senior management potential, advising divisions on significant management appointments, administering the company appraisal scheme and centrally kept personnel records (of graduates and people taken on by Central Personnel, senior management grades, people recommended by the divisions as having higher management potential) and advising divisions on management development.

Central Training runs virtually all of the Company's Management training courses, both residential and in-plant. (Occasionally factories run a course of their own, and some senior people are sent to business schools for courses). This department runs courses

Figure 1.1 Dunlop Senior Management Structure
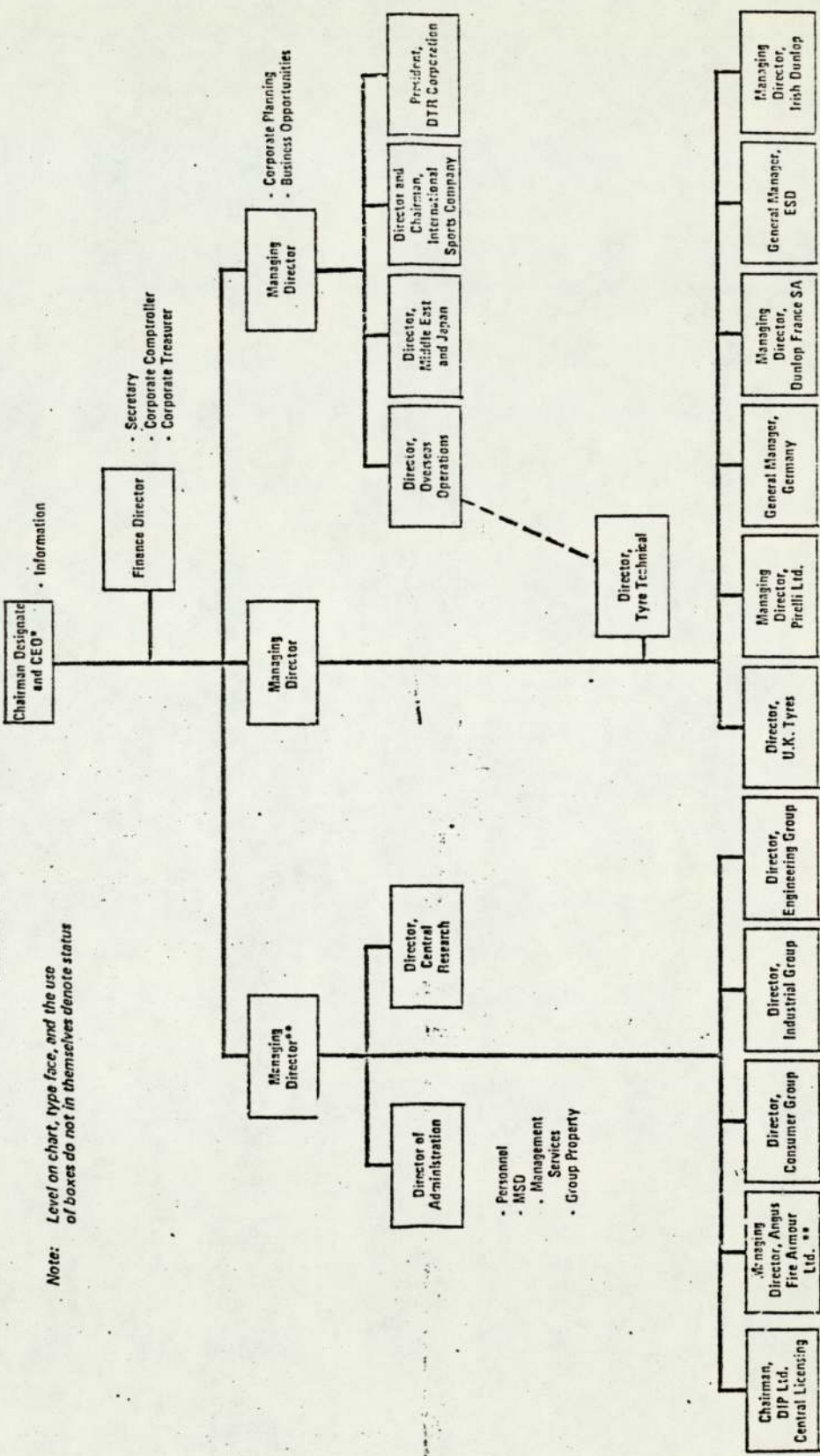
Note: Level on chart, type face, and the use of boxes do not in themselves denote status

* Acts as point of contact with Australia and remains as Chairman of DTR Corporation
** Also acts as Chairman of the London Committee
*** Including Dunlop Irrigation Services

ranging from general management courses aimed at young graduate level through to senior executive level as well as courses aimed at developing specific skills and knowledge, such as 'Management of People', 'Marketing', 'Cost and Financial Information', 'How to Select', 'How to Appraise'. Central Training liaises with divisions so that the courses run are appropriate to the needs of the divisions and they can advise divisions when asked.

The divisions have a Personnel team, the size of the team depending largely on the size of the Division. The larger divisions have a Divisional Personnel Manager with Personnel Managers for each factory accompanied by a Training Officer. Large divisions such as Tyre Division have a team of trainers. Most of the training in the divisions is concerned with operator, apprentice and clerical training - largely the training which has been required by Training Boards for levy exemption. Little management development is carried out in divisions although it is envisaged that this will change both as a response to changing requirements of Training Boards and also as a response to the growing awareness of the importance of developing effective management teams. Divisions often comment that much of the Personnel Managers' time is taken up with industrial relations problems.

The structure of the personnel team and number of people involved depends on the division. Since Dunlop is a de-centralised company, the Divisional Personnel Managers are not responsible to Central Personnel but to the divisions. Divisional Personnel people do not have to take the advice of Central Personnel but can call upon its specialists when they need it. However, divisional personnel do work quite closely with the central function - for example, in the recruitment and training of graduates, in enabling people of potential to be recognised and to develop their career

throughout the whole of the Dunlop organisation, so that people are not restricted to one division. Central Personnel has no direct authority over Divisional Personnel but does influence decisions and appointments for the benefit of the whole Group, enabling the company to gain the benefits of being a large international company, whilst divisions retain their autonomy. Central Personnel is mostly concerned with the U.K. operations; Overseas Group recruit and train most of their own staff. To the extent that many expatriates do return to the U.K. to work for the company, Central Personnel is concerned with overseas managers and is often called upon when senior appointments are to be made.

4.4 People

Dunlop employs about 18,000 staff and 24,000 operatives in the U.K. and about 14,000 staff and 39,000 operatives abroad. This is a total of about 95,000 employees.

5. Emergence of the Project

The project was first conceived by one of the Senior Management Instructors in the Central Training department, who identified a need for an evaluation of training to be carried out.

Some of the courses run by the department had been in operation for some years (although evolving over time) but had never been systematically evaluated. Feedback from course delegates was asked for at the end of each course and some feedback was obtained from Personnel Managers. Apart from that, course tutors relied on their own estimation of what a course programme should contain on the basis of training needs identified in discussion with divisions, and their own perception of the usefulness of various methods and inputs.

At this stage it was suggested that a research student

attached to Aston University should be recruited to carry out an evaluation of training.

The General Manager, Management Development (overall responsibility for Career Development and Central Training) became interested in this idea but proposed that any research to be carried out should be forward-looking, rather than a backward-looking review of what was already going on. He felt that the research should look at the skills, abilities and knowledge that managers would need in the future, so that the company could start to carry out appropriate training in readiness for that future. The General Manager's main concern is with potential "high-fliers", people whom the company thinks are likely to become senior managers, probably General Managers (the top management grade, of which there are under 70 in the whole company). The concern is mainly with people working in the U.K. but as some expatriates may be of senior management potential and return to the U.K., expatriates are not excluded from the research.

The General Manager, Management Development became the Industrial Tutor for the project. (He is based in Head Office, London). The research was based at the Central Training Department in Fort Dunlop, Birmingham, partly because the original idea for the project emanated from there and partly because this gave easy access to Aston University.

The research proposal contained three elements:-

a)   A forecast of the social, political and economic environment likely in the 1980's - 1990 should be made.

b)   From this forecast the kind of management style needed to meet this environment should be predicted.

c)   The necessary inputs required to enable b) to be met, should be recommended.

6.   <u>Constraints and Opportunities</u>

The nature of the Company provided both constraints and opportunities for the research project. The introduction to the Company outlined in this chapter illustrates some of the problems which determine the kind of research which can be carried out. The product range is very wide; this means, for example, that predicting the technology of the future is not a simple job. (In fact, it may not be a key influence on management style). Many technologies and types of production (mass production, batch production, one-off jobs, process production) already exist within the company and all are likely to change over the next decade to some extent. Relating management style for the Company in the future to technolgy is not an approach to be easily undertaken since the future senior managers may be called upon to manage different kinds.

The Company operates in a variety of environments - not only abroad but also in the U.K. There are regional differences in attitudes and expectations of workers say, between the Speke site and the Head Office in St. James's London. Some divisions are based in traditionally strong Trade Union areas, some divisions have a large number of women workers, some are based in areas of high unemployment. Thus throughout the U.K. the factories making Dunlop products vary in size, in products produced, in type of technology and production, in regional differences in attitudes of workers. It has been suggested that the salesmen who can sell tyres to hard-headed buyers in industry might fare badly if they had to sell golf clubs to the "gin-and tonic set". Dunlop makes both products and future senior managers will have all types of business to run. The constraint on this research is that it is asked to make predictions about future senior managers in general for the whole Company. Since the factories and divisions are all so different it

would prove very difficult, and many assumptions would have to be made, to take one of these and study it in depth - looking at the future and management development for one division. Any conclusions based on one division might not be generalisable to the rest of the company. However, looking at the Company as a whole has problems because the organisation of the Company is de-centralised. This means, for example, that records are not all available centrally. Only those outlined in 4.3 are kept at Central Personnel, others are kept at the Divisions themselves. Often factors such as movement of personnel between factories is difficult to ascertain.

However, since the project is aimed at looking at the management development needs of managers for the whole company, this allows the research a broad scope. The General Manager, Management Development, has a high degree of influence in the Company and was willing to make available any necessary and reasonable resources (for example, records available, introductions to various managers throughout the company).

The research proposal left the details of in depth studies to be decided. Since the research required a look at the possible future business environment, this was seen as a first step to form the basis for in depth studies to discover the kind of inputs the Company needs to make to prepare future senior managers.

CHAPTER 2

MANAGEMENT AND THE FUTURE

1. Objectives of Chapter 2

      The objective of this chapter is to review some of the fore-
casts made for the future and which have relevance for management.
The chapter will also consider the areas in which managers could
be taking action now to prepare for the future. The chapter is not
concerned with techniques for forecasting.

2. Introduction

      Why should managers today be concerned with forecasting the
future? Forecasting is a very uncertain business involving both
extrapolating from past trends, and an element of conjecture about
qualitatively new changes. Neither of these approaches can produce
entirely accurate scenarios of the future. It might be argued that
managers have too many burdens already without the added dimension
of preparing for the future. However, past decades have demon-
strated an increasing rate of change in many aspects of our lives.
Alvin Toffler (1974) has suggested that if this rate of change con-
tinues we may face a psychological state of "futureshock" in which
we feel unable to cope with incessant demands to adapt to novelty.[1]
One way to avoid futureshock might be to anticipate and prepare for
change. Another very important reason for forecasting is that it
allows us not only to prepare for future events but also to influence
the future. As Lawrence Durrell (1968) says "Out of the present we
manufacture the future; what we dream today becomes tomorrow's
reality. All our ills come from incautious dreaming". By predicting
what is likely to happen if present trends continue we can decide
what steps we need to take to avoid the undesired consequences of
present actions. This is most important if managers wish to take a

proactive rather than reactive approach to their jobs.

Enterprises depend for their survival on:

supplies of raw materials, finance, people and ideas;

utilisation and processing and adding value to supplies;

finding outlets for the products that are made or the

services that are provided.

In looking towards the future it is therefore not sufficient for

managers to consider changes likely within the organisation: a

wider perspective must be taken, as world-wide events affect any

enterprise.

These events can be considered under the following

topics:-

1. Political Changes

These will affect supplies of
materials, markets for goods and
services, geographical location
of operations.

2. Economic Changes

These will affect availability
of financial resources, demand
for goods and services, competi-
tion from other countries.

3. Social Change

This will affect the people and
ideas within an organisation, and
the changes organisations will need
to make to cope with the society
in which they operate.

4. Industry

Many trends indicate that there
will be changes (for example,
in trade unions) having direct
effects on industry.

5. Technological Change   This will affect the type of goods and services produced, and the methods of production.

6. Population and Employment Trends   These will affect the availability of people for organisations.

In practice, these topics are interrelated, but they are separated as far as possible here for clarity.

3. Review of Forecasts for the Future

      Between 1967 and 1975 the European Cultural Foundation carried out a research project "Plan Europe 2000" to which 200 experts from ten countries contributed, at a cost of one million pounds. The results were published in 1977 (edited by the Chairman of the project, Peter Hall). This is one of the most comprehensive studies of the future and covers all of the topics outlined above, taking a moderate rather than extreme standpoint. This project can, therefore, be used as a base line for reviewing the future forecasts. For each topic the view given by the "Plan Europe 2000" team can be compared with other authors who have contributed to the topic either supporting or contradicting the "Europe 2000" view or adding a wider perspective. From this a composite scenario of the future can be drawn (Section 4).

3.1 Political Change

      "Plan Europe 2000" produced five scenarios of political changes which were thought to be possible by the year 2000. These are:-

(i) Europe Divided   There will be no fundamental change, with Europe still being divided into two; half under Russian influence, half under American influence.

(ii) Europe United   This scenario considers that Europe may

remain divided but Western Europe may become more integrated.
The problems of rising wage rates with no corresponding increase
in productivity, low investment levels resulting in low growth
levels and a balance of payments problem will characterise
European countries in the year 2000. Although at present these
features are most evident in Britain's and Italy's economies it
is becoming a feature of strong economies such as Germany's.
In these conditions European countries will only be able to
compete with Third World countries if Europe unites and co-
operates in the field of research and development and uses its
mass of expertise to produce specialised products.[2] This could
lead to a very strong European Economic Community (E.E.C.)
using economies of scale and technical expertise. The Lomé
Agreements of 1975 established a new basis for relations between
Europe and the developing world through the establishment of
a European Development fund, the stabilisation of export
earnings to allow better sequencing of development, industrial
co-operation and technical transfers. These sorts of agree-
ments could increase in the future and transform the E.E.C. into
a world power. Communist governments are possible in Italy,
France and Spain. It is thought that these governments would
still be likely to align themselves with the West rather than
with Russia. Russia will still need to maintain technological
links with Europe for skills she still lacks. Europe could
become a world power through exploitation of its latent finan-
cial and technological capacities.

(iii)   <u>A Europe of Nations</u>   The nation states could still remain
strong, despite the moves towards a united Europe. They alone
have sovereignty, that is, legal power over the army, police
and courts and remain the largest collective to which people

feel they owe allegiance. National governments will have to respond to internal influences from pressure groups, particularly to maintain living standards in no growth, or low growth, situations. Foreign policy could therefore be conducted according to economic requirements, such as security of income and employment and guaranteed markets for primary producers sought by selective protectionism.

(iv) A Europe of Regions   Since 1945 there has been a rapid development of the industrial heartland of Europe (Birmingham-Milan-Dortmund) and a decay of the peripheral rural regions. Most of the wealth of Europe is to be found in the industrial heartland. The poorer the country the more striking the difference between its poor regions and its industrial heartland: e.g., Mezzorgiorno is much poorer in relation to Milan than Northern Norway is to Oslo. In addition to the poor and mountainous agricultural regions there are poor parts of Europe where the 19th Century heavy industries were concentrated. Where these are located outside the new industrial heartland, for example, shipbuilding in Scotland, mining in Wales, this has added to the economic distress of the poorer rural regions. This has all led to militant regional separatist movements in Scotland, Brittany, Pays-Basques, Corsica. The reaction is strong in regions which were once nation states, particularly if they have valuable raw materials. Resolution of the problem is still unclear. Strong break-away groups could decrease the unification of Europe.

(v) Change in Eastern Europe   The first four scenarios assume a stable Eastern Europe. However, revolt in Eastern Europe could bring a major change and weaken Russian influences. This is an unlikely change - more likely is a gradual convergence of

economic and social structures between Eastern and Western
Europe, for example, the economies of the West becoming more
dominated by corporation and central state planning mechanisms.

Kahn and Bruce-Briggs (1972) take a world perspective. They
also see the survival of the nation state system, but a poli-
tically more multipolar world. The two super powers, Russia
and America, will decline in power, influence and prestige.
Japan is likely to rise as a superstate. They think that
Germany (both east and west) will make full recovery (politically
as well as economically). They foresee an enlarged E.E.C.
increasing its political influence.

There will be few new international legal and political insti-
tutions (but industry, commerce and finance will become more
international).

In addition to an increase in violence and guerilla warfare they
see a persistence of chronic confrontations (Arab-Israeli, India-
Pakistan, U.S.A.-China-Soviet) and much turmoil and violence
in the underdeveloped areas of Afro-Asia and perhaps Latin
America. An area of conflict into which Britain or America
could be drawn is in the Caribbean. These islands achieved
independence with neo-colonialist regimes, that is, although
native people are in power, the system differs little from
preceding colonialist regimes. This situation is unacceptable
to many and the regimes may be overthrown through insurrection
and riots.

Peter Hall (Chairman of "Plan Europe 2000"), giving his own
view of the future for Britain, suggests that if Britain suffers
a long term economic decline an international economic crisis
could spark off political changes. Confidence could be lost in

the traditional Labour and Conservative parties. If they were
unable to agree to form a coalition, a platform of an extreme
ideology might be swept into office. This could be of the
extreme right (specifically anti-communist, anti-black rather
like South Africa today) or equally of the left (rather like
Sweden today though more extreme). However, he considers
British people will probably put up with a decline without much
of a fight.

3.2 Economic Change

The authors of "Plan Europe 2000" consider that inflation will
be a perennial problem for Europe in the coming decades. There
will continue to be inequity of income (access to goods, services,
education, health facilities, recreation facilities) between urban
and rural regions and between wealthy and less wealthy sectors within
cities.

Kahn and Bruce-Briggs (1972) foresee world-wide economic develop-
ment and progress. This will occur particularly in Japan, Eastern
Europe, parts of Latin America, non-Communist and Pacific Asia
and Southern Europe. A low growth rate in Britain, Africa and most
of Latin America is likely. Therefore, world wide gaps in wealth
will not change appreciably in the coming decades. In their view,
one of the most important economic changes is the greater understanding
of the process and techniques for sustained economic development.

Some authors, Finer (1977), Ray (1976), Page (1977), consider
that modest prosperity is likely in Britain due to the revenues
from North Sea oil and gas, in the early 80s. This is only likely
to raise Britain to its pre-oil-crisis position and Britain's
growth will not keep pace with its industrialised competitors.
Long term decline in Britain is thought likely by Hall (1977), and

the Cambridge Economics Policy Group (Sedgmore, 1978). The Cam-
bridge Economics Policy Group consider that high inflation rates
and low growth are inevitable unless Britain adopts a policy of import
controls, sustained investment in industry and more protectionism.
Leicester (1972) is optimistic that by the turn of the century the
level of economic activity will be at least twice that of the
present, with production raised by a factor of between 2.2 and 2.7.
The total flow of goods and services will be three times that of
the late 60s.[3]

Philips (1978) brings to light an economic theory published in
the mid 1920s by a Russian economist, Kondratiev. Kondratiev used
economic data going back two centuries and demonstrated a recurrent
long term cyclical rhythm in economic output. The cycle has four
stages:-

1)   long economic upswing with accelerating inflation followed by
2)   peak inflation where things are out of control and public
      spending, retrenchment and austerity grip the country.
      The next stage 3) is a feeling of tranquility or a feeling
      that "the worst is over" 4) A crash worse than the "peak
      inflation" crash occurs and is due to inflationary excesses
      stored in the economy during the long first stage and this is
      followed by a long economic downswing lasting up to two decades.

If Kondratiev's cycles of about 54 years are still represent-
ative of economic activity, we could expect a crash of the size of
the 1929 Wall Street crash around 1984.[4]

Other authors consider that the nature of economic activity is
changing. This is closely tied in with social change and changes
directly affecting industry. The Post Industrial Society, a term
coined by Bell (1976, 1974), is one in which the service sector

of the economy predominates over the manufacturing sector. Trist
(1974) considers that we have already moved into this new era in
terms of the importance of services to G.N.P., the emphasis placed
on knowledge-based activity, and our demands for education and leisure.
Robertson (1977) considers that as we move into the Post Industrial
Society the informal sector of the economy (for example, housewives'
work, do-it-yourself repairs) in which money does not change hands,
will be of increasing importance. This will be discussed more fully
under social change (section 3.3). Hirsch (1977) considers that
traditional economic analysis is not likely to be useful in the
future (Robertson draws on his thesis). Hirsch shows that once the
mass of the population has satisfied its needs for life-sustaining
food, shelter and clothing, the traditional economic issues of pro-
duction, of individual versus collective provision, and of distri-
bution, then become intertwined. This is because, as the level of
average consumption rises, an increasing portion of consumption takes
on a social as well as individual aspect - satisfaction derived from
consumption depends not only on own consumption but on consumption
by others as well. Food is an example of a private good, unpolluted
air is an example of a public good. But many privately consumed
goods have social aspects,for example, the joy of having a car
decreases with the number of cars on the roads, the importance of
higher educational qualifications as an entrée into good jobs
decreases as the number of people holding degrees increases. The
limits have always been present, but only in recent times have they
become obtrusive. Consumers act individually, but this has collec-
tive effects. So for Hirsch, the limits to economic growth are not
raw materials and resources, but social limits. This may weaken the
market system. The importance of his theory is still unclear.
However, the sort of problem the theory raises is that whilst in theory,

resources could be devoted endlessly to produce goods, the supply

of non produced economic goods is finite, for example land. Thus

industry, for example, could increase supplies of sports goods to

meet increasing demand as leisure time increases. However, as

demand rises, the additional space for sports grounds cannot be

provided at will, as more and more grounds are needed, they will

be built further from people's homes. Additional travelling time

(itself finite) will then be needed to reach them. The satisfaction

derived from this use of leisure time could then decrease, and so

demand for sports goods could also decrease. Such examples indicate

that whilst it is unlikely that social limits to growth mean society

will entirely revert to non-mass consumerism, there are implications

for demand for some produced goods.

3.3 Social Change

The "Plan Europe 2000" authors are not optimistic about the

social aspects of the future. They see guerilla warfare and terrorism

likely to continue and increase. The urbanisation of the industrial

heartland (Birmingham-Milan-Dortmund) will increase. The social

problems resulting in the industrialised cities will be:-

    alienation and social disintegration (manifest in strikes
    and crime);
    alienation and boredom at work;
    continuing break up of the family unit;
    alienation from the environment (accelerated by planners
    breaking up old communities in cities and replacing them
    with structures allowing little social interaction).

The degree of inequality of wealth and income (intra city,

and intra country) will continue. For the unemployed (youth, dis-

abled and structurally unemployed) the poverty gaps could increase.

Position in the social class hierarchy will increasingly depend on organised power (that is, concerted political or economic influence). The highest classes will be the political, economic and Trade Union élites, followed by professional and bureaucratic workers, followed by middle management and unionised manual and service employees. The lowest classes will be those who can exert least organised power (unemployed and unemployable).

Kahn and Bruce-Briggs (1972) foresee a world-wide community developing in which people have similar urban, bourgeois life styles throughout the industrialised world, with similar things to hear, read and see (in different languages). Better communication and transport, by linking distant parts of the world together, will enhance the feeling of a world community. They see charity and social action becoming more institutionalised, and less private caring being done by local communities. Like "Europe 2000" they see growing social alienation to be a problem of the future. Traditional values (duty, patriotism, work achievement, the Puritan ethic) are likely to decline further, resulting in diminished "meaning and purpose" in people's lives. As a consequence of alienation and the decline of traditional values, they think that there may be a revision of the ideologies of Christianity, Communism and Capitalism to give them more popular appeal. The consequence would be a mosaic culture with an under-lying ideology of freedom, creativity and spontaneity. Anthony Burgess, author of a futuristic novel "A Clockwork Orange", giving his view of Britain in the future (1977), takes the pessimistic line that getting more money, not better goods and services, will be the driving force of the future, with leisure being dominated by television, the streets empty and vandalism and mugging becoming the means of social excitement for youth.

Some authors also note the growing seeds of alienation in industrialised countries and foresee a revulsion against the mass consumerism of today's society. Bell (1974, 1976) thinks that technologists, scientists and researchers will grow in importance. As society relies more and more on new ideas and innovation they will demand more social amenities, health care, good education, good housing - the traditional middle class demands - and they will be a powerful claimant group. Robertson (1977) takes a more extrmee view of the social change likely in society. He sees Hirsch's (1977) view of the social limits to demand and growth as crucial. Robertson also sees high wages ceasing to compensate for the sense of alienation in an increasingly institutionalised world. He believes that the social costs of creating wealth (despoiling the landscape, pollution, alienation, and boredom with semi-automated work), are too high to be tolerated. He challenges the idea of "wealth first, and social well being later". (Why produce more sweets in order to provide work for more dentists?). In his view people will become more involved in creating things for themselves and there will be less institutionalised caring for people. Communities may work together not only in the area of repairs, and craftmanship, but even in education. Robertson's view does seem to be idyllic for those tired with the consumer society, but it may be that this change (that is, return to the old-style community life) will only be desired by a few and available to even fewer. However, other authors (Sadler (1978), Harman (1976)) also consider that the dominant cultural paradigm of the future will be a search for the "quality of life" with self-realisation, egalitarianism and ecological ethics being the mainspring of life. People will demand meaningful work roles and education throughout life. The Rubber and Plastics Industry Training Board (report given in Appendix 2.1) consider that

one of the problems for the rubber industry in the future could be the changing aspirations of people at work, who will be unwilling to work in poor factory conditions.

3.4 Industry Changes

The "Plan Europe 2000" team think that likely changes in European industry in the future will result from growing competition from less developed countries. High labour intensive industries are likely to decline because they will be unable to compete with the cheap labour of the Third World countries (except in specialised fields such as haute-couture fashion). The Third World countries could raise the costs of raw materials which they export and this could lead to greater stress being placed on the service sector of the economy of European countries. To avoid the problems of increasing costs of raw materials from primary producing countries, possible erratic supply (where there is turmoil in primary producing areas) and increasing cost of energy supplies, Europe can;

- concentrate on areas that substitute capital in the form of new technology for energy
- concentrate on high technology, high skill areas
- concentrate energy-intensive and material-intensive processes in regions where production costs are low (for example, petro-chemical production in the Near East).
- guarantee supplies by promising more development aid to Third World countries.

They consider Europe's future industry will have to be in the production of sophisticated, highly technological products of high quality and reliability, with long life-span and no polluting effects. That is, European industries will produce goods for different markets and purposes from their competitors in the Third World.

Sadler (1978) shows that countries such as Taiwan, Korea and Japan can export finished goods to the U.K. cheaper than the cost of raw materials here. He supports the view that industry in Europe needs to move into highly sophisticated goods and services. He cites the example of a Sheffield cutlery firm who, unable to compete with cheaper imports, revised their business objectives from merely producing and selling cutlery to selling a complete service including monogrammed cutlery and interior decorating of dining rooms and kitchens to hotels and restaurants, and the firm is thriving where once it was floundering. Sadler shows that the service sector (professional, financial and public) will exceed the total numbers employed in mining, manufacturing and transport by 1984. In the U.S.A. this is already the case. The Cambridge Economics Policy Group consider that it would be a disaster to allow a decline in British Industry and a reliance on the service sector. This contrasts with Kumar's (1977) view. He considers that services are what Britain always has been and always will be best at; for example, in 1975, insurance and banking services earned twice the amount in exports as the motor industry; the tourist industry earned more than the total sales of electrical machinery and appliances abroad. Kumar points out that politicians and economists worry about deficits in the balance of payments, particularly in "visible" goods, now mostly manufactures. However, since trading records began at the end of the 17th Century there has been a surplus on the "visible" trading account in only nine years out of the last 177. He argues that Britain should concentrate on selling services - even the B.B.C. overseas services, art, entertainment, health services and education.

Finer (1977) sees Britain's major problem in industry over the next decades as being gross overmanning, resulting in Britain's

productivity falling further behind continental and North American levels. Although there will still be a private sector, he sees much more industry being nationalised in Britain.

Most writers considering trade unions, Burgess (1977), Hall (1977), "Plan Europe 2000", think it very probable that the power of Trade Unions will increase and that unionism will spread even further in white collar areas. The Trade Union élite will become much more powerful. Long strikes and interruptions of supplies of electricity, railways, postal services, public health, education and even water supplies are considered likely.

"Plan Europe 2000" considers the main problems for industry in coming decades will be:

- What should be the international strategy of European industry? (For example, should it integrate its production and marketing with the energy rich/materials rich developing countries)?

- Should European industry make a very high investment in research and development? (Should this be in manufacturing or services)?

- Should there be greater participation and decentralisation? (In what form?)

- How far should the rural periphery be industrialised?

- Should there be a move towards industrial planning and co-operation in Europe, superceding many of the national powers?

- Should the present financing of industry (through private - funding and direct state-funding) continue, or should new sources (extended equity markets and direct participation of the workers) be tapped?

Steps managers will need to take to meet the future will be considered in Section 5.

3.5 Technological Change

Section 3.4 suggested that Europe might need to rely on increasingly sophisticated products in the future, and there might be co-operation in the fields of research and development between countries. Writers considering the area of technological change do not think that there are limitations to this in terms of technological feasibility. Appendix 2.2 gives a list of 100 technical innovations thought by Weber (1973) to be very likely by the last part of the 20th century. Toffler (1974) has shown that the time lag between an idea becoming technically feasible and it being mass produced is diminishing. This does not mean that all the innovations listed as likely in Appendix 2.2 will necessarily be exploited by the end of the century. There are already some examples of existing techno- logies that have not yet been fully exploited. An example of tech- nological capacity which is not fully utilised is computers. At present the computer software exists for using computers for decision making processes and simulating the results of alternative strategies, but computers are still used mainly for mundane, clerical and routine jobs. It is not merely technical invention which is important but the will to use inventions and to decide on the objec- tives that inventions should meet. Buchele (1977) has produced two possible managerial scenarios resulting from different use of computers (Appendix 2.3). Technological change depends on the use to which inventions are put. This is the issue of most concern to writers on the future.

"Plan Europe 2000" team consider that in the next few decades there will be more technological hazards similar to those of thalidomide, cyclamates and aerosols. There will be an increasing demand for better testing of long term effects of product hazards. Industry will also be called upon to control pollution from its

waste products. There will be an explosion of information avail-
able to people who need it (for research decision making) as the
use of computers, telecommunications, microfilm, international
journals and video cassettes increase. This will cause "overload"
problems for people who have to sift, code and retrieve relevant
information. (Coates (1977) notes that in the U.S.A. about 50 per
cent of the labour force are in jobs involving generating, packaging,
distributing, storing, interpreting or in some sense manipulating
data and information). A second problem with the information
explosion will be access by an increasing number of people to
information about individuals.

Kahn and Bruce-Briggs (1972) agree that technological advance
will cause crises by the mid 80s when advances could produce more
moral and physical threats than exist today (for example, in peaceful
application of nuclear energy, genetic engineering, toxic chemical
waste products). As a result they foresee more consumer and environ-
mental pressure groups on a large scale. Harman (1976) also foresees
control over technological advances even of state control in the
form of citizen participation networks for assessment and control
of technological changes.

3.6 Population and Employment Trends

"Plan Europe 2000" showed that the population in Europe is
ageing, due to longer life expectancies and falling birthrates.
By the late 1980s the over 75s will constitute 30 per cent of the
population and the over 80s will become a larger proportion of the
population than ever before. This may mean more employment in
institutions caring for the aged and a greater proportion of
health service budgets being spent on the aged. Active, retired
people may seek some kind of employment. There is also likely to

be an increasing number of married women seeking employment. However, unemployment figures are likely to rise throughout Europe and this will particularly hit the young and the structurally unemployed (due to change away from traditional skills required in industry). Education and training will become a life-long need in order to meet the structural changes in skills and knowledge - people will no longer be able to train for a life time in the face of an increasing rate of technological change.

The Cambridge Economics Policy Group (Sedgemore, 1978) also foresee high unemployment in the coming decades in Britain. There is a need to create 500,000 jobs in industry and in construction and in public utilities to offset the trend.

Forrester (1978) reports that the Department of Employment estimates an increase in the labour force of about 170,000 extra each year for the next five years, with the possibility of 6.8 million unemployed by the end of the century (a $2\frac{1}{2}$ per cent growth rate would be needed to keep unemployment at 1.5 million).

For unemployment to go down to 800,000 by the early 1980s at least 1.34 million jobs need to be created, whereas over the last year (March 1977 to March 1978) there has been a net loss of 164,000 jobs.

The number of 16 year olds entering the labour market will be very high over the next few years due to the high birth rates in the 60s and late 50s. This will be accompanied by a low retirement rate due to low birth rates in 1914-18. It is also likely that more married women will seek work. Early retirement policies and more people entering higher education may offset unemployment very slightly.

The Central Policy Review Staff (1977) show how difficult it is to predict the size of the population. Forecasts for 1990 vary from 70 million (1960 based) to 50 million (1955 based) with a present projection of 58 million. However, changes in birth rates (size of family, spacing of children) will affect the number of working women. A slight peak in the birth rate is expected in the late 80s to 1990 when the large number of women born in the 60s start to have families.

A report by the Rubber and Plastics Industry Training Board, "Statistical Review of Employment and Training in the Rubber and Plastics Processing Industry", shows that over a quarter of the industry's skilled manpower is over 50. As these people retire over the next 10-15 years there could be severe skill shortages.

The forecasts reviewed in this section are summarised in Appendix 2.4

4. A Composite Scenario

Clearly, there are different views about what the future will look like. One extreme view is that the Post Industrial era will change our lifestyles and economy as much as the Industrial Revolution changed life in the 18th and 19th centuries. A quite different view is that the future will be very like the present, with current trends accelerating (for example, in mass consumerism, urbanisation). The first view implies discontinuity will pre-dominate, the latter that continuous change will be more important. Whilst the most certain thing one can say about the future is that it is uncertain, and that therefore both these views should be given consideration, the view taken here is that continuous change over the next few decades is the more likely. The rate of change in all the topics discussed is likely to be fast, but, although for some, escape

from the industrial, urban, consumer-oriented society may be
possible, it is an option that is unlikely to appeal to everyone,
or to be possible for society as a whole. The scenario given below
therefore takes the more moderate view that there already exist
today most of the elements of change that are likely in the next
few decades. In producing a picture which is based on current trends,
we can see what the future is likely to bring if no action is taken
now to reverse or contain trends and therefore we can decide where we
wish to take action to bring about the future we think is most
desirable.

Political Change   We are likely to see a decline of the
U.S.A. and U.S.S.R. as superpowers and Japan may rise as a super-
state. East and West Germany may rise in political influence.
The E.E.C. will strengthen in its influence but within the E.E.C.
the nation states are likely to survive as the basic units of power
although partial devolution is likely in several countries.
Europe is still likely to be divided between East and West.
Extreme left or right governments are possible. In Southern
Europe where communist governments are likely, governments will
probably align themselves with Western Europe rather than with the
U.S.S.R.

Economic Change   World wide economic growth is likely.
Inequity of wealth between industrial and less developed countries
will remain. Inequity of wealth within countries (within cities,
between rural areas and cities) is also likely to remain.

Britain may enjoy a modest prosperity in the mid 80s due to
oil and gas from the North Sea, but her economic growth will not
keep pace with that of most European countries and North America.
A long term economic decline is likely in Britain with inflation

rates being a perennial problem. (Kondratiev's waves predict a world-wide crash in 1984 similar to the Wall Street crash of 1929, but it is not clear whether his theory is a good predictor in modern economies).[4]

The service sector will increase its contribution to the National Income and there will be increased numbers employed in this sector.

Social Change   Two views prevail a) the mainspring of the future will be self-realisation, egalitarianism, caring, return to small community life, less mass-consumption oriented society, with increased spending on the social services. There is likely to be a mosaic culture as different ideologies catch hold but the under-lying ideology will be freedom, creativity, spontaneity.

b) Social alienation, alienation at work and alienation from the urban environment will be the main problems of the future. As a result of these, people will feel that they have no meaning and purpose in life. Increases in vandalism by youth are likely, people may become more passive (glued to television) in their spare time. Further decline of traditional values are likely (duty, patriotism, puritan ethic) and further breakup of the family is likely. Feelings of alienation will be exacerbated by the trend towards greater urbanisation and the destruction of urban communities which are replaced by structures allowing little social inter-action.

It is possible that people will revolt against the problems caused by urbanisation, lack of community spirit, boredom at work and lack of meaning in their lives outlined in the second view so that the social changes in the first view become reality. But it is more likely that for the majority of people the future

will be one of alienation and boredom and the ethics of self-real-
isation will be for the luckier (upper middle class) few.

Industry   Third World countries will become more industrial-
ised and will provide strong competition for labour intensive
industries and ones with unsophisticated technology. Third World
countries also control many raw material supplies and whilst cartels
are unlikely in the near future there is the possibility of costs
of raw materials rising, or of erratic fluctuations in supplies from
areas where turmoil is likely, (for example, Africa, Latin America).

In Europe there is likely to be a decline of traditional
industries (for example, iron and steel works) and an increase
in highly technological, sophisticated areas, in research and
development of new technology, and in selling expertise to less
developed countries.

The service sector (professional, financial, public) will
increase and compete for skilled labour.

There will probably be an increase in the number of
nationalised industries.

Trade union power will grow throughout Europe. Industry
may have to cope with long term strikes or sabotage.

Technological Change There will be no shortage of new
inventions and ideas which can be exploited. The problem will
be that new technology will increasingly have side effects and
hazards that will be unwelcome. These could be physical threats
(similar to thalidamide, cyclamates, aerosols, nuclear power)
and moral threats (for example, genetic engineering, techniques
for surveillance, monitoring and control of individuals and
organisations). There will be pressures for testing the long term

effects of new products and pressure for high quality goods.
Labour saving devices and automated industrial machinery could
affect unemployment rates.

Employment There is likely to be high unemployment during
the next decade with up to 6.8 million U.K. unemployed by the end
of the century. This will particularly affect the young. More
married women will seek work and this may not just be in tradi-
tional female areas (secretarial, shop work, teaching nursing).
Retired people wishing to lead active lives may seek employment.

Skill shortages are likely due to changing technology,
changes in the workforce (for example, due to early retirement
policies to cope with unemployment), changes in types of industry
(away from traditional areas) and this will provide a need for
retraining and educational programmes throughout people's working
lives.

5.   Steps for Managers to Take

The scenario for the future, although presenting a moderate
rather than extreme view, indicates changes with which managers
will be called upon to cope successfully. "Plan Europe 2000"'s
questions for industry (section 3.4) will be some of the issues
which managers will face. As Durrell (1968) points out, we create
our own future - the question here is how far managers can influence
the future. In some areas, notably the political field, they, as
individuals, may be able to exert little influence. Heads of
industry might consider that in the future they will need to try
to influence governments (and through government, the E.E.C.) to
bring about an environment conducive to business growth, and not
merely react to government intervention.

Many of the problems facing managers in the future, which will result from current trends, will not be internal to organisations but in society or even world-wide. Peach and Hargreaves (1976) have shown that social responsibility can take place at three levels: basic responsibilities (for example, observing the law, paying taxes), organisational responsibilities (for example, satisfying the needs of its shareholders, steps to contain pollution, paying heed to the "spirit" rather than to the "letter" of the law) and societal responsibilities in which individual companies deliberately seek to shape what is happening in society as a whole. Societal responsibility, some managers argue, is not part of managerial responsibility. The main objective of business is profit, not social service. The contrary argument is that, the healthier the environment the better the chances are for successful company operations. In order to maintain a healthy business environment in the future, then, organisations may have to involve themselves far more in the area of societal intervention on a local, national and international level. They will no longer be able to think only in terms of internal organisational problems and their immediate outside contacts (customers, suppliers, competitors) They will need a much broader perspective in order to plan and manage change. (Authors such as Ansoff (1973) Tavernier (1976) have also argued for the need for managers to take a wider perspective in the future). Peach and Hargreaves argue that this will not be a fringe activity but a new way of thinking in everything the organisation does.

What are the kind of things managers ought therefore to do to create a stable business environment for the future?

<u>International Areas</u>   Industrialised countries will want to continue to import raw materials from the Third World countries and to export goods to these countries. Within the Third World countries there is likely to be pressure to reduce the wealth gaps between them and the more developed countries. They will become more industrialised themselves. In order to secure supplies of raw materials and export markets, companies may need to become more active themselves in promising development aid (money, expertise) in order to secure these two needs. They may find it no longer sufficient to leave development aid to national governments but may become involved in their own agreements.

As the Third World countries become more industrialised there will be strong competition from them for the already industrialised world. This means that industry will have to give consideration to these new producers. For multinationals this may mean concentrating their less sophisticated, labour intensive operations outside Europe where labour costs are lower, running down or divesting those operations in Europe which are highly labour intensive and within Europe developing the more technological, capital intensive operations, which require workers who are more skilled and highly educated than most Third World people. For companies which are not multinational but trade overseas the same problems apply. They will need to consider development aid and trade agreements and the type of products on which to concentrate. Companies whose market is home trading are not exempt; new cheap imports could prove to be strong competition and they may need to move into specialised areas and concentrate on giving a complete service (such as after sales care, personalised products) in order to compete successfully.

In the future, organisations may feel that they need to try to exert influence on the E.E.C. Legislature in order that trading agreements and E.E.C. policies are in line with their needs.

National Areas Within a country, organisations need to consider whether they should invest in the poorer peripheral regions and areas where traditional industries are declining. They may feel this is necessary to avert a decline in demand for goods here, and to avoid exceptionally high unemployment rates (which may lead to social unrest and to resistance to change within organisations because of fear of unemployment). Unemployment is a problem which organisations could take steps to alleviate - in providing job creation schemes themselves for the young or disabled or those who are disadvantaged in obtaining work. This would not be done merely as an act of charity but to avoid the social costs of high unemployment. Allied to this is the problem of skills shortages - it is likely that hand in hand with high unemployment will be a shortage of skilled workers in some fields. This means that managers will have to anticipate skill shortages in advance and be prepared to invest in retraining schemes. This will mean not only providing training but also incentives to retrain (bonuses whilst retraining, definite employment after retraining). If this positive approach to retraining is not taken people will cling to outdated jobs and skills rather than run the risk of retraining, when there is a backdrop of unemployment. Resistance to change by the workforce could be one of the problems for industries wishing to move into new fields. Providing good retraining schemes and securing employment where possible may alleviate this problem.

Trade Union power will increase; in order to achieve co-operation and participation (which is the object of government

policy in this area) organisations will have to be active in creating structures and informal relationships which will make best use of Trade Union power and expertise rather than Trade Union and Management relationships being an area of destructive conflict. This may mean revising some of the organisation's objectives (for example, towards greater responsibility for employees). It also means that management should be active now in seeking ways to involve Trade Unions in decision making, perhaps devolving some management decisions to lower parts of the organisation, in ways appropriate to their own business, without waiting for legislation to impose conditions on them from the outside. As middle management becomes more unionised they too will become a powerful claimant group; they may demand revision of their roles as recent erosions of their areas of responsibility have frequently left middle management out in the cold. Participation schemes will need to involve them as well as senior managers and trade union representatives from the shop floor.

Increasing numbers of people will have higher educational qualifications (see Appendix 2.5); this often raises their expectations for advancement and demand for interesting work. As the service sectors increase in numbers employed and as industry still does not appear attractive to many, industry will need to consider ways of attracting these people into their employment if they are to have the best possible choice of managers for the future. The Interdisciplinary Higher Degrees scheme attempts to do this at graduate level, but as industry will increasingly need to be more accepting of abstract ideas and their applications, there may need to be an attempt to integrate industry and university (and perhaps public service and government employment) from the top down as well as the bottom up - with professors spending time

in industry on sabbatical, and directors spending time in universities. In some countries, such as Germany, greater interdependence of university and industry is already encouraged.

Consumer groups and even government legislation will require stricter controls on the type of goods produced, testing of long term effects of products and pollution by waste products. In this area, too, managers can be proactive and anticipate legislation and other pressures. When new plant and equipment is a long term investment it makes economic sense to anticipate areas in which controls are likely. Modifications to plant may be more costly than plant designed to control waste products. In developing new products which may be in demand for some time this also applies (equipment for producing banned goods is useless, money spent launching a product which is quickly banned is wasted.) In fact, industries could consider ways to exploit the new demands for pollution-free, non-toxic goods (can you produce pollution free cars, for example, at a competitive price?)

To counter unemployment, shorter working weeks and longer holidays are possible, that is, a sharing of available work. This would mean longer leisure hours. Whilst industries might consider that leisure goods will have a growing market there may be overcrowding in recreation facilities. As counter to this such things as staggered weekends might be considered.

Local Areas   Social alienation, environmental alienation and alienation at work are considered to be growing problems. Reaction to alienation could be manifested in vandalism, strikes, absenteeism, poor quality work. Organisations could try to counter this by trying to provide more meaningful participation (not just committees, boards, but involving people in decisions

affecting their immediate work). Managers could become more involved in local communities perhaps with organisations providing more sports centres, community centres to offset the problems of social alienation. If early retirement becomes widespread there may be a need for more education for retirement as people may have 20 or more years of active life after retiring. Managers may find they need to have a greater understanding of extra-industry problems in order to create good relations at work and could be given time to spend in voluntary organisations, local government and in education on paid leave. Increasing numbers of women at work may mean a demand for nurseries which companies, anxious to attract this sector of qualified persons, may provide themselves, rather than relying on state provision.

6. Conclusions

In the future managers will not only have to cope with the sort of problems they currently face, but also with world-wide issues which will increasingly impinge on organisations. In order to secure their supplies and markets they will be concerned with world-wide developments in politics and economics. To ensure supplies of people with the right skills they will be concerned with national employment trends and educational/training facilities. In order to be sure that their methods of production and products are acceptable to the public they will have to be aware of new pressures towards better quality, non harmful goods. They will have to be aware of changes in world competition in goods and services and direct their operations into fields where they can compete successfully.

All this means that managers will face new challenges and a fast pace of change in the future.

Personnel management is concerned with the employment of people, their contribution to the organisation, and the rewards they receive from the enterprise. In the future it will be increasingly concerned with people who are not employed in the enterprise but who are in a position to affect what happens to people inside. It will also be concerned with how the actions of people inside the organisation can have consequences for people outside. We shall need to mobilise to secure the things we want for society, and for our employees and employers.

Management development, in the face of this fast pace of change, will be concerned not only with training managers in specific skills and knowledge areas but increasingly with helping managers to develop broad skills which will enable them to approach these new challenges with confidence and success. Managers will need to be flexible and adaptable but in a positive way: they will need to learn rapidly and throughout their careers, they will need to be capable of taking a broad perspective and taking risks where there are no precedents for them to rely on. Chapter 3 will consider the areas in which management development can make an impact on the achievement of these objectives.

Footnotes to Chapter 2

1. Toffler gives examples of this accelerating rate of change in the areas of population increases, increases in urbanisation, rate of increase in production of goods and services, rate of energy consumption, decreasing time between scientific invention and the appearance of the invention in the market place.

2. Such as information systems, ocean exploration, atomic and solar energy, telecommunications, aviation.

3. The fruits of the increase in economic growth would be spent on more social services, education and health, more leisure in the form of shorter working weeks and longer holidays, better housing, more cars, more leisure goods and telecommunications. (This may be influenced by Hirsch's Social Limits to Growth discussed later in section 3.2 of this Chapter).

4. A letter published in Lloyds Bank Review, No 131, January 1979 claims Kondratiev was mislead by a statistical phenomenon known as the Slutzky-Yule effect. When Kondratiev saw his 'long waves', he was merely regarding an oscillation which had been generated by his own arithmetical procedures. The fact that many of the 'long waves' apparently moved in unison with one another is not really surprising and does not, as he thought, provide proof of their reality.

CHAPTER 3

OVERVIEW OF MANAGEMENT DEVELOPMENT

1.   Objectives of Chapter 3

Chapter 2 reviewed some of the predictions that have been made about the sort of future that business may be operating in. It is clear that a manager who has to cope with a fast-changing, uncertain environment must be adaptable and not rigid in his behaviour patterns. A glance at literature about management development shows that much research and practical work is being done to help managers change their behaviour. The question addressed by this chapter, is, therefore, where the best area lies for helping managers become adaptable people, able to behave effectively in new situations. An overview will also be given of Dunlop management development.

2.   Areas in which Management Development makes an impact on the performance of the individual

The literature reveals a vast array of techniques, programmes and systems that can be used to change managers' performance. It would take a great deal of space, without substantially contributing to the thesis, to review these in depth. However, there are four main areas with which management development appears to concern itself. They are:-

a)   Training off-the-job (for example, courses in Company or external)

b)   Training on-the-job (for example, special assignments, coaching, career development, self development)

c)   Assessing abilities (for example, assessments, recruitment, selection for promotion)

d)   Maintaining Staff (for example, motivating staff through financial rewards, concern with labour turnover).

Many organisational factors, such as Company objectives, organisation climate, types of jobs, and technologies in the Company affect these four areas. The four areas (training off-the-job, training on-the-job, assessing abilities, maintaining staff) are discussed individually below, but it must be remembered that in reality boundaries are not distinct; for example, an appraisal, carried out successfully, may improve the motivation of a manager who realises his strengths are recognised, and may also highlight the need for training in areas of weakness. The appraisal has in fact become a coaching tool. This is shown in figure 3.1.

2.1   Training off-the-job

The design of management training programmes can take one of two starting points; trying to analyse jobs to see what skills are required to do these effectively so training programmes can develop these skills; trying to identify individuals' training needs and design programmes to meet those needs. Of course, these are interrelated - it is difficult to assess what training needs a manager has unless the skills needed to be effective at his job can be identified. However, from the trainers' point-of view, requests are often made to train someone in "communications", or "people skills" or whatever, without the trainer being able to look closely at that person's job. Attempts to identify the skills people need to do their jobs have perhaps been divided into the "functional" aspects and the "managing" aspects. Thus, for example, specialist courses designed to teach accountants about costing and financial accounts, and work study people about time and motion study abound. So too do courses on "management", but there is far less agreement about what these courses, which try to teach

Figure 3.1 - Diagram showing possible relationships between learning process of the individual, motivation of the individual and the appraisal and training carried out in the company - affecting the performance of the individual as a manager
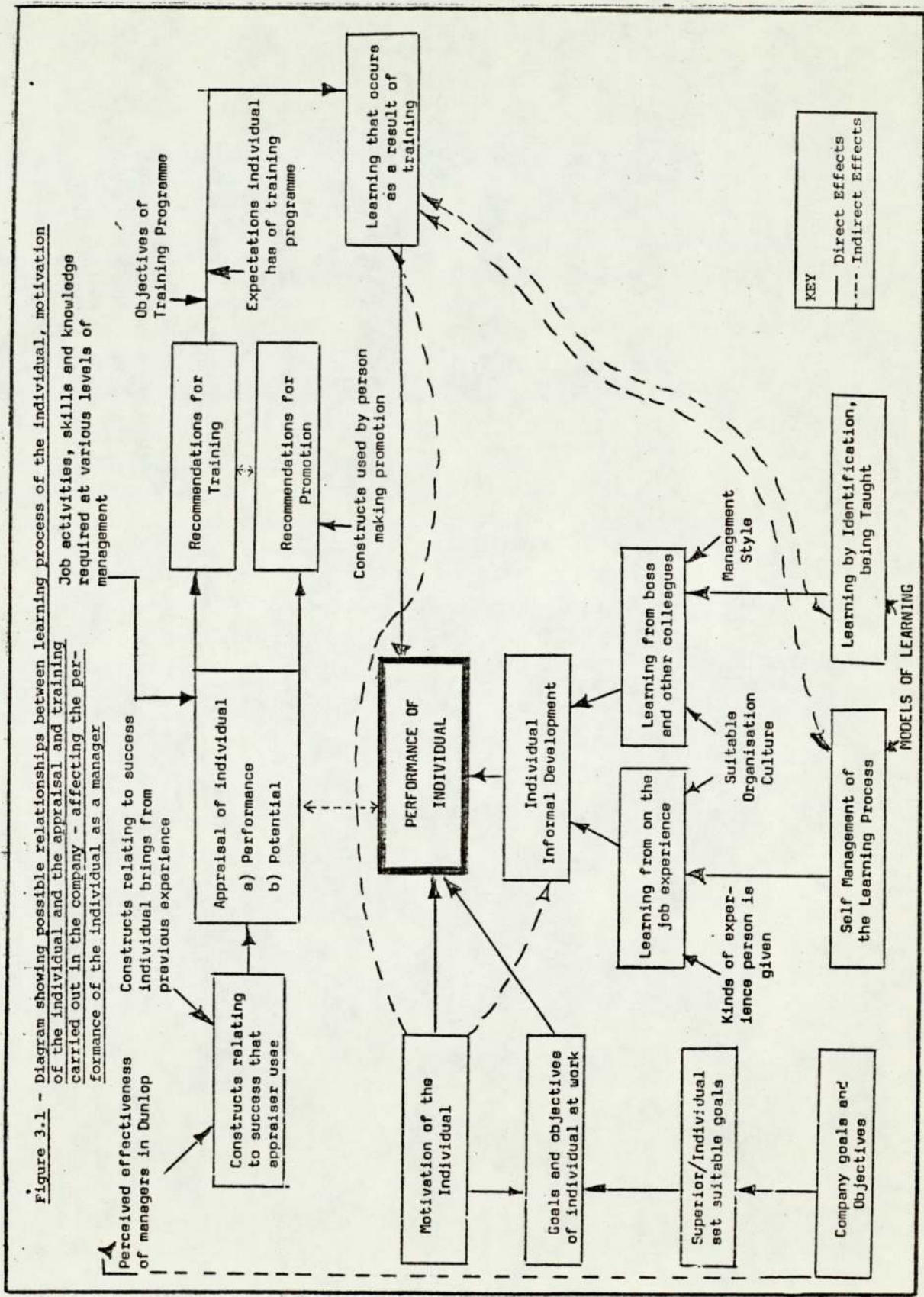
managers from various functions and occupations the common skills that all managers supposedly need, should include. Many such general management courses try to cover the various functional aspects of business, to give managers an overview of business, and also include sections on many things which people have identified as being an important part of management jobs; management style, problem solving, interpersonal skills, self-presentation, for example. These are also the sort of topics to which whole courses are devoted. The methods used on management training courses vary from programmed instruction, case study, business games and simulation to unstructured encounters. A glance at literature on training programmes shows that a variety of techniques exists for diagnosing training needs, for designing courses around particular models of management, and techniques for deciding what method to use for the most effective teaching of given knowledge or skill.

The literature also covers evaluation of training at various levels. Training should tie up with appraisal, either formal or informal, so that the right person ends up on the right course.

2.2 Training on-the-Job

Training off-the-job involves taking someone away from the environment in which he normally works, often to a hotel or training centre. Various rationales are given for this, for example it enables a person to test out new ideas in a supportive environment where mistakes will not count against him, he meets people from other organisations/parts of the organisation so that he gets new ideas. However, on-the-job training can also prove effective. It can be argued that people are going to learn on-the-job anyway and so this should be utilised to the full. Thus, on-the-job learning can be unplanned or planned. Planned on-the-job learning can take the form of coaching or counselling

by a superior; learning by doing, (with increases in responsibilities being given as the manager increases his competencies); or by rotation of jobs to widen experience. Planned experiences can include project assignments which last for a specific duration (for example, three to six months), or shorter assignments such as chairing a meeting, presenting a problem/solution to a group of managers. Many events from which people will learn to change their behaviour, will present themselves at work anyway.

However, the old maxim that some people have twenty times one year's experience not twenty years' experience may be true, and may apply in part to people whose on-the-job training has been neglected. What the individual learns from work experience may depend on the kinds of experience he is given but may also depend on the culture or climate of the organisation. The organisation which encourages original thinking may develop some skills, the organisation which encourages adherence to existing procedures may develop in people quite different skills. The style of management, which is part of the organisation's culture as Handy (1974) shows, may affect the kind of on-the-job training carried out in the organisation.

2.3 Assessing Managers' Abilities

This group comprises recruitment and selection, assessments of present performance, and assessment potential. Whilst recruitment and selection are carried out before a person has a chance to prove his abilities on the job, the success of these operations will affect subsequent performance - a) by selecting a person suitable for a job and b) because recruitment and selection policies depend on a manpower plan, and if the manpower plan is not achieved (for example, because too many people have been

recruited) a person might still be doing the same job instead of being promoted and become demotivated, or, alternatively (if too few people have been recruited) may be promoted too early and fail. Figure 3.1 excludes recruitment and selection purely for reasons of economy.

Appraisals or assessments also affect performance directly, and the literature on appraisals is vast. Appraisals can be two-way conversations in which the strengths and weaknesses of the appraisee are examined, and plans for building on strengths and rectifying weaknesses (by, for example, training, or new job assignments or further discussion) can be made jointly by the appraiser and appraisee. A moot point is to what extent assessment of present performance is a coaching tool, and to what extent a motivating tool, whereby assessments against targets are linked to salary increments or bonuses. Appraisals can also be concerned with assessing not present performance but potential performance in a more senior post. It is questionable to what extent those three aims (coaching, assessment against targets, assessment of promotion potential) should remain separate. The literature abounds with mechanisms by which effective appraisals and appraisal systems can be implemented. These vary from design of appraisal forms, to assessment centres, from teaching managers how to appraise their own subordinates to self-assessment.

2.4 Maintaining Staff

Appraisals can be a mechanism by which the right managers filter through the organisation and reach the top. Maintaining staff is concerned with ensuring that people who are seen by the Company as valuable do not leave the organisation before, or when, they reach their peak contribution. Some turnover is inevitable, and even welcome, because new people coming into an

organisation from other organisations may bring new ideas.
However, training (both on-the-job and off-the-job) is expensive,
recruitment is expensive and it may take sometime for a manager new
to the organisation to grasp its complexity. Therefore, it may
often be desirable for senior managers to remain sometime in the
organisation and feel some commitment to it. The problem is not
merely of retention of staff, but of staff being highly motivated
to perform well in their jobs. Much of the literature on the subject
of motivation can be brought to bear here; the rewards of the
organisation may be seen from the financial viewpoint (salary
grades, salary schemes, other fringe benefits) or from a personnel
viewpoint being related to the type of job the person is given,
to the management style and culture of the organisation. The
goals and objectives set for a manager will affect the effort he
is willing to put into his work and must be compatible with his
own overall goals.

2.5 Summary of Literature Overview

Thus the many topics which can be found in the literature
on management development might be seen as falling into four
areas which affect a manager's level of performance. These
are interrelated and affected by external factors. From this
brief tour around the subject, it appeared that several areas
might be suitable for research, with a view to developing managers
for the sort of futures discussed in Chapter 2.

These might be, for example:-

a) The Company Appraisal System - on what criteria should
    people be assessed, with what objectives (coaching, salary
    related, assessment of potential etc.) and by what method?

b) Training programmes - design and evaluation of programmes

which might develop future senior managers and who should
attend these (linked with Appraisals)?

c)   Motivation - what rewards do high-flying managers work for,
     what are the sort of goals they work toward, can the Company
     meet these by, for example, intrinsic job rewards or extrinsic
     job rewards?

d)   On-the-job training/learning - can career experiences be
     more systematically planned to enable managers to develop
     the skills needed by the manager of the future?

e)   Recruitment Policies; what people should be taken on now
     to meet future demand?

     Ideally all these should be studied since they are inter-
related and not separate factors. However, with the time avail-
able the researcher felt that it was necessary to narrow down to
one of these areas for an in depth study as this would be more
likely to yield useful ideas for the Company than would a shallow
view of them all. In order to to do this it was necessary to
examine present Company activities in these areas in order to
see where the best area for study would be.

3.   The Company's Activities in Management Development

     The Company personnel structure was described in Chapter 1 section
4.3. Central Personnel Division is responsible for Career Develop-
ment throughout the Dunlop Group and is responsible for management
training throughout the Dunlop Group (Central Training Department
reports to the General Manager, Management Development, who heads
Central Personnel). The sections below discuss the present
Dunlop activities in the relevant areas.

3.1 Training off-the-job for Dunlop Managers

     For many of the "functional" aspects of managers' jobs,

training is carried out using external institutions, for example, accountants are encouraged to take Institute of Cost and Management Accountants or Institute of Certified Accountants qualifications, engineers to acquire Chartered status in the relevant engineering field, personnel trainees to take Institute of Personnel Management qualifications. However, some "functional" training is carried out within the Company, for example, in marketing, occasional personnel modules, employment legislation, work study. Cost and financial information courses are run for non-accountants. Most of the management courses run by the Company are concerned with teaching skills which it considers are necessary to all management jobs. Thus "Management of People", which covers problem solving methods, interpersonal skills, and management style, is a course considered suitable for a manager from any function who has a need to improve his skills in these areas. The "Cost and Financial Information" course is suitable for non-accountants from any function who need to learn more about this. "How to" courses are run on specific skills which managers from any function need - "How to appraise" "How to select and recruit" for example. These "How to" courses are infrequently run.

A series of general management courses form the main body of the department's courses. These are MDI, MDII, MDIII, MDIV and MDV. The MDI is a course for graduates joining the Company, and introduces the complex Dunlop organisation, the various functions, and some of Dunlop senior managers. The MDII is for managers who are recently appointed and/or managers who have had no formal management training. The course shows how different functions of the business interrelate. A major part of the course is a business simulation in which the course delegates divide into teams, some playing the part of managers, some shop floor

workers. The object of the exercise is to underline the points made during the course about the overall way a business runs. The teams have to buy goods, make and sell goods at a profit. A "production run" is actually carried out and so provides a great deal of feedback for the management team to see how successful they are. Another exercise in which a product has to be marketed provides many insights for people whose usual jobs involve producing goods. The MDIII follows on from this course at a higher level of input. Different business aspects are studied in greater depth and a very much more complex simulation provides managers with an opportunity to find out more about organisation of work, division of responsibilities and interpersonal skills. The MDV course is for senior managers and is run on a seminar basis, the delegates drawing on their considerable experience and that of outside speakers. For all of the courses so far discussed, delegates are nominated by divisional managers. For the MDIV course however, a different system operates. The MDIV course is run for people who are considered to have the potential to reach General Manager positions. Nominations are taken from the divisions but these are then vetted by the Central Personnel Department who interview candidates for the course. The course is part training, part assessment. People who are successful on the MDIV course, and the project which is completed for the course, are recommended for special attention in their career development. (See section 3.3 also)

Whilst it is hoped that people will attend MDII, MDIII (and MDV where applicable) in series, this does not always happen. People may attend MDIII or MDV without having attended the lower level courses. Some people may attend a second MDII course after a long period (for example, ten years) as a refresher and because the course content will have changed after such a

period of time. The number of years elapsing between courses varies greatly - some graduates may attend MDI, MDII in fairly quick succession. The gap between MDII and MDIII will depend on the rapidity with which a manager is promoted, the attitude of his manager to training and his own attitude to training (many managers ask to attend courses). Some managers are frequently seen on courses (for example, MDII, Cost and Financial Information, Management of People, within a few years), others, on attending a course, say it is their first in many years. A problem which Central Training has been trying to rectify over the past two years is that of getting the right people on courses (the ones who have a need for that course, not last minute substitutes) who are well briefed in the content of the course, and why they are attending, and who receive some follow-up after the course is over. Tables 3.1 (a to d) give a breakdown of the numbers of managers attending Central Training Courses from each of the Dunlop product groups. Tyre and Industrial Groups have the highest number of delegates and are also the largest groups. Out of a potential pool of up to 7,000 people (estimate of the number of managers suitable for MDII-MDV and other courses) few managers per year receive formal training on Central Training Courses. All the graduates joining the Company attend MDI.

The Central Training Department also acts as an Advisory body for the divisions of the Company. Close contact with Personnel and senior managers of the company is maintained so that training can be compatible with changing needs. The courses run are continually updated and improved. The Management of People Course, for example, which was formed from two existing courses (Management of People and Problem Solving) is continually changed to utilise new developments in the Behavioural Sciences.

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TABLE 3.1

a) ATTENDANCE (BY PRODUCT GROUP) OF DELEGATES ON MANAGEMENT OF PEOPLE

PRODUCT GROUP	MANAGEMENT OF PEOPLE		
	1975	1976	1977
Consumer	2	3	3
Engineering	5	5	-
Industrial	8	9	11
Tyres	3	9	7
Overseas	-	-	1
I S C	-	5	2
Angus Fire Armour	-	-	-
HO including Central Research	2	1	3
Pirelli	1	-	-
Non-Dunlop	-	-	-
TOTAL	21	32	27

b) ATTENDANCE (BY PRODUCT GROUP) OF DELEGATES ON COST & FINANCIAL INFORMATION FOR MANAGERS

PRODUCT GROUP	1975	1976	1977
Consumer	9	5	9
Engineering	2	-	-
Industrial	17	19	4
Tyres	12	13	10
Overseas	-	3	4
I S C	4	6	1
Angus Fire Armour	-	1	1
HO including Central Research	2	7	4
Pirelli	-	-	-
Non Dunlop	2	-	-
TOTAL	48	54	33

c) ATTENDANCE (BY PRODUCT GROUP) OF DELEGATES ON MD.II AND MD.III

PRODUCT GROUP	MD.II			MD.III		
	1975	1976	1977	1975	1976	1977
Consumer	9	10	20	4	5	9
Engineering	9	4	-	4	8	11
Industrial	17	18	15	5	7	9
Tyre	37	35	32	14	11	8
Overseas	2	3	1	-	-	-
I S C	9	4	5	4	6	1
Angus Fire Armour	-	5	7	2	-	-
HO including Central Research	5	4	14	3	7	2
Pirelli	-	-	-	-	-	-
Non Dunlop	-	-	-	-	-	-
TOTAL	88	83	94	36	44	40

d) <u>ATTENDANCE (BY PRODUCT GROUP) OF DELEGATES ON MD.IV AND MD.V.</u>

PRODUCT GROUP	MD.IV			MD.V.		
	1975	1976	1977	1975	1976	1977
Consumer	2	2	2	2	3	4
Engineering	1	1	1	3	2	3
Industrial	4	-	5	2	-	5
Tyres	3	7	5	3	1	-
Overseas	3	5	1	-	2	1
I S C	1	-	1	-	1	1
Angus Fire Armour	-	1	-	2	-	-
HO including Central Research	3	-	2	3	2	3
Pirelli	3	3	1	-	-	-
Non-Dunlop	-	-	-	-	-	1
TOTAL	20	19	17	15	11	18

The emphasis is on teaching usable techniques, not on teaching theory of management. The role of the management trainer can be seen as one of turning complex academic ideas into tools which managers can learn and take back to their jobs.

3.2 Training on-the-job for Dunlop Managers

The Company emphasises that one of a manager's jobs is to develop his own subordinates by stretching those capable of development to enable them to increase their abilities. However, the extent to which managers do this, or do this successfully, varies greatly. As more junior to lower middle managers become unionised in the future it may become more difficult for managers to vary the work of subordinates or use job rotation as a method of on-the-job training because jobs may become more defined and tied in with rigid job evaluation schemes for salary purposes. Managers are encouraged to coach their subordinates but virtually no training in coaching is given. Management by objective schemes are utilised by some divisions and these may be tied in with appraisals.

The Central Personnel Department is concerned with career development for managers considered to have promotion potential. This applies particularly to those successful on the MDIV course, graduates newly appointed (from among whom it is thought future managers will be drawn) and others nominated by divisions. Their concern is to ensure that these people have a sufficiently broad experience of business and of the company. They therefore, try to move people between functions where possible and between divisions if these (particularly the smaller divisions) cannot provide the breadth of experience felt to be necessary or cannot provide rapid enough progress to senior positions. Whilst divisions are required to develop their own staff, Central Personnel aims

to ensure that the benefits of the large group of divisions comprising Dunlop are used to develop people. Central Personnel therefore enables people with high potential to display their abilities to senior managers throughout the group so that when a vacancy arises these people are considered for the position. Central Personnel makes recommendations based on their knowledge and records for important posts that arise. A person who is assessed as having high potential can therefore expect to have his experience broadened by moving into functional areas hitherto unexperienced by him, by being introduced to appropriate managers throughout the Group and possibly by receiving special project assignments designed to extend him and increase his knowledge of business. In special cases the Company will sponsor managers on external courses such as those held at Ashridge and Henley, at Business Schools, or Colleges, or for the Havard M.B.A. course.

Graduates joining the Company are encouraged to gain professional qualifications (discussed in Section 3.1). Some of these qualifications involve on-the-job training as well as examinations, for example Chartered Engineer, Accountants and the Inter Disciplinary Higher Degrees (Ph.d and M.Phil). Other graduates may expect to receive several short term (six months-one year) assignments before being appointed to management posts.

Career development for senior posts is based largely on the assumptions that a broad experience is more likely to develop the skills needed for General Management positions than a narrow experience, and that people with potential should be monitored to ensure that they are not overlooked or left to stagnate in jobs which do not stretch them sufficiently.

Graduates joining the Company are thought to be one pool from which future senior managers will be drawn. Over the last few years there has been increasing interest in attracting high quality graduates. Of these, some are women; the number is shown in Table 3.2. Up to 100 graduates are recruited each year.

Table 3.2	Number of Women Graduates Taken into Company Per Year
Year	Number of Women Graduates Recruited
1976	6
1977	17
1978	3

These women are not solely in the personnel function but have been taken on in a variety of capacities. If the Company wishes these people to reach responsible positions within the Company it may have to consider its career development policies carefully: women may be less likely to want to move around the country, for example, if they see their career as secondary to their husbands'. If the Company will not consider such cases it may waste skills that it needs. (There is some evidence that this is not just restricted to women;   many men who, for example, have children settled in school, are unwilling to move too frequently). An increase in the number of women in management might have other implications for the organisation's culture, for example in the attitude of managers to women in industry.

3.3 Assessing Managers' Abilities in Dunlop

Central Personnel is responsible for graduate recruitment

for the Company. About 100 graduates are taken on each year into various functions of the business. Most graduates are recruited centrally through Central Personnel. Some work for Central Personnel but most are found trainee jobs in the divisions (for example, IHD projects) and are then responsible to their division. Divisions often have to be encouraged to take on new graduates, although some divisions recognise their worth. Central Personnel takes a continuing interest in these graduates over their early career with the Company. However, graduates frequently complain that they are unaware of any career development on their behalf. (This is echoed by managers at all levels). It is thought that many future managers will be drawn from this pool. Central Personnel also assists divisions when senior appointments need to be made, either recommending an internal candidate (discussed in 3.2) or handling external recruitment if necessary.

Central Personnel handles the Company's formal appraisal scheme, encouraging appraisals to actually take place, designing the appraisal form and sometimes training managers to conduct appraisals. Appraisals are found to be more thoroughly conducted in some divisions than others. Central Personnel uses appraisal forms for detecting managers suitable for promotion and keeps the records of such people. The appraisal form has been updated several times to try to make it an instrument which is fair and allows comparison between people working in different divisions. As in many companies, it is found to be only partially satisfactory for many reasons; often managers do little more than fill in grades and do not give reasons for grades and promotion recommendations. The appraisal form has recently been changed to improve the scheme. The MDIV course acts as a basis for appraising

"high fliers". The validity of using a training course as a means for assessment has been questioned and the suggestion made that a specially designed assessment centre could be used as an alternative.

3.4 Maintaining Staff in Dunlop

It is hoped that the appraisal scheme does enable good managers to be identified, leading to appropriate promotions and training. A problem can arise where people are identified as being of high potential, since they may have raised expectations about their rate of progress through the company (for example, after attending an MDIV course). Where these expectations are not met, people may seek positions elsewhere.

The Company operates an award scheme so that people who obtain professional qualifications gain some financial benefit. Other Company benefits include discount on company products, some sports facilities, company cars and subsidised canteens.

In training, there has been a move away from teaching managers about the various theories and models of motivation to using these models in a form which managers can apply at work. Therefore, behaviour modification techniques are taught which can help managers improve the performance of people who work for them. Such methods are included in the Management of People Course.

4. Choosing an area for an in depth study

Whilst it was felt that there were several areas in which an in depth study might be of value, it would be impossible in the time available to cover all of these. It was felt that the Company Appraisal Scheme might have been a fruitful area for consideration, particularly with reference to ensuring that the

best person for future positions was recognised at the earliest possible time, and for ensuring that people with potential were not left out altogether. The Appraisal Scheme should play a large part in filtering the best people into the pool from which future senior managers will be drawn. However, the Company Appraisal Scheme is politically sensitive as it is frequently criticised and misunderstood. It has recently been revised and discussion with the General Manager, Management Development, suggested that changing the appraisal form again, or suggesting fundamental changes in the scheme would be unwelcome at present. He also felt that sufficient was being done at present to maintain and motivate staff in the Company. A new Training Manager had just been appointed in charge of the Central Training Department at this point in the research. He has made some changes in the role of the department, for example, in increasing its advisory function for the divisions. It was thought that the Department's courses were successful in meeting their objectives as judged by the instructors and course appraisal forms, and many courses had frequently updated their material. It was recognised that a thorough evaluation of courses could suggest whether or not they were likely to meet the needs of developing senior managers, but a more forward-looking approach would better meet the needs of this research (Chapter 1, section 5). In Dunlop few managers receive more than a few weeks training during the course of their careers even though some managers do attend several Central Training courses. Most learning occurs on-the-job. As an area of study this has been neglected in comparison with off-the-job training at all levels. Literature covering the development of specific skills and general management skills through the use of training courses is very rich; how managers learn on-the-job is something about which relatively little is known.

Career development in the Company is based largely on the
assumption that a varied and broad experience will develop, in
those with ability, the skills necessary for senior management.
This varied experience can be supplemented with training inputs
in specific areas. In the past, one of the ways of broadening
a manager's experience was to send him abroad to work in over-
seas subsidiary companies. In these posts managers had more
autonomy than they could have expected in the U.K. and had to
exercise a greater degree of responsibility. This stretched people
and was felt to accelerate their development as managers. Also
managers could be placed in small divisions where they could gain
an overview of the business which they might not be able to do
in a large unit. These options will be closing down in the
future; more and more overseas companies are requiring their
own nationals to operate the factories, except in technical
and senior management posts. It is likely that the number of
small units in the Company which can be used as "training
grounds" will decrease. "Varied and broad experience", "giving
more responsibility" are open to interpretation. It is not
clear exactly what the manager gains from broad experience or
what kind of experience is the most appropriate for managers to
receive. It is considered that experience in more than one
function is beneficial; again, it is not clear exactly what the
manager gains from this. It was thought that the manager who
will become a General Manager in the future will learn more from
his career experiences than from training courses over the total
span of his career. Therefore, much could be gained from ascer-
taining what the manager needs to learn, and how he can best
achieve this during his career. Discussion with the General
Manager, Management Development, suggested that an in depth
study of learning related to career development would be both

acceptable and useful to the Company.

Dunlop's career development for potential senior managers rests partly on the ability of managers of the Company to pick out people likely to succeed. It is questionable to what extent this then becomes a self-fulfilling prophesy.

If behaviour is a function of both the person and the environment (b = f(p . e)) then a system of career development which picks out some people early in their career for preferential treatments, ("good" environments), may prevent the emergence of latent qualities in others not chosen for such treatment. These qualities may even exceed those of the managers chosen as "high fliers". Therefore a clearer understanding is needed of the relationship between performance, person and environment.

Chapter 4 reviews theories of adult learning which provide some models for investigating learning at work, in depth.

.CHAPTER 4

LITERATURE REVIEW OF RELEVANT LEARNING THEORY AND

RATIONALE FOR CHOICE OF MODEL FOR FURTHER STUDY

1.   Objectives of Chapter Four

This chapter will review some of the ideas currently being

applied in the field of adult learning. One way of viewing these

models is to see them as either being concerned with parts of

people's repertoires of behaviour, or as dealing with change in

the person as a whole. The relevance of these for developing

resourceful, flexible managers will be discussed.

2.   Learning Managers

The earlier chapter (Chapter 2) considering the future

environment in which managers are likely to be working, high-

lighted the need for managers to be able to cope with a wide

range of new problems, for them to be willing to change their

behaviour to meet new circumstances, and to be ready to assimilate

new information presented to them. There will be a need for

managers who are able to evaluate plans for action and demands

from various groups of people, and to make strategies for coping

with problems for which there are no precedents.

Mason (1974) calls this type of manager the "Learning

Manager". "The Learning Manager becomes an active, innovative

and creative force in his environment ..... He has the psychological

courage to venture forth, to try new approaches, and to explore

unchartered directions ..... He is able to achieve optimal reali-

sation of his and his client's potential in whatever situation

he finds himself".

In order to achieve this capability, managers need both

specific skills, which may involve unlearning old habits and

acquiring new ones, or obtaining new information and learning ways of dealing with it usefully, and they may also need to learn in a way which affects their whole being rather than just particular skill or knowledge areas.

It was considered (Chapter 3) that career development is an area to which a contribution can be made, and that what needs to be investigated is learning at work, so that career development can help managers meet these new problems. Figure 4.1 gives an overview of learning theories discussed below.

3. What Learning Is

Many varied experiences come under the label "learning". Learning can be "a relatively permanent change in behaviour, or capacity to behave, as a result of events occurring". Behaviour here means mental or physical actions. Relatively permanent is a term used to exclude changes in behaviour as a result of fatigue. Learning is a term which may cover the memorising of nonsense syllables, remembering the words in a play, finding out how to use a particular machine, becoming aware of one's own prejudices, learning to swim, improving one's capacity to understand others, for example. These activities are all very different and it became apparent, as they were studied, that a single model would be inadequate for covering all the things called learning. There are, for example, theories such as: Piaget's (1969) model of the way children assimilate and accommodate new information and experiences; Bandura's (1963) discussion of ways in which children use attractive models to learn new behaviour, Pavlov's (1927) conditioned learning in dogs, and Köhler's (1947) model of insight, or learning through trial and error and so on.

One classification of theorists lists them according to their method of approach - thus according to Burgoyne (1975), there are; the Conditioning School, Gestalt School, Experiential School, Cognitive School, Information Theory School, and Social Influence School.

The Conditioning School views learning as the process by which stimuli come to lead to particular responses. The Gestalt School views learning as the process of gaining insight through trial and error and puzzling over a problem. The Experiential School sees learning as the process by which a person is able to structure and understand the world from his experience and to modify his own self in the process. The Cognitive School views learning as the process by which people acquire cognitive structures; attitudes, patterns of thinking, motives, etc., which change their behaviour. The Information Theory School views people as systems which take in, store, and process information. Social Influence School views learning as the process of socialisation, whereby people acquire the behaviour and values required to enable them to play appropriate roles in society.

This listing follows briefly the conventional headings under which theories of learning may be found. Any such classification is artificial and there are many overlaps between the categories. Can they be of assistance in understanding how people become "learning managers"? For this purpose a more appropriate way of classifying some of the learning theories might be to separate those theories concerned with changing specific aspects of behaviour, from those concerned with changes involving the person as a whole. This has been done for the study of adult development.

FIGURE 4.1 AN OVERVIEW OF LEARNING THEORIES

MODES OF LEARNING

RESULTS OF LEARNING

Meta change
new self-concept, Kelly, Bandura (5.6)
new internalisation, Social Influence theory (4.1)
autonomy, authenticity, self-direction, (6.)
Humanistic theories
congruence of "espoused theories and theories
in use", Argyris and Schon (5.6)

Internal changes
changed strategies, assumptions, Schon (5.6)
increased storage capacity, information theory (2.2)
increase in range of transformations "   "   (3.2)
new means-end connections, Cognitive theorists
new figure-ground relations, Gestalt theory (3.2)
new constructs, Kelly (5.6.3)
new identifications, Social Influence theory (4.1)
changed attitudes (3.2)

Externally observable behaviour
compliance or non-compliance, Social Influence
theory

repetition of reinforced behaviour (3.1)
extinction of non-reinforced behaviour,
Conditioning, or behaviour modification theory (3.1)
speed, ease, and accuracy of response to cues (3.3)
Skills theories

Wider consequences
Survival, or failure to survive, of the individual
and/or the species, group, or organisation
All human achievements

outputs and feedback

feedback

feedback

feedback

LEVELS OF LEARNING

Integration   KOLB (7)
Self-actualisation   Maslow, Rogers (5.1 & 5.4)
Growth   Alderfer, Dale and Payne
                     (5.3

Deutero   Schon, Argyris (5.6)
Inner self   Friere, Tiere (6.2)

Socialisation   KOLB (7)
Ego and social   Maslow (5.1)
Relatedness   Dale and
                     Payne (5.3)

Acquisition   KOLB (7)
Security, physical   Maslow
                     (5.1)
                     Dale and
Existence   Payne (5.3)

inputs & feedback

Increasing awareness, Dale & Payne (5.3)

Increasing resources or competence, Dale & Payne

increasing will, or motivation

Dale

and

Payne
(5.3)

Dale
and
Payne
(5.3)

Reflective observing
KOLB (7)

Concrete experiencing
KOLB (7)

Abstract conceptualising
KOLB (7)

active experimenting
KOLB (7)

Tiere (6.3)

Actions   Feelings   Tiere (6.3)

Knowledge, Tiere (6.3)

Tiere (6.3)

MODES OF LEARNING

CONDITIONS FOR LEARNING

Complexity (behavioural, affective, perceptual, or
symbolic) in the environment.   KOLB (7)

Number, spacing, frequency, sequence,
predictability, and inter-relations of
stimuli or rewards or punishments. Behaviour
Modification.   (3.1)

Natural and man-made environments, the results
of own behaviour, and the behaviour of others,
Information theory, Social Influence theories
                                     (3.2) (4.1)

Footnotes
Numbers key to sections in text
KOLB is in capitals because his
theory was selected for further
research.

3.1 <u>Theories and practices concerned with the results of learning</u>
     <u>in terms of specific behaviours</u>

The theories and practices concerned with changing specific
behaviours are largely concerned with enabling people to cope
with specific problems in the environment, by acquiring specific
skills or knowledge associated with competence in that area.
Some theorists argue for studying only that which is observable
to an outsider and not being concerned with what is going on
inside the black box of the mind. Some theorists have argued
that only by studying what goes on within the mind can behaviour
be understood and influenced.

The main school of thinking which concentrates on observable
behaviour changes is the Conditioning School. This school
contains within it a variety of subschools. The operant or
instrumental Conditioning School which began with the work of
Thorndike (1932) is based on the idea that behaviours which are
in some way "rewarded" are likely to be repeated and those which
are punished are likely to decrease in frequency. This led to a
large amount of research, which examines such things as the
relationship between the time of a reinforcing event and the
behaviour required, schedules upon which reinforcement can be
given, the gradual shaping of new behaviour using reinforcers and
the role of secondary reinforcers. This theory has been widely
applied in behaviour modification therapy. In education its
first applications were in the field of programmed instruction
where learners were reinforced for making correct responses to
questions by the knowledge that they were right. Programmes
enabled them to build up a large amount of information (Skinner
1958). The programmed learning method has been used in teaching
managers who are non-accountants about costs and financial infor-
mation, for example. Until recently it has been held that

training using this kind of "carrot and stick" method is more useful in organisations for operator training than for managerial use because the trainer is required to know in detail the behaviours required in the trained person. It has, therefore, been used in many forms of skills training where the behaviours which make up a total operation are each shaped so that by successive approximation the finally required behaviour is achieved. However, it has recently been applied to managerial training. Luthans and Kreitner (1975) show how managers can be taught to use the concepts of reinforcement, schedules of reinforcement, and shaping behaviour, in improving their management of people. By searching for cues in their own behaviour, or in the environment, which results in behaviour from their subordinates which is not desired, they can alter their own behaviour, or the environment, to enable wanted behaviours to be emitted. Wanted behaviours can be followed by reinforcement. The reinforcers may vary from informal praise, or lunch invitations, through to promotion and financial rewards.

Honey (1976) has developed a method of teaching managers to improve their skills in face to face encounters. He emphasises the behavioural aspects of interactive skills, and teaches managers to use appropriate observable behaviours to obtain the results they desire, rather than trying to change attitudes or feelings towards others. A method is taught for analysing speech so that the effects of different types of spoken behaviour on others can be seen. With practice in using this information, managers can keep their spoken words in step with their objectives for each situation. Argyle's (1972) approach to non-verbal skills is not dissimilar.

3.2 Theories concerned with internal changes

Many forms of management training rely on models of behaviour which are difficult to place under any particular school of thought - indeed many are pragmatic in that they do not appear to espouse any learning theory. The Information Theory School covers a wide variety of models from ones describing the way the brain copes with electrical impulses to things such as learning the information contained in books. This school emphasises the way a person stores, processes, and gives out information, and therefore has practical applications such as the use of massed or spaced practice in learning. Many of the methods used in skills training appear to come very roughly under this banner. Skills trainers attempt to show the learner how to interpret information and make appropriate outputs. The method, however, belongs to the trainer in so far as he is showing the learner how information can be used and not teaching the learner how to structure experience in a way which is meaningful to him as an individual.

Management style is often taught by a similar method. Using a framework such as Reddin's (1970) 3D Grid, managers can be taught to analyse the kind of situation in which they work and make behaviour appropriate to that situation by being, for example, more or less autocratic/bureaucratic depending on the effective-ness of the style with the problems and subordinates they have.

Problem solving techniques can also be taught in this way. Managers are given a tool, such as Vroom and Yetton's (1973) problem solving network, which enables them to process the information they have so they can make appropriate outputs. Many skills are taught in this way: a trainer/teacher finds a frame-work which enables the learner to have ready-made classifications

for what is otherwise a buzzing mass of information, and the classifications help him to make appropriate outputs and store information on this given framework for future reference.

The Cognitive School recognises that thinking, reflective processes go on within the person, and the School does not concentrate, as the Conditioning theorists do, on the observable behaviours of people. The Cognitive School attempts to understand behaviour in terms of people's inner mental states or structure. In training, change is sought in these. Attitudes are frequently singled out for change. People are considered to have one set of traits or attitudes which need to be modified or replaced by another set.

3.2.1 Balance Theory

Theories of attitude change consider ways in which cognitive, affective and conative changes occur in people. Balance theories illustrate this, for example, Heider's (1958) theory of balance suggests that there are three parts of an attitude system which tend toward consistency - the person experiencing the system (p), another person with whom he has a relationship (o), and the attitudinal object (x). Two kinds of relationships are considered: the attitude relation of liking or disliking, and the unit relation involved in perceiving persons or objects as belonging together. These relationships can be considered to be positive or negative. There is balance of relations in the p-o-x triad when all three are positive, or two negative and one positive, otherwise there is imbalance. Heider postulates a general trend to re-establish balance when it is disturbed. This work has been developed by Newcomb (1961) and later by Rosenberg and Abelson et al (1960). This idea of balance is the heart of much "attitude training". If the relationships

(unit or attitude relations) can be changed, or the object can be changed, the attitude system will be in imbalance, as a result, and changes will occur to achieve balance.

Attitudes can also be considered to have three components - an affective component, a belief component, and a behavioural component. It follows from the idea of balance that, if there is change in the beliefs or feelings of the attitude, behaviour will change to keep the balance. Balance theorists/consistency theorists are concerned with the way specific inferred internal behaviours, that is attitudes and beliefs, change. They are not necessarily concerned with whole person changes such as changes in a person's self-concept. Changes may be related to specific attitudes and beliefs and not involve a complete restructuring of a person's whole belief system. Similarly Festinger's (1957) theory of cognitive dissonance seeks to explain how people reconcile inconsistency of their cognitions by changing specific beliefs and attitudes which are dissonant.

3.2.2 Content and Process Theories of Motivation

The goals for which people strive have been frequently studied. For example, McDougall's (1973) study of motivation at work identified six types of reward managers look for at work: material reward; leadership; variety and challenge; job interest or intellectual interest; security and social needs; status and prestige. He finds that managers motivated by these different groups of rewards, respond to different types of financial incentives.

Recent theories in the field of motivation concentrate more on the cognitive processes than on the content of the motives, (for example, Vroom's (1964) instrumentality-valence theory).

But it has been held that only by understanding the things people
seek, can specific behaviours, (for example performance at work)
be changed. The Conditioning School rewards desired behaviour.
The Cognitive School asks "how does this person regard his situation"?

3.2.3 Gestalt School

The Gestalt School is also concerned with internal changes.
It derives from a group who are more concerned with learning
"wholes" than with isolated pieces of learning. The classic
experiment was Köhler's (1947) apes: the apes were given a
problem (such as getting bananas which were out of reach) and
they failed time and again to solve it, until, in a flash, they
gained insight and solved the problem in one step (by standing on
a box and using a stick to knock the bananas down). This solution
then carried over into other experiences. Gestalt psychologists
suggest that the solution comes about because the learner sees
the whole pattern of the different factors, instead of responding
to isolated stimuli. This aspect of learning became incorporated
into the teaching of many skills, for example learning a foreign
language, using scientific instruments. The teacher begins with
meaningful wholes and watches for aspects which need breaking
down into smaller points, which are then built back up to the
broader whole.

3.3 Application of these theories to the development of
     "learning managers"

The practices deriving from these theories enable a trainer/
tutor to develop in managers skills and abilities which they need
in their work. Interactive skills are one of the areas of com-
petence which the managers of the future may require, for example.
However, in this area of developing specific changes in behaviour
the role of the teacher is very important. The teacher uses the

theory to develop models which can help the manager. He decides what is to be learned, and he develops a method for enabling the learner to reach his goals. Thus, for example, the teacher may be using some Gestalt School learning theory to enable managers to gain insight into the problems of negotiating with people with differing viewpoints. He may plan a simulation so that the learners can grasp the idea of the whole problem, and then use discussions afterwards to go back to any areas which need breaking into smaller points and then re-run another simulation to enable the learners to build back up to the whole. It is through his methods that the learners gain some insight into a specific skill which he has set as the goal. The skill may or may not be transferable to new problems. Similarly with many problem-solving methods; the teacher gives a framework for solving the kind of problem the learner habitually faces. The framework may not be of use for problems without precedent. The change of specific behaviours, or capacity to behave, therefore, involves a high level of external intervention and does not involve a high level of change in the learner - he may feel he has acquired a new and useful skill, but requires a reasonably high level of commitment to actually bother to practice and use the skill away from the training course. He may feel no fundamental change in himself.

Thus practices which change specific behaviours may be of value in developing future managers, but they assume that the trainers already have assessed the skills the manager needs before developing a way of training for them. However, it was suggested that managers will face many new problems and demands, changing very quickly, and that the skill needed in managers will not be the ability to learn from others, but to learn by themselves.

4.   Theories and practices concerned with change of the person as
      a whole

        The schools of thought relevant in this area are Exper-

iential, and Social Influence. Neither the Cognitive nor the

Gestalt schools can   be said to be concerned solely with

changing specific internal behaviours. Some theorists in these

schools are also seeking to change the behaviour of the whole

person. The emphasis lies not in change of specific behaviours

but in restructuring of mental processes in ways that may change

a person's capabilities in a variety of fields. Division into

theories concerned with change of internal or external behaviours

is no longer helpful. These theories are concerned with the

person in his environment and explain by reference to a person's

structuring of the world, how his behaviour becomes appropriate

to circumstances.

4.1 Social Influence or Socialisation in whole-person learning

        The Social Influence School, as defined by Burgoyne (1975)

is concerned with the socialisation process whereby children and

adults acquire beliefs and ways of behaving and self images which

enable them to play a part in a particular society or group within

society. Thus Kelman (1961) identifies three ways of such learning:

compliance, when a person behaves in a particular way because

there are rewards or punishments to do so or not do so; identifi-

cation, when a person models his behaviour on some valued person;

internalisation, when a person holds a value or behaves in a

certain way because it becomes viewed as a part of him. This

last point is a form of learning which may involve the learner

restructuring his view of the world, not merely going along with

external coercion, or following an external exemplar.

Bandura (1963) demonstrates the importance not only of reward and punishment in the socialisation process but also the importance of a model which can be imitated; complex, social behaviours may not be emitted unless they can first be observed, for example, the learning of complex rituals, traditions and manners. Children learn much of their social behaviour in this way; a model who is liked is more likely to be imitated than a neutral or disliked model. Reward/reinforcement may be necessary to maintain the behaviour after it has been copied.

Socialisation is not only a process of childhood but continues throughout adulthood. Many changes, such as new jobs, membership of a new club or society, or entry into marriage require new social behaviour. In childhood much behaviour is obtained because the child complies with external rewards or coercion. Later on the child may accept the values associated with certain behaviours and the behaviours are emitted because the associated values are accepted and not because of external coercion. In adulthood the socialisation process is often anticipated. An adult who aspires to belong to a reference group to which he does not belong, accepts the values of that reference group. (He may not comply with some of the behaviours until the reference group becomes his membership group, for example, wear a uniform, give commands, speak on behalf of the group). When socialisation involves acceptance of the values of the group, as well as com- plying with behaviour acceptable to the group, the learning may involve changes in the whole person. When socialisation involves only compliance due to some external coercion or reward (such as an adult being unwillingly admitted to an institution such as prison or the armed services) then the learning may only involve specific skills or behaviours. Siegel and Siegel (1957)

showed that attitude change, one aspect of socialisation, is influenced by reference groups and membership groups as these reflect internalised values. Feldman (1976) describes the process of socialisation in three stages. The outcomes of social-isation depend on each variable in each stage being resolved and for complete socialisation into an organisation all stages must be completed. The three stages are anticipatory socialisation (before the individual enters the organisation), accommodation (early on after joining the organisation) and role management (later on after joining the organisation).

In the first stage the two problems to be resolved are a) realism about the job, b) extent to which what the organisation has to offer is what satisfies the individual concerned.

In the second stage the problems to be resolved are a) how successful the initiation and training to the task are, b) the extent to which roles are clarified, c) the extent to which employee and supervisor/manager have the same evaluation of the employee's progress and d) the extent to which an employee is accepted in the group.

In the third stage the individual has to resolve conflicts which arise either at work or outside. If these problems are successfully resolved the individual is likely to have a high level of general satisfaction with his work and will also feel he has some influence and control over his work. Feldman's data shows that successful socialisation does not result in high internal motivation to work or high degree of job involvement, however.

4.2 Cognitive and Experiential elements in whole-person learning

The Cognitive and Experiential Schools may also contribute to our understanding of whole-person learning. It is difficult to

separate the two. In the narrow sense the meaning of "exper-
iential" is learning from discovery from personal experience
(rather than vicariously from passed on knowledge other people
have gained from events). In the broader sense, however, it is
necessary to understand cognitive structures in order to under-
stand how people do this. Kelly's (1955) construct theory
postulates that we have cognitive maps - a construct system -
and also suggests how experience changes people's behaviour
(see section 5.6.3 below). Boydell (1976) says that experiential
learning models have two features in common:

1)   they lead to meaningful learning (as opposed to rote
      learning) as distinguished by Ausubel (1968);

2)   this learning is achieved by the learner sorting things
      out for himself, that is, he restructures his perceptual
      experiences and hence gains insight, or learning.

He goes on to say that the nature of the perceptual experiences
used for this insight-generating process are unclear. Better
understanding of perception and cognition is required. Wexler
(1974) suggests that, subjectively, experience is the activity
of attending to and organising information that enables us to
make 'sense' out of our world, and it is this activity that we
call 'experiencing'.

        In the course of time the whole, experiencing, person may
develop from immaturity to maturity (and sometimes may regress
from a mature state to an immature one!). According to a number
of theorists, the goal of the mature person is to be "self-
actualising", or to be a "fully-functioning self". The
next section will outline some of the relevant theories.

5. Levels of Learning

    5.1 Maslow's Hierarchy of Needs

        Maslow's (1954) theory of motivation provides a starting
    point, not as a theory of motivation per se, but because he
    developed the concept of self-actualisation. His motivation
    theory postulated five levels of need. The first four levels
    he called the basic needs; physiological needs, safety needs,
    social needs and esteem needs. He suggested that even when the
    basic needs are satisfied, people may not be content, they must
    strive to be the most they can be, to become everything that
    they are capable of becoming. This will be expressed in different
    forms of different people.

    5.2 Alderfer's modification of Maslow's Theory

        Alderfer (1972) developed Maslow's theory and amal-
    gamated the five levels of need into three needs which he
    conceived as having equal priority. People try to satisfy all
    three needs - not necessarily in any particular order of priority.
    His three needs are existence, relatedness and growth. Existence
    needs include physiological and material desires. Relatedness
    includes relationships with other people, social interaction,
    need for esteem of others. The growth needs are similar to
    Maslow's self-actualisation and include the need to be creative
    and have self esteem.

    5.3 Dale and Payne's Views

        Dale and Payne (1976) suggested that personal development
    can be viewed on three dimensions: resources, will and aware-
    ness. 'Awareness' is the awareness of anything - oneself, the

environment, politics etc.; 'resources' are the capacities people have; 'will', the motivation people have. These three can be seen to exist at the three levels which Alderfer postulates, existence, relatedness, growth. Dale and Payne put back the hierarchical structure into these levels of Alderfer. A model of individual capacities based on these notions is included in Figure 4.1.

Dale and Payne postulate that within a level on any one dimension, learning involves more elaboration of skills and knowledge which the person already possesses. However, between levels, particularly into the growth level, learning requires not merely further elaboration but a whole new patterning and restructuring of experience. This may be felt as a crisis (represented by zig-zag lines in figure 4.1) because new patterning involves the destruction of some of what went before. Discontinuities in experience may provoke a jump to the growth level. This growth level, akin to Maslow's idea of self actual-isation, is of importance because descriptions of the self-actualiser are compatible with the idea of the "learning manager" and with the characteristics desired for the future manager. Many theorists have written on self-actualisation (Maslow (1954), Rogers (1961), Argyis (1957), Wexler (1974)).

5.4 Rogers' Views

For Rogers (1961) there are two aspects of the person; the organism and the self. The organism is the location of all experience. This total experience is the individual's frame of reference known only to himself. Gradually part of this field becomes differentiated and becomes the self, which is con-stantly changing. In addition to the real self each person has an ideal self. When there is discrepancy between the two there

is dissatisfaction. This dissatisfaction can be a learning
stimulus to reduce the gap between real and ideal self: this
for Rogers is self-actualisation.

5.5 Other views of self-actualisation

Wexler (1974) describes the self-actualiser. "The chief
characteristic of the self-actualised person is that he will
continually be construing new facets of meaning in his experience
..... In processing and organising information from his external
environment, the self-actualised person will distinguish new
facets in what he takes in through his senses".

Some of the characteristics of the self-actualising person
are: tolerance of ambiguity, more than usually efficient per-
ception of reality, orientation to solving problems outside
oneself,   not trapped by culture and collective norms or guilt,
positive view of self, ability to relate to and accept other
people, autonomy and independence, flexible and creative (Maslow),
possession of long range goals, autonomy and independence
(Argyis), trust in oneself, not trapped by norms and rules,
perceptual fields maximally open to experience, flexible,
creative, successful (Rogers), ability to generate new rules
from experience, flexibility in using rules (Wexler).

Having considered the concept of self-actualisation,
some models which may enable an explanation of how it can be
achieved can be examined.

5.6 How self-actualising occurs

5.6.1 Learning as feed-back

Several theorists enable explanations to be made of how
this repatterning of experience can occur. Some theorists
(Schein and Bennis, 1965, Torbert 1972) have argued that

learning involves the feedback of information to one's conscious-ness.

Figure 4.2   Learning as a feedback process

INFORMATION FROM OTHERS ⟶ DISCONFIRMING FEEDBACK

NEW BEHAVIOUR ⟵ ATTITUDE
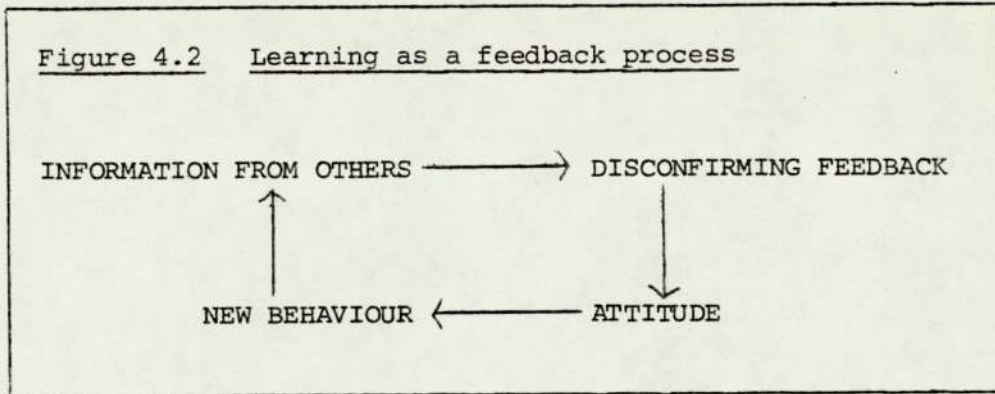
One therefore has to be in contact with one's experience. Experiential learning has, by these authors, been conceived of as a process of opening feedback channels so that people begin to become aware of their impact on one another, begin to become aware of, and learn the meaning of, their own and other's behaviour, and begin to learn how to achieve goals that are personally meaningful to them through the use of intra- and inter-personal feedback.

A clearer idea of the sort of feedback processes involved comes from Bateson (1972), Schon (1975) (whose ideas have been taken up by Argyris (1976)) and Cooper (1976) and also from Kelly (1955).

5.6.2 Schon's Deutero-Learning

Schon points out the importance of learning to learn, because, for managers, the task environment is continually shifting and in ways which are only marginally predictable. He distinguishes two theories of behaviour; espoused theory and theory-in-use. Espoused theory is the explanation an individual gives for his behaviour. Theory-in-use is the theory for which the person's actual behaviour is evidence.

Observers, starting with the behaviour, can attribute a complex
intention consisting of governing variables or values, strate-
gies for action, and assumptions that link the strategies to the
governing variables. Governing variables are those on which
assumptions and strategies are based. Schon gives the example
of a hypothetical teacher whose theory in use might be:-

Governing Variables	Assumptions	Strategies
Control Class. Maximise the impart-ing of information.	Roles of teacher and pupils are clear cut. Pupils need structure if they are to learn.	Design each lesson and stick to it. Reward positive responses.
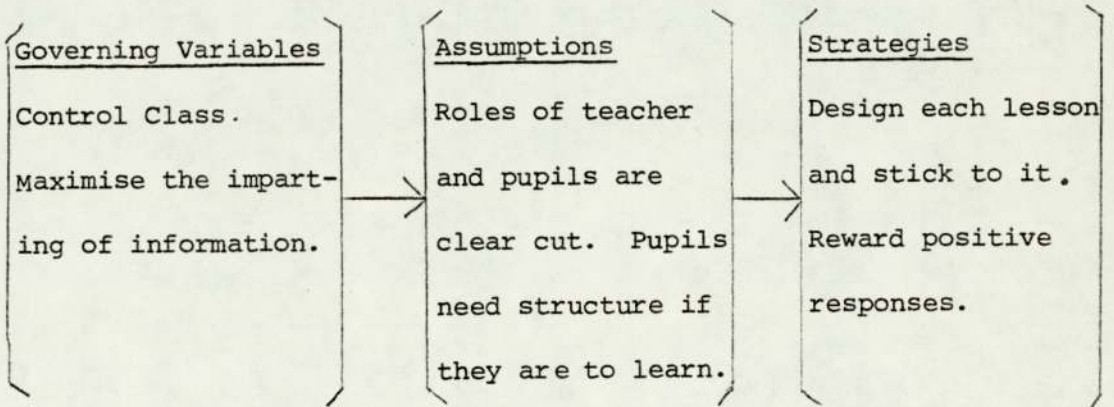
Learning is experience-based change in theory-in-use. This
can be a change in any aspect of the theory; governing
variables, strategies, or assumptions. Dale and Payne's
learning within a level, roughly corresponds to change in
strategies and assumptions; for example, the assumption that it
is necessary to control a class, and the strategy of punishing
undesired responses. The most central kinds of learning come
from change in governing variables - corresponding roughly to
Payne and Dale's jump across levels, for example, a governing
variable might be that it is not necessary to maximise the
imparting of information but to enable pupils to discover for
themselves. Schon calls this deutero learning:- learning to
learn. A person deutero learns when he changes his theory-in-
use in response to experience. He can do this by making his
theory-in-use explicit to himself, thus enabling him to develop
more effective theories-in-use. Deutero learning, he postulates,
comes about mainly through dilemmas, since these will bring into
conflict the elements (governing variables, strategies and

assumptions) of the theory-in-use.

5.6.3 Kelly's theory of personal constructs

Kelly's (1955) elegant theory of personal constructs gives another explanation of the process of change. According to Kelly, man seeks to understand his experience by structuring and restructuring it. People make assumptions about reality, and then find out how useful these assumptions are in anticipating the outcome of events. People's assumptions take the form of constructs, which are bi-polar classifications, which are organised into hierarchical construct systems. The formal theory is set out in a fundamental postulate (a person's processes are psychologically channellised by the ways in which he anticipates events) and eleven corollaries.

Through different modes of construing a person may elaborate his construct system; he may change an event from one pole of a construct to another pole of a construct (x was formerly seen as loving but is now seen as hateful); or he might change the range of convenience of a construct (the construct covers a wider range of events); or he might change constructs completely - old constructs found to have no predictive value may be jettisoned and new ones adopted. He might change the connections between constructs in the hierarchical system, forming new sub-systems with new arrangements of super- and sub-ordinacy.

5.6.4 Bandura's self-efficacy theory

In a detailed study of phobic behaviour, Bandura (1977) developed the concept of self-efficacy expectation as a mediating variable in developing coping behaviour. An efficacy expectation is the conviction that one can successfully execute the behaviour required to produce the outcomes (a "realistic self

confidence"). Outcome expectations are different from efficacy expectations. A person can believe that certain actions will produce particular outcomes, but if he entertains serious doubts about whether he can perform those actions, he will not necessarily try to perform them. This is similar to expectancy theories of motivation. This is illustrated in Figure 4.3.

Figure 4.3 Diagrammatic representation of the difference between efficacy expectations and outcome expectations (from Bandura, 1977)

Person ⟶ Behaviour ⟶ Outcomes

Efficacy Expectations   Outcome Expectations
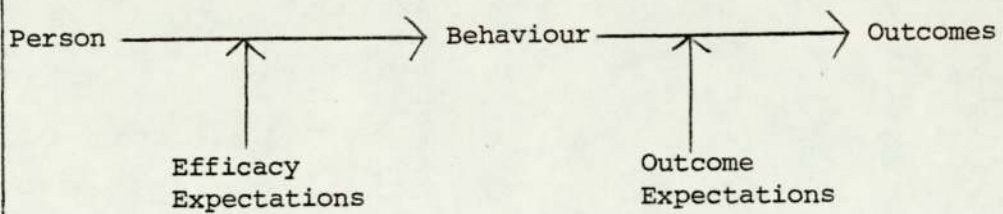
For Bandura, expectations of personal mastery affect both initiation and persistence of behaviour to cope with threatening or difficult tasks. Those who persist in such activities will gain experience which reinforces their sense of self-efficacy. Efficacy expectations differ in magnitude (from simple through to difficult tasks), generality (a sense of mastery extending beyond the particular task in question), and strength (extent to which coping efforts persist despite setbacks).

The sources of efficacy expectations studied by Bandura were; performance accomplishments (actually doing the actions required to get the outcomes); vicarious experience (watching others' successes); verbal persuasion (being told about the actions); and emotional arousal and desensitisation (trying to reduce the fear and arousal levels associated with it).

The source which enables people to gain efficacy expectations most is performance accomplishments. However, even though

people gain competence through performance, they may only increase their self-efficacy expectations if they attribute their successes to their own capabilities rather than to external factors such as luck, or the situational circumstances. Similarly, success needs to be attributed to ability, rather than to effort, because a high expenditure of effort may connote a lesser ability and has a weaker effect on perceived self-efficacy. The level of the task is also important; mastery of a challenging task conveys evidence of competence and increases efficacy expectations. Bandura found that people can experience setbacks, but still increase their self-efficacy if they detect a relative progress in their overall performance; a perceived levelling off of performance compared to prior rates of improvement does not necessarily result in decreasing self-efficacy. Finally, he found that the more varied the circumstances in which threats and difficulties are mastered the more likely successes are to increase self-efficacy.

Thus Bandura proposes that self-efficacy is a mediating variable in changing behaviour and its development depends on the circumstances in which difficult or threatening tasks are mastered.

Thus a person is able to structure experience and change behaviour when disconfirming evidence is received so that behaviour becomes more appropriate.

6.   Practices developed from this theory to facilitate significant learning

The previous section identified the kind of learner which is required for the future and could variously be called a self-actualiser, deutero-learner, level three "growth" learner,

elaborator of construct system. The important point is that
such a person is able to learn for himself. Various people have
used these theories to enable people to learn in this way.

Training based on theories of whole-person change is often
on a person to person basis, or at the most in small training
groups (for example Thomas (1976), Tiere (1977), Boydell (1976)
Ratui (1977)).

It is obvious that all people do not have the capacity to
become self-actualisers unaided. Maslow suggests there are two
conceptions of facilitating learning; one is extrinsic learning
which is teacher planned and controlled. It reflects the goals
of the teacher not the learner. The other is learner-planned
and directed and it is by this method that people can learn to
learn for themselves. The former covers the sort of practices
discussed in section three. The latter has also been applied in
education.

6.1 Bruner's View

Bruner (1966) feels that "education is experience reorganised".
He advocates learning through discovery with feedback on progress.
He says this results in greater intellectual capacity, emphasis
on intrinsic reward (learning for its own sake) rather than
extrinsic rewards.

6.2 Freire's View

Freire (1970) has also used the approach (he calls the
desired state "conscientization"). He concentrates on awareness.
For example, because reading involves more than the ability
to distinguish sounds corresponding to marks on a page, he
uses highly emotive words, so that critical approaches will be

made by the learner. Thus he encourages learners to become critical and
reflective. The teacher learns from the students as well as
the students learning from the teacher.

6.3 Tiere's View

Tiere (1977) uses a model of the inner-self surrounded by
feelings, actions and knowledge. Learning is the process whereby
the learner unlearns "blocks" which prevent the inner self
coming into contact with his knowledge, action, and feeling, and
these with each other (left hand not knowing what the right hand
is doing). He tries to enable learners to achieve this aware-
ness of self through a business simulation which brings into
doubt many of the values and assumptions people make in their
actions, in an emotive atmosphere. With some new knowledge
inputs, learners are then helped to examine their behaviour and
"unblock" paths to the inner self.

Figure 4.4 Showing how areas of the self become blocked off
from communicating with each other (Tiere 1977)
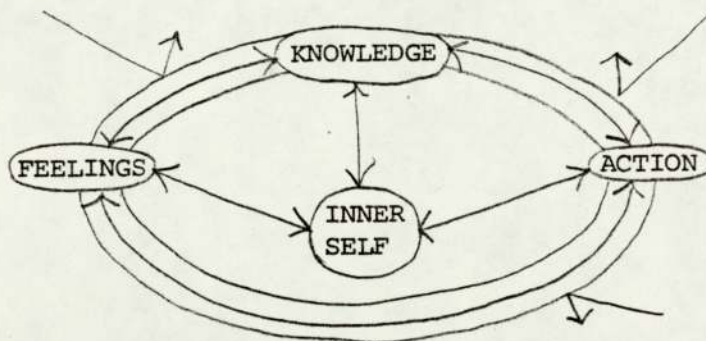
6.4 Thomas's View

Thomas (1976) suggests that people who do have the capacity
to learn for themselves, whom he calls self-organised learners,
use a model of the process of learning to improve learning per-
formance. The self-organised learner must identify his needs
and translate these into realistic learning processes, then plan
how to go about the learning task, and he must have criteria of

success by which the outcome of his learning can be evaluated. Self-organised learning depends on the capacity to evaluate one's own performance and periodically bring one's learning processes under review. His learning-to-learn approach uses the idea of helping people become aware of their learning processes so that they can be evaluated. One of the devices used to raise awareness is the Kelly Repertory Grid to enable the learner to be aware of his construction of particular experiences. Learners are then supported in the change process where they are free to experiment with and explore their own processes.

6.5 T-groups and sensitivity training

'T' groups, or sensitivity training, use the idea of feed-back to learn about one's interactive abilities and impact on others. The goals of sensitivity training are to increase the ability of the participant to accurately sense the reactions of others to his own behaviour, to increase the ability to accurately sum up the behaviour existing between people other than with the participant, to increase the ability to select and perform in a skilled manner whatever behaviour the situation calls for. In order to do this the members of a T-group are encouraged to focus on those present; observing the behaviour of each member of the group. Each member shares his feelings or observations with the others and these are discussed. The group tells each member how his behaviour affects others and so each member participates both in giving and receiving observations - by this method the individual is able to receive feedback on his behaviour; it becomes explicit to him and he can restructure his experience as he feels necessary. (Note that this approach is different from Honey's described in section 3, because it is unstructured, the learner does not have to accept the teacher's framework and goals

but learns for himself how to structure inter-personal behaviour and experience if he wishes, towards his own goals).

6.6 Rogers' View

Rogers (1961) identifies the elements of experiential learning as: personal involvement (the whole person in both his feeling and cognitive aspects is involved in the learning event); self-initiated, pervasive (it makes a difference to the behaviour, attitudes and maybe personality of the learner); it is evaluated by the learner; its essence is meaning - meaning to the learner is built into the whole experience. He identifies two sets of assumptions in education - those which help the learner learn to be passively taught, and those which enable the learner to learn for himself from discovery. Significant learning takes place when the subject matter is perceived by the learner as having relevance for his own purposes. Much significant learning is acquired through doing, because learning is facilitated when the learner participates responsibly in the learning process. This sort of creative learning is best facilitated when self-criticism and self-evaluation are primary, and evaluation by others is of secondary importance. Indeed a supportive atmosphere is important. This leads to the learning of the process of learning; a continuing openness to experience and incorporation into oneself of the process of change. Rogers feels this is the "most socially useful learning in the modern world".

6.7 Revans' Action Learning

Revans (1975, 1977) is one practitioner who has attempted to use discovery learning on-the-job, rather than away from the job, to develop managers. He calls this Action Learning. It takes the form of managers working singly or in groups on a project which has real importance. However, not all projects produce

learning of a meaningful nature. Revans feels that the elements

of such project work must include: the difficulties which managers

will continue to face in a management situation, since the desire

to learn will then be present, a recognition that the learning

is not only an assimulation of new knowledge but also the reorgan-

isation of what is already known. Managers must be given support

in the stress they may experience; and the role of the management

teacher is to provide conditions for managers to reorganise

their past experiences. The learner must be able to perceive

the effects of his own actions or efforts to solve a real problem,

and this evaluation requires some form of self appraisal. Managers

who are unable to change their existing mental sets are unable

to solve unfamiliar problems, but can solve familiar problems,

so   the action learning project contains problems which are

unfamiliar to the learner to induce new thinking.

Figure 4.5 Current Action Learning Paradigm

	Context (for example, organisation)	
Type of function or problem	Familiar	Strange
Familiar		
Strange		

People can be helped to learn in any of the above quadrants,

but the hardest area to get new insights is in the familiar/

familiar quadrant.

7. <u>Theory of experiential learning chosen for further research</u>

So far learning theories have been discussed in two
sections: those related to the <u>teacher</u> developing specific
abilities and skills in people, and those which seek to explain
how people can become more than receptors or mere passive
assimilators, but <u>active learners</u> who can creatively structure
their experience to solve unfamiliar problems, and draw sense
from confusion. On the face of it, the self-actualiser is the
senior manager for the future (and may be, or have been, the
successful one of the present and past!) Specific skills and
abilities cannot be denied importance, however. The manager
of the future will need, for example, interactive skills,
ability to remember and use information, to motivate his sub-
ordinates, practical skills. Whilst much work has revealed the
nature of the learning process and the conditions required to
facilitate meaningful learning, many of these conditions are
not found in work, generally. Revans indicates that not all
problems at work equally facilitate useful learning, and he
chooses action projects with care. With career development in
mind, it seems that many jobs may not encourage new learning.
Simple job rotation may not be sufficient to produce the develop-
ment required. There must therefore be some greater understanding
of the environments in which people work as well as the nature of
the learning sought. It is often felt that different jobs of
work require, or develop in people, different specific abilities,
many of which may be required by the generalist manager; stereo-
types of the marketing man who "understands people", the researcher
who has his "head in the clouds", the engineer who is good at
"nuts and bolts" are not unfamiliar. In helping managers
becoming "learning managers", this information about the environ-
ment may be incorporated.

7.1 Kolb's model

A model of experiential learning developed and researched by Kolb (1971) may be helpful. His model suggests that learning and growth are best facilitated by an integrated process of here-and-now experience followed by reflections and observations about that experience, then forming abstract concepts and generalisations and then by testing the implications of these concepts in new situations. (A model not unlike Kelly's model of how people change their construct systems). Kolb therefore says that the effective learner needs four abilities; concrete experience abilities (CE), reflective observation abilities (RO), abstract conceptualisation abilities (AC) and active experimentation abilities (AE). This model suggests that people must reconcile in themselves the concrete instance and the abstract theory; the calm of reflection, and the activity of action. (See Figure 4.1, centre, for the Kolb's modes or styles of learning).

In the process of learning, the learner must choose which set of learning abilities he will bring to bear on any situation. He may move from actor to observer, from specific involvement to general analytic detachment. Kolb suggests that, both as a result of heredity and as a result of experiences in each person's life history, most people develop learning styles that emphasise some learning abilities over others. "A mathematician may come to place great emphasis on abstract concepts while a poet may value concrete experience more highly". Kolb developed an inventory (to be discussed in Chapter 5) which measured the extent to which a learner uses each of these abilities. Research using this inventory on a group of 800 people, both practicing managers and graduate students in management showed that four prevalent learning styles could be found each using different combinations

of these abilities. People from different management functions tended to utilise different learning styles. Kolb realises that this research does not indicate whether this is so because people with these cognitive styles are chosen to work in different functions, or whether the environment itself stimulates different learning styles. Probably both these mechanisms are operating. Kolb's research found that marketing managers tended to emphasise active experimentation and concrete experience, engineers tended to emphasise abstract conceptualisation and active experimentation, personnel managers tended to emphasise concrete experience and reflective observation, researchers tended to emphasise reflective observation and abstract conceptualisation. A study on training methods found that people with different styles preferred different aspects of training courses - some preferring discussions, some instructor inputs, some role playing etc. Thus training methods can be designed so learners of different learning styles can use their preferred methods. Alternatively, the use of non-preferred methods can stimulate new learning styles in people. Kolb has begun work on characterising environments which stimulate each of the four learning abilities (discussed further in Chapter 5). It is possible that by exposing people to non-familiar environments which require one of the styles of learning identified by Kolb, a new learning style may be developed. This could have great importance for career development. Frequently people are rotated through different functions and jobs to "increase their experience and knowledge". If a clearer idea of the sort of environments which stimulate these four kinds of abilities could be gained, this could provide a base for deciding what kind of experience people would best benefit from. Thus the Kolb model can provide the basis for the development of a model of learning environments and learning abilities which

might provide some answers for people concerned with the best ways of developing people for senior positions through providing the right kind of experience and jobs en route to the top.

The Kolb model appears to bring the problem of effective learning back into the realm of developing specific abilities in people, with the career development manager deciding what those abilities should be. How can this be compatible with the earlier discussion which indicated that the learner needed to be a self-actualiser? It was suggested earlier that one of the reasons that people acquire different learning styles is as a result of their personal histories. Kolb suggests how growth and development occur in the experiential learning model. Drawing on Piaget's (1969) four major stages of cognitive growth from birth to adolescence, he identifies three stages of growth and development. He suggests that, in the first stage of development, progress in each of the four learning abilities can occur with relative independence from the others.

The first stage is acquisition during childhood. From 0-2, the child is learning through action - feeling, touching, handling; being concrete and active in his learning style. From 2-6 years old the child is not only concrete in his orientation, but also begins to develop reflective ability as he begins to internalise actions. From 7-11 years the development of abstract and symbolic activity begins. From 12-15 years the child returns to a more active orientation, but one which is modified through the reflective and abstract thinking abilities he has by now acquired. He experiments and tests the implications of his theories.

The second stage is <u>specialisation</u>, when, as young adults, people develop some of these abilities at the expense of others. People select themselves into jobs and educational experiences compatible with their preferences and these further develop particular learning abilities. People tend to move away, at this stage from environments incongruous with their learning style. Kolb says that, at this stage, the person's sense of self worth is based on rewards and recognitions he receives for work done 'well'. The mode of relating to the world is 'interaction' - the person acts on the world (does his job, goes to evening classes) and the world acts on him (pays him money, fills him with bits of knowledge) and neither is fundamentally changed by the other.

The third stage is <u>integration</u>. Some people may feel a conflict between social demands and rewards, and their personal fulfilment and recognition of self. This can occur as a gradual process, as in the development of stage two, or as a result of a life crisis, such as divorce. Some never move into this stage. The individual experiences a shift in his frame of reference which he uses to structure life. The nature of the shift depends on the learning style which is dominant in the person. Kolb suggests, for example, that "for the reflective person the awakening of the active mode brings a new sense of risk taking to his life. Rather than being influenced, he now sees opportunities to influence ..... for the person who has specialised in the active mode, the emergence of his reflective side broadens his range of choice and deepens his ability to sense implications of his actions. For the specialist in the concrete mode the abstract perspective gives new continuity and direction to his experience. The abstract specialist with his

new sense of immediate experience finds new life and meaning
in his constructions of reality". The person becomes more aware
of the self, and experiences effective choice of new ways of
being. The four modes become integrated. (See Figure 4.1)

The Kolb model suggests a basis for developing an under-
standing of the kind of environments which might enable managers
to become "Learning Managers".

CHAPTER 5

DEVELOPMENT OF THE QUESTIONNAIRE STUDY

1.   Objectives of Chapter 5

This Chapter describes the development of a questionnaire

designed to investigate managers' career histories, through

three pilot studies and a discussion of relevant theoretical

frameworks.

2.   Discussion of Relevant Frameworks and Methodology

In the last Chapter the experiential learning model

developed by Kolb (1971, 1975) was introduced and its relevance

for career development discussed. The four abilities and the

integration of these, seem to be a useful framework for planning

career development, since the four abilities are said to be

developed in different kinds of environments. If this is so,

experience in all of these environments could enable managers to

develop the range of these abilities and so enable them to

become integrated learners, which is the kind of manager

envisaged as the senior manager of the future.

In order to be able to base management development on this

sort of framework it is necessary to have a clearer idea of the

abilities and environments which Kolb has in mind. The validity

of these assumptions, that there is a relationship between the

development of these abilities and the experiences people

have had, can then be tested on a sample taken from the Company.

2.1 Kolbs' Inventory

Kolb used a Learning Style Inventory to test peoples'

use of one learning style (choice of abilities) over another.

The inventory consists of nine sets of four words which describe ways of learning. The person completing the inventory is asked to rank the four words in each set in order of their accuracy in characterizing the way he learns. A rank of 4 is assigned to the word which best describes the way he learns, and 3 to the next best and so on. Totals of the rank scores for each of the four learning abilities over the 9 sets of words can therefore be obtained. Kolb then provides a score sheet which enables the manager to compare his results with those scores obtained from managers and graduate students in management.

The words Kolb uses to describe each of the four abilities are shown in Table 5.1. The whole inventory is given as Appendix 5.1.

Irrelevant words are also included in the inventory, leaving six words to describe each ability. The respondent is required to give a forced choice answer to each set: he is not allowed to answer "not applicable" and is not allowed to give ties in his ranking of the words.

The purpose of the present study is to find out how one might plan managers' experiences during their careers so that their abilities are broadened. If Kolb is right, learning styles which are well developed should indicate that there have been appropriate environmental stimuli (and conversely). However, there are problems with the Learning Style Inventory. It can be criticised on several points.

2.2 A Critique of Kolbs' Measure of Learning Style

One of the most important problems with the inventory is the method people are asked to use in completing it. They are not allowed to either say "not applicable" or give tied values.

Table 5.1   Words in Learning Style Inventory Describing each
            Learning Ability

Concrete Experience Abilities (CE)	Reflective Observation Abilities (RO)
Receptive	Tentative
Feeling	Watching
Accepting	Observing
Intuitive	Reflecting
Present Oriented	Observation
Experience	Reserved
Active Experimentation Abilities (AE)	Abstract Conceptualisation Abilities (AC)
Practical	Analytical
Doing	Thinking
Active	Logical
Pragmatic	Evaluative
Experimentation	Conceptualisation
Responsible	Rational

Thus they may find that none of the four words in a set apply to them and yet they have to place one as best characterising their learning style. This may be a false choice for many people who may think they are, for example, both present-oriented and pragmatic, or future-oriented and reflecting (future-oriented is an irrelevant phrase as far as the learning abilities are concerned but may have just as much meaning for respondents as present-oriented). Thus the inventory forces people to place themselves into the framework suggested by Kolb, whereas there may be many more ways of relating to the world than this and people are not given even the opportunity of opting out of this framework.

The instructions ask people to pick out the words which "best characterise your learning style". "Learning style" is a phrase which could be expected to have little meaning for many managers who do not normally think about the process of learning, and come across this phrase for the first time. They may therefore find it difficult to assess what it is that the words are supposed to characterise.

The words themselves are not self-explanatory, and may have a different meaning for the North American respondents, for whom the inventory was designed, than for the managers of this Company. Some of the words chosen to characterise each of the four abilities could be descriptions of other abilities: for example, "evaluative" is given as a descrip-tion of abstract conceptualisation (AC) - it could equally be thought of as reflective observation (RO): and "reserved" is difficult to place as RO rather than AC.

Some of the filler words or irrelevant words put into the inventory are difficult to compare with the others, for example, "intense" is difficult to compare with "reserved", "rational", and "responsible", since these words do not represent mutually exclusive alternatives.

The scoring procedure relies on the raw scores of the ranks being added together, and then compared with already obtained data from other people so that an assessment of preferred abilities can be made. Since this is an American population it would not be a suitable population against which to standardise the responses of British managers since there would be cultural differences between the two groups.

Kolb used a sample of 127 practicing managers and 512 Havard and M.I.T. graduate students in management.

Although the Learning Inventory has been criticised, as an instrument, it was felt that the model of the four learning abilities was useful, and it would be possible to develop other measures of the learning styles and the complex environments postulated by Kolb. A critique of the theory is given in Chapter 6.

2.3 Kolbs' ideas about environments

The Kolb research suggests two ways of understanding the environments which stimulate learning abilities. One way, for managers, is to look at the functions from which managers come, since Kolb's research suggests that managers from different functions have different learning styles. This approach would tie up with one of the ideas the Company is concerned with in career development; intrafunctional mobility. Functions such as marketing, production, personnel etc., could be studied to

see what characterises their differences. Another approach
to studying environments is suggested by the Kolb research:
the results of studies on managers from different functions, and
on the kind of learning inputs students prefer on training
courses, led to a tentative typology of environments related to
each of the four learning abilities. These are shown in Table
5.2.

Kolb inferred these environmental characteristics from a
study of more than 100 students who had completed an introductory
course in human factors in management at the M.I.T. Sloan School
for Management. He found that people whose dominant abilities
were abstract conceptualisation (AC) and concrete experience (CE)
learned best when in classes where there was high participation
by other class members, and no authority figure.

People whose dominant abilities were RO and AC benefited from
following rules, and being given assigned readings and theory
inputs. People whose abilities were mainly CE and RO liked
open-ended, unstructured, homework papers and self diagnostic
activities. People who measured high on AC and AE wanted
classroom activities, lectures, and reading to be linked to
real situations.

This led Kolb to the suggestions in Table 5.2 of Character-
istics of the four complex learning environments.

3.   Developing the model into a Practical Study

The practical objective of the study is to try to classify
in some way learning, and environments stimulating learning,
so that some basis for planned experience in a manager's career
could be obtained.

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Table 5.2 A typology of environments and their related learning abilities

Environment Label	Environment Label	Environment Label	Environment Label
Affectively Complex	Perceptually Complex	Symbolically Complex	Behaviourally Complex
Characteristics of Environment	**Characteristics of Environment**	**Characteristics of Environment**	**Characteristics of Environment**
Focus on here and now experience. Legitimization of expression of feelings and emotions. Situations structured to allow ambiguity. High degree of personalisation.	Opportunities to view subject matter from different perspectives. Time to reflect and roles which allow reflection. Complexity and multiplicity of observational framework.	Emphasis on recall of concepts. Thinking or acting formed by rules of logic and inference. Situations structured to maximise certainty. Authorities respected as caretakers of knowledge.	Responsibility for setting own learning goals. Opportunities for real risk taking. Environmental responses contingent upon self-initiated action.
Learning Ability	**Learning Ability**	**Learning Ability**	**Learning Ability**
Concrete Experience	Reflective Observation	Abstract Conceptualisation	Active Experimentation

A questionnaire based on the Kolb model was developed. There were several preliminary investigations and pilot studies before the final questionnaire was sent out, all contributing to its development. These were

a)   Survey of records of the top two management grades.

      Short questionnaire on key tasks in managers' jobs.

b)   Structured interviews with 28 senior managers.

c)   Pilot study questionnaire.

d)   Final questionnaire format.

3.1 Short questionnaire on key tasks

Kolb's research suggested that the different functions of management, finance, production, engineering, personnel, research and development, marketing, technical, might provide different kinds of learning ability. Since intrafunctional mobility is one of the things that the Company's management development team try to encourage in people with senior management potential, it was felt that this might provide a good starting point. The records of the top two management grades were studied and charts of management career histories drawn up with a view to career experiences and learning abilities being compared between people who had had careers only in one function versus people with multifunctional careers. At the same time a few managers were asked to complete a pilot study which took the form of a provisional questionnaire (shown in Appendix 5.2) asking them to list key tasks they met in their jobs. They were asked to list three tasks which take up a great deal of their time, and three tasks which have the greatest impact on their achievements in their job, recognising that these two categories might overlap. As guidelines to help them think about this, descriptions were written of tasks involving the four types of complexity of the Kolb environments. They were

asked whether these descriptions fitted any of the tasks they
had listed. Each manager felt he had some tasks which fell into
each of the four environments. They experienced difficulty in
assigning Kolb's categories to tasks; this anticipates the
ultimate findings. The eleven managers who responded to this
request came from a variety of functions and geographical
locations. In terms of the tasks they had, functional classi-
fications were not very useful either; for example, the job
of a production manager may be more like the job of an industrial
relations manager or of a sales manager in terms of the importance
of dealing with personal relationships and people problems,
than it is like the job of an engineer or technical manager,
although, functionally, production manager, engineer and tech-
nical manager might, as "works" people, be considered more
similar. Market research and personnel statistics may be more
similar than market research and sales, or personnel statistics
and management training, which would functionally be grouped
together under marketing and personnel. The problem was the
unit of work to which Kolb's ideas could be applied.

3.2 Use of Minzberg's categories of managerial work

Mintzberg (1973) for example, has shown other categor-
isations are possible. His are listed below, and they were also
used as a basis for exploratory interviews in this research.
These interviews will be described in 3.3 below.

Mintzberg's Categories

The real-time manager

Troubleshooter. Concentrates on things which disturb
the smooth running of the organisation. Seeks to remove
immediate causes of trouble and to buy time to put other
things right in due course.

The expert

Often a 'staff' man. Deals with a lot of information
on, for example, internal operations; ideas; trends; external
events. Produces analyses. Copes with pressures of various
kinds. May be involved in formulating policies and strategies.

The contact man

Liaises with people outside the organisation. Trades
information and favours with them. Passes on information
to colleagues inside.

The entrepreneur

Constantly searches for opportunities. (Takes charge
when the organisation is involved in important negotiations
with other organisations. Initiates policies where important
decisions are made and interpreted). Designs and initiates
much of the controlled change in his organisation.

The political manager

Parties demand to deal with him because of his status
and authority. He evaluates proposals submitted to him, and
authorises significant decisions before implementation.

The programmer

Establishes the basic work system of his organisation.
Decides what will be done, who will do it, and what methods
will be used.

The team manager

Motivates his subordinates; probes into their activities
to keep them alert; hires, trains, promotes, and (if necessary)
fires them. Attempts to reconcile the needs of his subordinates
and the needs of the organisation.

The new manager

Continually seeks information from a variety of sources
so as to develop an understanding of his organisation and its
environment. Makes commitments to establish contacts and carries
out various activities to maintain the contacts he has made.

Combinations of Minzberg categories could possibly provide
a basis for subsequent functional comparisons, or for the
application of Kolb's ideas.

3.3 Interviews with senior managers

A series of structured interviews were therefore con-
ducted, and 28 senior managers were asked about their careers.
The interviews used both Mintzberg's (1973) categories of
managerial jobs and the ideas of Jaques' (1970) time span of
discretion, among the questions. Other aspects of the inter-
view were organisational climate and career experiences. The
format of the interview and the results of these interviews are
given in Appendix 5.3

These interviews revealed a variety of experiences which
were considered by these managers to have been important in
their development. Among these were working overseas, running
a business, good coaching from a manager,   working in
different geographical areas of the Company in the U.K.,
reading, and some seminars. Although the Minzberg and Jaques
questions failed to provide the desired base units for future
work the career items were valuable.

3.4 The pilot study questionnaire

It was decided that a questionnaire should be developed
which would include career items, as well as items about the
four environments described by Kolb. The questions covered
three areas; jobs, planned experiences, and other experiences.
In each section questions were intended to tap the four
environments, and also the areas suggested by the senior managers
as important. It was left to the managers to suggest what
abilities they had gained as a result of these experiences. No

constraints were put upon them to reply in terms of Kolb's

learning abilities. Three other questions about each experience

were included; whether the person coped at first, whether the

impact of the experience was strong, and whether several examples

of the experience could be thought of. The rationale behind this

was that an experience which was difficult to cope with at first

and/or which was remembered as having a strong impact was more

likely to have stimulated new learning. In Payne and Dale's

(1976) terms these are the kinds of situations which are likely

to enable people to cross a threshold in their development.

(This is discussed in section 5.3 of Chapter 4).

In Kelly's (1955) terms such experiences would invalidate

present constructs and provide experience for rearranging

links between constructs and the development of new ones. It

was felt that where experiences had happened several times any

learning would have been reinforced. It was hoped that the data

obtained could be scored in terms of strength of learning and

that the things people felt they had learned could be related to

the jobs/planned experience/other experience which was given in

response to the environment questions. The format of this

first questionnaire is given in Appendix 5.4.

3.5 Problems with the Pilot Questionnaire

A pilot study was conducted with six managers. Four replied

to the questionnaire. The most immediate problem encountered

was the length of time people took to complete the questionnaire

This varied between three-quarters of an hour to three and a half

hours. This was obviously too long to expect managers to spend

- in terms of cost of managerial time and also in probable

response rate when sent to a larger number of managers. They

also commented that it was difficult to grade experiences in

terms of how well they coped and strength of impact. The major

problem, however, was the things people felt they had learned.

The managers were allowed to write as they wished in response to

the question "What did you gain?" and each had written copiously.

Since the answers were open-ended a vast amount of information

was obtained but it was difficult to relate these answers to

the environments in any meaningful way. Many of the things gained

could have been classified under Kolb's four learning abilities,

but that would have been an unsatisfactory way of doing it

since the things learned were, of course, not couched in terms

of these, and it was doubtful whether, even with a panel of

judges, a consensus of what counted as what type of learning

could be decided. Another point that emerged, which tied up

with the interviews conducted previously, was the importance of

learning about certain things such as finance, policy making

for business etc. Another problem with the data obtained in the

pilot study was the lack of provision for managers to say <u>when</u>

a particular job was held or experience occurred. No order of

events could be distinguished. This is obviously very important,

because the first time a new experience occurs is likely to be

more important for learning than subsequent similar experiences.

For these reasons the questionnaire developed and tested in

this pilot study was considered to be unsatisfactory and it

was decided that it should be revised so that:

a)   it was shorter for managers to complete

b)   things learned could be classified more easily

c)   the number of jobs (environments) should be smaller and
     environment items should be better defined

d)   some time scale should be included

e)   other factors raised by the 28 interviews and the pilot
     study should be included

f)   some more thought should be put in around including

      items which might relate to integration of styles, self

      actualisation, movement to level 3 (growth) in terms of

      learning to learn.

3.6 Design of Final Questionnaire (see Appendix 5.5)

     First of all it was felt that clearly separated descrip-

tions of learning abilities and complex environments should be

made. The abilities and environments should be decided upon

independently so that if any relationships were to be found

between them this was not a result of the way they had been

defined in the first place. The Kolb abilities were felt to

be abilities which enabled people to make fine discriminations

in terms of feeling, seeing, thinking, doing.

     The four abilities were characterised by the phrases shown

in Table 5.3. Concrete experience was seen to be concerned

with here and now interactions and it was felt that, in order

to cope effectively, people need to be aware of their own

feelings and those of others, and as a result be able to

influence interactions. Reflective observation was seen as

the ability to view things from different perspectives and

see alternatives. Abstract conceptualisation was felt to be

concerned with ways of thinking and applying concepts and

principles to problems. Active experimentation was considered

to be concerned with ways of doing things, testing hypotheses

in a practical way.

     It was felt that these phrases would have greater meaning

to people who were likely to answer the questionnaire than the

words used in the Kolb inventory.

Table 5.3   Characterisations of Learning Abilities

Abilities	Characterised by ability to
Concrete Experience (feelings)	Understand and influence my own feelings Understand and influence other people
Reflective Observation (seeing)	Choose among competing alternatives Judge dispassionately the merits of a case
Abstract Conceptualisation (thinking)	Think through problems in a logical way Apply general principles to particular cases
Active Experimentation (doing)	Act confidently Take risks when necessary

Similarly phrases characterising the four learning environments were chosen. An attempt was made in doing this to choose events and experiences which people might encounter in behaviourally, perceptually, symbolically or affectively complex environments, and keep these quite separate from the abilities they might need to cope successfully with these. It was felt that some of the Kolb characteristics of environments (see Table 5.2) did not do this, for example, "thinking or acting formed by rules of logic and influence" appears to be more a characteristic of the person than of the environment.

The chosen characteristics of the environments are shown in Table 5.4. In choosing these items, events which might require each of the proposed, associated, learning abilities were chosen; but the events were conceptually independent of the abilities

Table 5.4 A revised typology of environments and related learning abilities

Environment label	Environment label	Environment label	Environment label
Affectively complex	Perceptually complex	Symbolically complex	Behaviourally complex
Characteristics	**Characteristics**	**Characteristics**	**Characteristics**
People were liable to change their demands unpredictably. People needed to be instructed, advised or otherwise assisted. It was impossible to get agreement had to be reached among people of widely differing interests.	There was no clear precedent for judgement. Changing or conflicting evidence kept coming in. Recommendations from a variety of view-points circulated concurrently. It was hard to tell whether something would develop into a problem or not.	Copious dossiers were kept about ongoing problems. Some problems required adherence to specific producedures for their resolution. Different specialists used their own jargon when called in for advice. If things were not working properly the person responsible was expected to find out what was wrong and correct it.	Crises occurred which required immediate attention. The unexpected happened in spite of all preparation. The consequences of decisions followed swiftly. The results of activity were unpredictable.
Learning ability	**Learning ability**	**Learning ability**	**Learning ability**
Concrete experience	Reflective observation	Abstract conceptualisation.	Active experimentation

for example, "People changed their demands unpredictably" could be true whether or not someone had the "ability to understand and influence other people".

The Kolb learning abilities and environments were not all the things which needed to be included: a number of items which had been suggested by the 28 managers interviewed (discussed earlier in this Chapter and in Appendix 5.3) were still considered important. These were included in "Career History" items.

As well as items of a career history nature, which are another way of looking at environments, the pilot study questionnaire and the interviews with the senior managers had suggested other learning areas which were important to investigate. These were policy making in various aspects of management, and more practical issues such as knowledge of financial information, technical aspects of business. For example, many managers noted that a training as an accountant, or a spell in a finance department, had been useful in subsequent years. Many felt that experiences giving them technical knowledge of production processes had been valuable later on. Man-management was an area which very many managers had said they had needed to learn about. This may come within concrete experience abilities, but clearly was a defined area which these people felt was important. These items were therefore also included.

Returning to the objectives of the study, to investigate the possibilities of planning experiences for managers which may enable them to become self actualisers or "learning managers", it was felt that some other items needed to be included. Kolb suggested that at the integrated stage of development people

began to use their non-preferred learning styles. However, it may be that things other than experience in non-preferred learning environments result in development of an integrated mode of relating to the world. Kolb suggests that integration may also result from some particularly dramatic life experience such as divorce or loss of job.

Some of the theoretical models discussed in the previous Chapter, postulate that sudden discontinuity of experience, either favourable or unfavourable, can help learning of this kind. Dale and Payne (1976) suggest that a qualitative jump from one level of learning to another is often a result of a crisis, where old patterns of thinking and behaving are no longer useful and can be replaced with different ones. (The old patterns suffice only for within-level development). Schon (1975) suggests that deutero-learning (learning to learn) results from a change in theory-in-use, particularly the governing variables. This, he feels, comes about mainly through dilemmas and crises, since these bring into conflict the elements (governing variables, strategies and assumptions) of the theory-in-use. Similarly, for Kelly (1955) construct systems change when they are no longer useful predictors of events. This may occur as a result of some dramatic change in circumstances which may even change some central constructs.

Any discontinuity which might be considered to stimulate learning of this nature may render the future problematic in some way and therefore call into question the things that have been learned in the past. However, learning and changing can be difficult for adults; people acquire a self image of capability and competence. The change of behaviour may shake this self image and people may cling to it, even more desperately, by

denying their problem. A supportive environment in which new behaviours can be experimented with may be an encouragement to learn. Items were therefore included in the questionnaire about discontintuity of experience.

It was felt that the presentation of items in the question-naire should not directly connect learning with events. If the learning abilities and the learning environments were juxta-posed, in a way that suggests the one should imply the other, the layout of the questionnaire could have biased the results in the expected direction. On the other hand, it was necessary to have some method of judging whether there was an association between things learned and experiences. Since timing of events was considered to be of importance it was felt that this could be used to make that connection. Five year periods were taken so that managers' whole career history could be spanned. (See Appendix 5.5) Managers were than asked to indicate whether or not that period had, for them, been one where events occurred or abilities were gained. Thus a sequence of events could be obtained and a connection between the two made, without their being directly juxtaposed in the questionnaire. A "future" column was introduced to get the managers' ideas on what the next five years might hold. Finally, it was thought that the responses to the chosen items might indirectly be related back to actual jobs and so managers were asked to give the most important posts they had held. The word "important" was used rather than "most senior" or "best paid" because it was felt that the managers' own perception of what was significant about a job was relevant rather than an external criterion. Five years is a long time period so it is not certain that the job named is the one to which environments/learning should be attributed.

Jobs remembered as important may be, retrospectively at least,
associated with some of the events/learning. It gives some
pointer to the kind of position attained in each period. The
final format for the questionnaire is given as an Appendix 5.5.

4.   Choice of Population

Since the research is oriented towards developing people
for General Management, it was decided that a stratified sample
should be used with the General Manager group forming one sample.
Since the total population of General Managers was (at the time
of choosing) only 66, it was felt that this sample should be
one hundred per cent (though the response rate was expected to
be less than one hundred per cent). It was hoped that sufficient
numbers would reply to produce a worthwhile analysis.

After discussion with the Company it was decided that a
random sample should also be taken from the Company Directory,
since this listed all significant appointments. This was done.
On examination, however, fifty per cent of the sample obtained
from the Directory was of overseas nationals. It was not
thought sensible to include these persons for two reasons.
Firstly, the management development division is not concerned with
them: it is concerned with the development of managers in the
U.K. and people who are expatriates but who are likely either to
return to the U.K., or to become General Managers overseas.
Secondly, a group of overseas nationals would be unlikely to
yield a high response rate since the source of the request to
complete the questionnaire (Aston University/Central Personnel
Division) would be remote. The final random selection from the
Directory was therefore of addresses in the U.K. A twenty per
cent sample was felt to be representative. However, it was
considered that expatriates should be considered as a population

in their own right, as so many managers had indicated that overseas experience had been valuable to them. The number of expatriates (as opposed to all people working overseas including foreign nationals) was found to be 98, not including General Managers working overseas. Since the response rate could be expected to be well below one hundred per cent for this group it was decided that the whole group should be included in the questionnaire survey.

The numbers of managers to whom the questionnaire was sent is shown in Table 5.5.

Table 5.5 Managers to whom Questionnaire was sent

Dunlop Managers	Numbers Circulated	Sample
General Managers	66	100 per cent
U.K. Sample	144	20 per cent random sample
Overseas (expatriates)	98	100 per cent
Total	308	

It was decided that individuals' responses to the questionnaire should be seen only by members of the University; only aggregate responses should be seen by members of the company. A letter from the General Manager, Management Development, accompanied each questionnaire, explaining that replies would be of use to the research and that individuals could feel free to reply with frankness since replies would be processed at the University. Reply paid envelopes addressed to the University were enclosed with questionnaires sent to managers in the U.K.

5.   <u>Expected ways of dealing with the Data and Hypotheses to Test</u>

        The questionnaire takes as its basis the Kolb model of experiential learning with learning ability and environment items selected to have meaning in a work situation. The questionnaire responses should therefore be able to test the hypotheses that, in each time period, positive responses to concrete experience items are associated with positive responses to affectively complex items; positive responses to reflective observation items are associated with positive responses to perceptually complex items; positive responses to abstract conceptualisation items are associated with positive responses to symbolically complex items; and positive responses to active experimentation items are associated with positive responses to behaviourally complex items. If each of the four environment items in a set chosen to characterise a single environment are in fact measures of the same environment, as perceived by the respondents, responses to these should be positively correlated. Similarly for the two ability items chosen to characterise each ability. The associations between these items should be higher than the associations between these items and all other items, for example, the perceptually complex environment items should be more strongly associated with each other than with any other environment item. These hypotheses are shown in Table 5.6.

Table 5.6   Hypotheses based on the Kolb model

Independent Variable	Dependent Variable
1. Each of the items representing an affectively complex environment.	Both items representing a concrete experience learning style.
2. Each of the items representing a perceptually complex environment.	Both items representing a reflective observation learning style.
3. Each of the items representing a symbolically complex environment.	Both items representing an abstract conceptualisation learning style.
4. Each of the items representing a behaviourally complex environment.	Both items representing an active experimentation learning style.
5. One item representing a concrete experience learning style.	The other item representing a concrete experience learning style.
6. One item representing a reflective observation learning style.	The other item representing a reflective observation learning style.
7. One item representing an abstract conceptualisation learning style.	The other item representing an abstract conceptualisation learning style.
8. One item representing an active experimentation learning style.	The other item representing an active experimentation learning style.
9. Any item representing an affectively complex environment.	Each of the other three items representing an affectively complex environment.
10. Any item representing a perceptually complex environment.	Each of the other three items representing a perceptually complex environment.
11. Any item representing a symbolically complex environment.	Each of the other three items representing a symbolically complex environment.
12. Any item representing a behaviourally complex environment.	Each of the other three items representing a behaviourally complex environment.

For each time period there will be an association between a positive response in the left-hand column above and a positive response in the right-hand column above. The strength of the association of the items in each row will be higher than the strength of the association of items between rows.

At this stage it was envisaged that the questionnaire could also look for relationships between the career items, and learning, by time periods. Knowledge areas, which emerged in the pilot studies as important, would be examined and so would environmental discontinuities.

The questionnaire data is not merely usable to test the hypotheses, about the Kolb model. The practical purpose of the study is to try to enable experiences to be planned for potential senior managers to broaden their horizons effectively. Therefore there are many items of interest, for example, how important has training been in the past?

How do people with unifunctional as opposed to multi-functional careers differ?

Has experience outside the U.K. really been useful?

Do successful senior managers have a different career background from other managers?

The experiences which managers intuitively felt had helped them during their career can be examined.

6. Questionnaire Methodology

If the problems which often arise in the use of questionnaires can be solved, they have an advantage over interviews and observational techniques because more people can be reached, and respondents can be guaranteed anonymity. This may be important where it is the perceptions of the respondents that are important rather than facts which can be externally checked. Some of the problems of questionnaires are discussed below.

Cicourel (1964) says that questionnaire responses are like the punched holes of an IBM card; the meanings and rules for their creation and interpretation are not to be found in them,

per se, or in aggregates of them, but rather in the differential
perceptions and interpretations which produced the researcher's
decision in composing them and the respondents' perceptions and
interpretation of the questions in answering them. Krech (1948)
criticises questionnaire studies on the grounds that they seldom
ask theoretically meaningful questions. Without a basis for
asking particular questions, there are no rules for translating
the answers to the questionnaire (the punched holes in Cirourel's
IBM card) into any meaningful concepts. Therefore the researcher
must establish in advance the conceptual nature of the questionnaire
content, and the clusters of items which should relate to these
concepts. The previous sections demonstrate that, in this
questionnaire, items are based on the theoretical concepts,
and hypotheses are made a priori about the expected clustering
of items.

Cultural meanings of words and phrases must be understood
in constructing the questionnaire so that the items chosen
have meaning for the population responding to the questionnaire.
The main problem arising here is that respondents will not all
attribute the same meaning to the questions. Respondents
answer questions from a variety of viewpoints and it is possible
that none of them correspond to that of the researcher. Speak
(1967) showed that out of 246 people who were questioned in
depth about their responses to an apparently simple survey on
"Attitudes to Television", not one answered every question from
the point of view intended. Whilst this is certain to happen
in every questionnaire, in this research it is the respondents'
perceptions about what they have experienced and learned that is
important. If very extreme replies were found, it might prove
useful to ask these respondents about the way they had tackled
the questionnaire.

Answers to open-ended questions are difficult to interpret,
or to compare across respondents. This questionnaire avoided
the problems of open-ended questions by using fixed-choice items.
However, as the numbers of questions are necessarily limited,
and correspond to the researcher's theoretical standpoint, they
may become tools for distorting reality. This questionnaire
avoids the forced-ranking format that Kolb used, and allows
respondents to select for endorsement only those items they
feel to be applicable.

Since questionnaire surveys seldom have a one hundred per
cent response, there are people who choose not to respond to
the questionnaire for some reason. The respondents are therefore
a self-selected group. However, provided that the original sample
is randomly selected, and the number responding high, statistical
techniques can give the probability that an association found
in the data would be likely to be found in the whole population.
In this survey an eighty-five per cent response was obtained (full
table of response is given in Chapter 6) and it is likely that
this is representative of the population.

The questionnaire design therefore meets many of the
criticisms of questionnaire methodology.

The main challenge is that of scaling. There are numerous
techniques of representational or indexical measurement. The
hypotheses concerning the association of items in Table 5.6
were postulating that types of environmental complexity might
be represented by item aggregation, because the pattern of
endorsements would justify this. An alternative would have been
to ask respondents to select the degree to which some character-
istic occurred by marking a point along a continuum. Whatever

method is used one cannot be sure that the units of measurement

represented by endorsements, or ratings, are equivalent from

one respondent to another, or, if equivalent, whether respondents

perceive the same underlying dimension as the researcher. All

human communication is ultimately problematic in terms of

correspondence of meanings, however. Yet we continue to

communicate in the belief that we understand one another.

Thus it was hoped that the questionnaire would enable a

picture of experiences to be drawn which result in learning

abilities developing, with a view to helping managers become

"learning managers".

CHAPTER 6

RESULTS OF QUESTIONNAIRE STUDY

1.   Objectives of Chapter 6

        The objective of Chapter 6 is to discuss the results of

the questionnaire in terms of the hypotheses given in Chapter 5.

Further analysis of the data will also be discussed.

2.   Response to the Questionnaire

        Response to the questionnaire was very good. This can be

attributed to a great extent to the covering letter, personally

signed, by the General Manager, Management Development for

Dunlop Limited. Reminder letters were also sent out after the

suggested date for return had passed. The final response rate

is shown in Table 6.1.

Table 6.1   Number and Percentage of Returned Questionnaires

Dunlop Managers	Number Circulated	Number Returned	Percent	Number Codable
General Managers	66	56	84.8	56
U.K. Sample	144	117	81.2	111
Overseas	98	81	82.6	74
Anon	O	9		8
Total	308	263	85.2	249

        Some questionnaires were returned anonymously and cannot be

attributed to any of the three samples. Some questionnaires were

incomplete, for example, whole pages not returned, no information

given about jobs held (this made them impossible to code in the

way described in the next section). The questionnaire is given in

Appendix 5.5

3. <u>Preparation of Data for Analysis</u>

Respondents had been asked to tick items which they felt had applied to them in each of the time periods. Excluding the job information at the top of the first page of the questionnaire, each answer could be coded as a 0 or 1 for computer analysis. There are 6 times 13 items on the first page, 20 times 7 on the second, 18 times 7 on the third, making 344 items in total. The results were not coded by actual years but by the periods into a person's career. The first period coded was the first five years that a person had been in employment after full-time education. For people with 30 years or more career experience this corresponds to the period from pre 1953. For people with no more than 25 years the pre 1953 time period is missing, and the period 1953-7 is coded as period 1, for 20 years experience the pre 1957 periods are missing, and the period 1957-62 is coded as period 1. The shorter the career, the more missing periods there are. In terms of five-year periods of career experience, there are corresponding periods not yet encountered and, therefore, coded as missing. The data was coded in this manner because the main interest of this study was not what people learned on particular dates but what they learned in particular periods during their career.

The future periods from pages 2 and 3 of the questionnaire were stored in a separate file. Since the future is guesswork and the past has already happened, it makes sense to treat the future as a separate case.

4. <u>Examining the Hypotheses</u>

The hypotheses derived from Kolb's (1971, 1975) experiential learning model were discussed in Chapter 5 and summarised in Table 5.6.

These hypotheses were tested with the U.K. sample of managers, as these were chosen randomly and statistics should strictly only be calculated for samples taken randomly.

4.1 Hypotheses concerning the validity of the 16 items used to measure Kolb's four environments

It is expected that the contingency coefficients[1] will be higher between pairs of items within each type of environment complexity than between pairs from one type of complexity and another, in the random sample. This was tested for each time period. Time period 4 (15-20 years into career) is given as an example in Table 6.2. This period was chosen because the earlier periods showed fewer conditions encountered, and, therefore, less discrimination among items. Low discrimination could lend spurious support to hypotheses, for zero endorsements of both items in a pair would lead to a high contingency coefficient. However, in considering what items may be aggregated, we are interested in joint presence of two conditions rather than joint absence. Period 4 was chosen rather than period 5 or period 6 because the number of managers who had completed 4 periods was 100 out of 111 in the sample whereas by period 6 the number had dropped to 78 out of 111 in the sample. The tables for the other time periods are shown in Appendix 6.1. The coefficients shown "boxed-in" on the table would be expected to be higher than those outside the boxes, to support the hypotheses that the 16 items represent four discrete environments, each measureable by four items. It can be seen that there are high correspondences among 3 of the 4 Behavioural items, among 3 of the 4 Perceptual items, and 2 of the 4 Affective items, and 2 of the 4 Symbolic items. However, there are also some strong relations shown off the diagonals. To explore these more fully a McQuitty Cluster

Table 6.2 Showing Contingency Coefficients (C) between pairs of Environment Items (Time Period 4)

The matrix rows and columns both correspond to the same set of environment items (numbered 1–16 below). The diagonal cells (row *i* × column *i*) are shaded/blank. Category grouping labels written in the lower-left empty triangle are: **Behavioural**, **Complexity** (Crises/Unexpected/Decisions/Results block); **Perceptual**, **Complexity** (No Precedents/Conflicting/Variety/Hard to Tell block); **Affective**, **Complexity** (People block); **Symbolic**, **Complexity** (Copious/Problems/Specialists/Correct block).

Column / row key:
1 = Crises Occurred; 2 = Unexpected Happened; 3 = Decisions Followed Swiftly; 4 = Results of Activity Unpredictable; 5 = No Precedents for Judgement; 6 = Conflicting Evidence; 7 = Variety of Recommendations; 8 = Hard to Tell if Something a Problem; 9 = People of Differing Interests; 10 = People Changed Their Demands; 11 = People Needed Advice; 12 = Impossible to be Alone; 13 = Copious Dossiers Kept; 14 = Problems Required Specific Procedures; 15 = Specialists Used Their Own Jargon; 16 = Correct Something Wrong

Item	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Crises Occurred	0.438	0.275	0.192	0.251	0.234	0.111	0.178	0.206	0.151	0.251	0.078	0.049	0.056	0.007	0.260
2 Unexpected Happened		0.417	0.279	0.173	0.321	0.193	0.216	0.027	0.249	0.216	0.091	0.092	0.060	0.133	0.366
3 Decisions Followed Swiftly			0.083	0.273	0.234	0.097	0.078	0.124	0.307	0.224	0.034	0.214	0.196	0.158	0.340
4 Results Unpredictable				0.322	0.365	0.268	0.449	0.177	0.188	0.227	0.181	0.309	0.159	0.257	0.265
5 No Precedents for Judgement					0.376	0.238	0.198	0.289	0.206	0.125	0.139	0.083	0.005	0.261	0.053
6 Conflicting Evidence						0.357	0.330	0.316	0.413	0.293	0.202	0.363	0.205	0.341	0.103
7 Variety of Recommendations							0.126	0.475	0.204	0.222	0.152	0.180	0.189	0.314	0.156
8 Hard to Tell if a Problem								0.118	0.330	0.184	0.219	0.253	0.219	0.069	0.141
9 People of Differing Interests									0.279	0.310	0.048	0.195	0.270	0.251	0.133
10 People Changed Their Demands										0.142	0.326	0.152	0.086	0.108	0.059
11 People Needed Advice											0.074	0.137	0.241	0.178	0.177
12 Impossible to be Alone												0.116	0.270	0.093	0.053
13 Copious Dossiers Kept													0.148	0.221	0.163
14 Problems Rqd Specific Procedures														0.245	0.05
15 Specialists Had Own Jargon															0.157
16 Correct Something Wrong															

(The Chi-square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.215) n = 100 Managers

Analysis [2] was performed on the coefficients. The clusters
obtained are shown in figure 6.1. Clusters for the other time
periods are shown in Appendix 6.2. Clusters are shown from top
to bottom in the order in which they are extracted.

Figure 6.1   McQuitty Clusters for the Time Period 4 Environment
              Items

NO CLEAR
PRECEDENTS
FOR JUDGEMENT

SPECIALISTS
USED THEIR
OWN JARGON

0.341

0.376

CONFLICTING EVIDENCE
KEPT COMING IN

0.413

0.365

HARD TO TELL
WHETHER SOME-
THING WOULD
DEVELOP INTO
A PROBLEM

0.499

PEOPLE WERE LIABLE
TO CHANGE THEIR
DEMANDS UNPREDICTABLY

RESULTS OF
ACTIVITY WERE
UNPREDICTABLE

0.326

0.309

IMPOSSIBLE TO
BE ALONE

COPIOUS DOSSIERS
WERE KEPT

No. 1   INNOVATION

PROBLEMS REQUIRED
ADHERENCE TO
SPECIFIC PROCEDURES

0.270

AGREEMENT HAD TO BE
REACHED AMONG PEOPLE
OF DIFFERING INTERESTS

0.475

RECOMMENDATIONS
FROM A VARIETY OF
VIEWPOINTS CIRCUL-
ATED

0.310

PEOPLE NEEDED
ADVICE
INSTRUCTION

No. 2   STEADY STATE

THINGS NOT WORKING
PROPERLY - PERSON
RESPONSIBLE EXPECTED
TO FIND OUR WHY AND
CORRECT IT

0.365

UNEXPECTED
HAPPENED

0.438

CRISIS OCCURRED
WHICH REQUIRED
IMMEDIATE ATTENTION

0.417

CONSEQUENCES OF
DECISIONS FOLLOWED
SWIFTLY

No. 3   BREAKDOWN

(The clusters are named according to Handy (1976)).

Discussion of Results

        In figure 6.1 the top cluster appears to be a combination of perceptual and symbolic complexity; the middle cluster is an affective complexity cluster, and the lower cluster a behavioural complexity cluster. There has, however, been a slight shift of items. The remaining time periods were inspected and although the clusters change somewhat (see Appendix 6.2) three groups of items were most frequently found to cluster together:-

BREAKDOWN CONDITIONS (BEHAVIOURALLY COMPLEX)

a)   "crises occurred frequently"

      "the unexpected happened in spite of all preparation"

      "the consequences of decisions followed swiftly"

INNOVATION CONDITIONS (PERCEPTUALLY COMPLEX)

b)   "it was hard to tell if something would develop into a problem or not"

      "conflicting evidence kept coming in"

      "there were no clear precedents for judgement"

STEADY STATE CONDITIONS (AFFECTIVELY COMPLEX)

c)   "agreement had to be reached among people of widely differing interests"

      "recommendations from a variety of viewpoints circulated concurrently"

Could these be used for three of Kolb's environments - labelled behaviourally complex, perceptually complex, affectively complex respectively, or following Handy, 1976, breakdown, innovation, and steady state? These might constitute developmental conditions, and suggest experiences appropriate to management careers.

        The symbolically complex items did not cluster together at all and changed around the three groups found above. Possibly they relate to Handy's fourth condition - policy-making, which overlaps the other states. Thus, for example, "copious dossiers were kept about ongoing problems" was sometimes associated with

"reaching agreement with people" and "recommendations coming in from a variety of viewpoints", sometimes with it "being hard to tell whether something would develop into a problem", sometimes with an abundance of "conflicting evidence coming in". This kind of shift was also found for items "problems required adherence to specific procedures" and "specialists used their own jargon when called in". It is possible that those items were not well chosen to represent the symbolically complex environment, or that many tasks have some symbolic complexity and it is not possible in reality to separate out this from the others. "If things were not working, the person responsible was expected to find out what was wrong and correct it" was seen as being most like the behaviourally complex items, probably because people focussed on the latter part of the item.

Thus, the three clusters found by the McQuitty Analyses would be possible environments with which to further the analysis of the data. However, the strengths of association among the environment items overall, suggest that there is a great deal of interaction between the different environments. Table 6.2 shows some low associations within expected complex environments in some instances and high associations outside the expected clusters. The items representing each environment are not more strongly associated with each other item representing the same environment than with other environment items. Equally strong associations were found between items not theoretically expected to be associated. Kolb suggested the four environments and gave external indices for these (Chapter 5, section 2). This study asked for peoples' perceptions of their environments and these results would indicate that they do not separate out their perceptions of real environments in this way (see also Chapter 5 section 3.1). Just as the

symbolic complexity items shift in their associations with other complexity items, so do many other items. Even those which are found together frequently over three periods are also closely associated with other complexity items. Thus it might be spurious to force the data into the three clusters tentatively suggested above. It is more likely that the environment items interact with each other; when the "results of activity were unpredictable" it may have been because "conflicting evidence kept coming in" and so "it was hard to tell whether something would develop into a problem or not". It was, therefore, decided that further analyses would use a score of "environmental complexity", based on fifteen items, (excluding "it was impossible to be alone", as this was a poor discriminator, seldom endorsed by anybody). The items would be aggregated to form a single scale of environmental complexity with a range of values 0 to 15.

4.2 Hypotheses concerning the validity of the 8 items used to measure Kolb's learning styles

It is expected that the Contingency Coefficients will be higher between the paired items within a learning style than between these items and an item from any other learning style, in the random sample. This was tested for each time period. The results are shown in Table 6.3 for time period four, chosen for the reasons given in section 4.1. The tables for the other time periods are given in Appendix 6.3. The coefficients shown "boxed in" on the table would be expected to be higher than those outside the boxes, if the hypothesis that the period items can be used to measure four discrete learning abilities were supported. A McQuitty Cluster analysis was performed on the coefficients. The Clusters obtained are shown in figure 6.2. Clusters for the other time periods are shown in Appendix 6.4.

Table 6.3   Showing Contingency Coefficients (C) between pairs of Learning Ability Items (Time Period 4)

	ACT/CONFIDENTLY	TAKE RISKS	CHOOSE BETWEEN COMPETING ALTERNATIVES	JUDGE THE MERITS OF A CASE	UNDERSTAND & INFLUENCE MY FEELINGS	UNDERSTAND & INFLUENCE OTHERS	THINK LOGICALLY	APPLY GENERAL PRINCIPLES TO OTHERS
ACT/CONFIDENTLY	/// ACTIVE EXPERIMENTATION ///	0.521	0.408	0.456	0.398	0.427	0.357	0.383
TAKE RISKS			0.448	0.475	0.341	0.454	0.396	0.403
CHOOSE BETWEEN COMPETING ALTERNATIVES			/// REFLECTIVE OBSERVATION ///	0.405	0.301	0.482	0.454	0.326
JUDGE THE MERITS OF A CASE					0.419	0.499	0.384	0.355
UNDERSTAND & INFLUENCE MY FEELINGS					/// CONCRETE EXPERIENCE ///	0.476	0.392	0.338
UNDERSTAND & INFLUENCE OTHERS							0.467	0.400
THINK LOGICALLY							/// ABSTRACT CONCEPTUALISATION ///	0.494
APPLY GENERAL PRINCIPLES TO CASES								

n=100 managers

(The Chi-Square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.210).

Figure 6.2   McQuitty Clusters for the Period 4 Learning Ability
              Items

ACT CONFIDENTLY $\xleftrightarrow{0.521}$ TAKE RISKS

THINK THROUGH $\xleftrightarrow{0.494}$ APPLY GENERAL PRINCIPLES
PROBLEMS LOGICALLY   TO PARTICULAR CASES

JUDGE DISPASSIONATELY $\xrightarrow{0.499}$ UNDERSTAND AND $\xrightarrow{0.482}$ CHOOSE AMONG
THE MERITS OF A CASE   INFLUENCE OTHERS   COMPETING
                                                        ALTERNATIVES

                              0.476

                                        UNDERSTAND AND INFLUENCE
                                        MY OWN FEELINGS
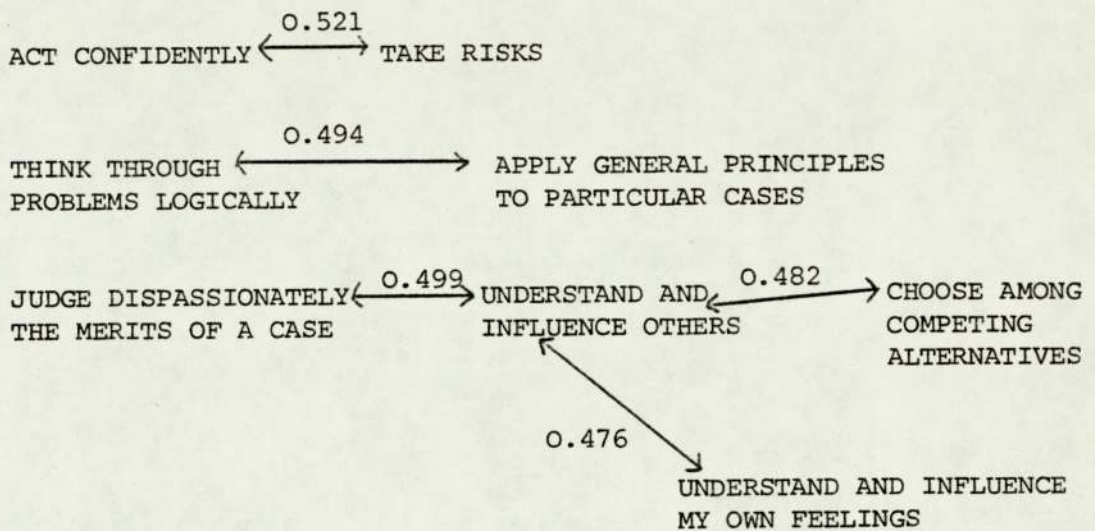
Discussion

For the time period illustrated, the clusters found by
McQuitty analysis are not unlike the expected result, except that
two learning ability sets of items cluster together (RO and CE).
Table 6.3 shows that the contingency coefficients are all high
(the maximum possible value of $C = 0.707$). The pairs of items
representing each ability do not have higher contingency
coefficients than all the other pairings. For other time
periods the contingency coefficients are also high. The clusters
for other periods vary, (periods 2 and 6 yield a single factor)
none approximating as closely as period 4 to the expected result.

Since these various clusters are found, and since the
contingency coefficients between learning ability items rep-
resenting the same ability and between items representing
different abilities are equally high and statistically significant,
it seems that the managers did not perceive their abilities as
four discrete types. The learning abilities appear to interact:
thus being able to "judge the merits of a particular case" may
enable one to "act confidently". For future analyses, therefore,

the learning ability items will be aggregated to form a single
learning scale with a range of values O to 8. [4]

4.3 Hypothesis concerning the relationship between environmental complexity and learning

The four environments were expected to be strongly associated
with their corresponding learning ability (affectively complex
with concrete experience, perceptually complex with reflective
observation, symbolically complex with abstract conceptualisation,
behaviourally complex with active experimentation). Since neither
the environments, nor learning abilities, were shown to separate
into these four discrete factors, the expected discrete relationships
between the learning and environments could not be observed.
(See Chapter 5, table 5.6). In fact when each environment
item was paired with each learning item very few of the Chi-
square values, from which the contingency coefficients were
calculated, were statistically significant at the 0.05 level
of confidence, and all the contingency coefficients for the
environment   x   learning abilities were far lower than for
the items within environments and within learning styles.

However, as explained in sections 4.1 and 4.2 above,
composite scores were constructed for environmental complexity
and for learning abilities. The total environment score might
be related to total learning score, even though low correlations
were found for individual pairs of environment and learning
items.

Thus the hypothesis concerning the relationship between
environmental complexity and learning ability has to be revised:
"it will be expected that there will be a positive correlation
at the 0.05 level of confidence between the 15 item scale of
environmental complexity and the 8 item scale of learning".

Kendall's Tau values were used to assess the strength of association between these two variables.[5] As the contingency tables are rectangular (score O-15 for environment complexity, score O-8 for learning ability) Kendalls' Tau C[6] values were used. Table 6.4 shows the Tau C values for each time period between composite environment and composite learning scores.

Table 6.4   Showing Tau C values for composite scores of environ-
mental complexity and learning ability

TIME PERIOD	KENDALL'S TAU C VALUE
1	0.417
2	0.256
3	0.355
4	0.266
5	0.175
6	0.246
(All values are statistically significant at the O.O5 level of confidence)	

The high association found in period one may be due in part to the large percentage (18.9) of managers who had zero scores in both variables. The percentage dropped in subsequent periods. The data, therefore, supports the hypothesis (revised) that there is a positive correlation at the O.O5 level of statistical significance between the 15 item scale of environmental complexity and the 8 item scale of learning for the U.K. sample of managers.[7]

4.4 Further tests of Kolb's Model

a) According to Kolb's model, there should be no cases where people have experienced environmental complexity and not developed corresponding learning styles. In the U.K. sample of managers, the contingency tables for composite learning and composite environment scores show that there are 8 cases where a score of 12 or more on environmental complexity is accompanied by a zero score on learning in a given time period. Neither, according to the model, should learning ability be developed in the absence of the corresponding environment. There are two cases where scores of 5 and 7 out of 8 on learning are accompanied by zero scores on environmental complexity. That is to say that some people indicate that they have experienced three or more of the hypothesised environments but not increased their learning ability, and some people have reported they increased their learning ability in 3 or more of the hypothesised learning styles but experienced none of the environments. (There are more cases where a lower score on one of the variables is accompanied by a zero on the other). These sort of disconfirming instances indicate that the relationship between experience and learning is not as simple as the Kolbmodel would suggest.

b) Using the three possible new environment measures suggested in section 4.1, behaviourally complex (breakdowns) environment (crises occurred, unexpected happened, decisions followed swiftly) was correlated with active experimentation; perceptually complex (innovative) environment (hard to tell if something was a problem, conflicting evidence kept coming in, no clear precedents for judgement) was correlated with reflective observation; affectively complex (steady state) environment (agreement reached between people of differing interests, recom-

mendations from a variety of viewpoints) was correlated with concrete experience. For time period 4, the period most likely to produce significant associations (large number of endorsements, 100 cases in U.K. sample) this yielded Chi-Square values which were not statistically significant at the 0.05 level of confidence. It is only the aggregate of environment items that is associated with the aggregate of learning items, suggesting a mix of crises, steady state and innovation.

5. Evaluation of Kolb's experiential learning model

This chapter has examined hypotheses concerning the possibility of there being four types of environments which Kolb thinks stimulate four types of learning abilities. These four environments and four learning abilities are not found in the data from the questionnaire study. Instead, it was found that all the items representing the learning abilities were interrelated. When composite scores of learning and of environmental complexity were correlated, an association was found to exist between the two variables. The reasons for the Kolb model not being supported by the data could be:

a)   the measures used are different from the measures Kolb used, and the items did not represent the model effectively;

b)   the population used has different characteristics from the populations Kolb used;

c)   additional variables are needed to explain how people gain ability in learning.

Kolb measures learning style by subjective report using a forced choice questionnaire. He suggests dimensions on which environments differ in complexity but does not give any evidence on how people perceive their environments. In this study people gave their own perceptions of both environment and learning abilities,

and the questionnaire did not set forced alternative choices but allowed people to endorse all the items that they perceived as important to them. It appears that, under these circumstances, people perceive the environments as being complex in many ways at any one time, and perceive their learning skills as being interrelated. The measures constitute a different test of Kolb's model from the one he used, and the results indicate that the categories suggested by Kolb may not be separate for people in ongoing real situations and may have been separable in his research as a result of his methods (Chapter 5, section 2). It is difficult to assess whether the items effectively represented the Kolb model, but care was taken in choosing them (Chapter 5, section 3).

Independent judges did not always put each item into the category which it was supposed to represent. This was often because they felt items to be strongly related, even if of a different type. So it is still not clear whether they could not place items correctly because they were poor items, or whether, for them, the four categories were not distinguishable. For example, "judge the merits of a case" and "think through problems logically" were put together by one judge, because he felt you could not do the latter without the former.

The populations used in the Kolb study may have different characteristics (Kolb did have a large number of practising managers but there may be cultural differences between U.S.A. and U.K. managers). However, it is Dunlop managers in particular with whom the research is concerned and so it is important to develop the model of learning with regard to these people.

The most important reason for the Kolb model not being supported by the data, probably lies in the third category, the importance of additional variables. The research is trying to find out how the integrated learner can be developed. Kolb's model is akin to a stimulus-response model of learning: given a particular stimulus, a learning style develops. He does not pay much attention to how people interpret that stimulus. He does indicate that in the stage of specialisation (see Chapter 4, section 7) people acquire a particular style of learning as a result of their own inclinations and of their past experience. However, he does not indicate how people might move from that stage to integrated learning, saying merely that some people do, others do not. For example, he gives no indication of how much exposure to different environments one needs to acquire another learning style, whether one needs to move more than once through the whole learning cycle to become an integrated learner, whether people are more receptive to new learning at some periods than others. The data indicates that people perceive the different learning abilities as interrelated and that they can acquire all of them - this does not mean they are integrated learners in the sense that they are all self-activators, self-starters etc. The data also indicates that a simple stimulus-response model is insufficient to explain how people acquire learning abilities - people can experience environmental complexity items without acquiring learning abilities and vice versa. The data also shows that in some periods people experience more change in their learning abilities than in others. There must, therefore, be other variables which are important. How people appraise experiences may play an important part in determining what they learn from them.

The Kolb model is, therefore, not supported by the data, and this is probably because additional variables which account for learning need to be incorporated, and because, in reality, people do not distinguish between types of environmental complexity and learning abilities but find them to be interrelated. Since the model is thought to be too simple, further explanations of how people learn need to be considered, in order to be able to suggest ways of developing the future senior manager. Composite scores of environmental complexity and learning ability were found to be associated. However, section 4.4 demonstrated that environmental complexity as measured here was neither necessary nor sufficient for learning abilities to develop (learning occurred when there were zero environment scores, and sometimes high environment scores were accompanied by zero learning scores). This suggests that the environment could be a contributory factor in developing learning when some additional variables are present. That is, whilst a complex environment is neither necessary nor sufficient, the presence of additional factors (X) may enable people to learn from their experience.

Perceived Environmental Complexity $\longrightarrow$ X $\longrightarrow$ Perceived Learning Ability. Alternatively, having developed learning skills, some people may be able to perceive complexity in the environment.

Learning Ability $\longrightarrow$ X $\longrightarrow$ Perceived Environmental Complexity. Additional variables (X) may enable people to perceive the environment as complex and also develop their learning abilities, thus accounting for the association between environment and learning.
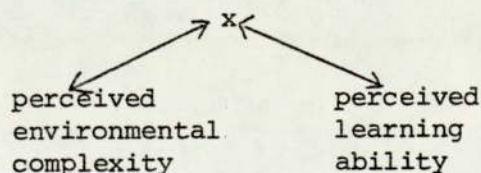
An association between environmental complexity and learning
ability (shown in Table 6.4) does not enable a causal explana-
tion of learning to be given.

Chapter 8 will consider additional factors which may
mediate between the learning abilities that people develop and
their experience. From the career development point of view,
it is necessary to explore, in addition to other variables,
the type of career experience which is high in environmental
complexity. Whether or not experience directly affects learning
skills, it would be useful to know what experiences a person
can best make use of to gain/utilise the intervening variable X.

If we can demonstrate that certain career experiences are
high in environmental complexity for most managers (that is,
that there is a statistically significant association between
some career experiences and environmental complexity) then we
might postulate that, if managers can also be helped to gain X,
these experiences should be available, in order to increase the
likelihood of their developing their learning abilities.

If we cannot demonstrate that career experiences are high
in environmental complexity for most managers (that is, there is
no statistically significant association between career exper-
iences and environmental complexity) then we might postulate
that managers perceive environments as highly complex, not because
there is anything inherent in particular types of experience, but
because they themselves have developed the skill which enables
them to make fine discriminations in the environment. Equally it
could be argued that all jobs with a common name do not necessarily
provide identical environments. The job of an accountant in a
large office with a lot of other accountants may differ from

that of an accountant overseas who is the sole trained accountant

on the site, for example. A particular job may, for all sorts

of reasons, be unique to the individual who holds it - he

construes it in his personal way. If people do make fine

(versus crude) discriminations in the way they perceive environ-

ments, it may follow that the person who perceives complexity

would act differently from the person who does not. This

reverses the argument that a complex environment stimulates

learning ability, and instead suggests that the person who has

learned differently, perceives differently. Since the integrated

learner is a Kolb ideal, it could be argued that the perceiver

of complexity is too. Should Management Development aim to

increase people's perceptions of complexity? It could be argued

that a more complex perception of the environment, involving

fine discriminations, would enable better decisions to be taken

as all sides of an argument could be weighed, and problems or

potential problems seen, which someone not able to make fine

discriminations would not perceive. However, most models of

learning would suggest that people learn from experiencing different

environments rather than vice versa.

Scores on environmental complexity and learning can, therefore,

be considered in relation to items of career history and the

discontinuity items. Functions (derived from the job titles

on the first page of the questionnaire) can also be considered

to see whether these are related to environmental complexity; that

is, do all people with the "same" history experience the same

degree of environmental complexity and learning. Chapter 7 will

discuss these issues.

Two questions will be considered:-

1)   What additional variables might explain how people gain

their learning abilities, and how can we use this information

to develop the future senior manager (Chapter 8)?

2)   Is environmental complexity inherent in any career

experiences. If so, can this information be used in

conjunction with (1) above in career development?

As well as contributing to future career development, answers

to these questions might provide feedback on present career

development policy which is based largely on the assumption that

people need variety and breadth of experience, and increasing

responsibility, if they are to manage whole businesses.

Footnotes to Chapter 6

1.   The Contingency Coefficient is derived from the Chi-Square (χ^2)

$$\chi^2 = \sum_i \frac{(fo^i - fe^i)^2}{fe^i}$$

> Where fo^i equals the observed frequency in each cell of a contingency table and fe^i equals the expected frequency, if there is no a priori relationship between the row and column variables.

The larger the Chi-Square value, the more likely there is a relationship between the row and column variables of a contingency table. If the probability of obtaining a given value of Chi-Square is less than 0.05 (or some other figure can be chosen) then it can be assumed that there is a relationship between the variables. The Chi-Square does not indicate how strongly the two variables are related. One reason is because the sample size affects the Chi-Square value.

The Contingency Coefficient (C) corrects for sample size and can be used as a measure of association

$$C = \left(\frac{\chi^2}{\chi^2 + N} \right)^{\frac{1}{2}}$$

> Where N = sample size

The higher the value of C, the stronger the association between variables. For a 2 x 2 table the minimum value of C is zero, the maximum value is 0.707.

Since C corrects for sample size, this enables comparisons to be drawn between different size samples: in this case, across time periods as there is attrition of sample size over time.

The statistical significance of C is determined by deciding whether the χ^2 for the data is significant.

The upper value of C is determined by the number of rows and columns of the contingency table; therefore, values of C can only be compared if they derive from contingency tables of the same size.

2. McQuitty Cluster Analysis is a method of sorting out types so that every inclusion in a category is more like every other one in that category than any one in any other category. McQuitty uses correlation coefficients, here contingency coefficients are used.

To isolate a type, each item must be compared with every other item. This is simply done by completing both halves of the table containing, in this case, the contingency coefficients which are to be compared (environments with environments, learning abilities with learning abilities). The highest coefficient in each column is marked. The highest for the whole matrix is taken first. The rows containing these two variables are scanned and any marked coefficient is taken to be of the same type as the highest coefficient in the table. The rows of these variables are in turn scanned to see whether any other items can be taken to be the same type (marked coefficients). When this process is exhausted the next highest remaining coefficient in the table is noted and the procedure repeated. This is done until all the items are accounted for. This yields a series of types (clusters) of items more like every one in the cluster then like any outside it.

For the purpose of this research this simple analysis enables any patterns of clusters over time periods to emerge (or not, if there are none). However, if the Contingency Coefficients are statistically significant, it does not mean that items within clusters are not at all associated with items outside clusters.

Reference: "A Mutual Development of Some Typological Theories
and Pattern Analytical Methods" L L McQuitty
Educational and Psychological Measurement Vol 27
1967, pp 21-46.

3. Whilst the Chi-Square does not measure the strength of association
its value enables an estimation to be made of whether the fact that
an association exists is an occurrence likely to have happened
by chance and, therefore, whether the association is likely to
exist in the population from which the sample was drawn. Therefore,
the Chi-Square values may be used with the other two samples not
yet considered, the General Manager and Overseas groups. These
samples were 100 per cent. Although there was not a total response,
the number of questionnaires returned in each group was high,
and could be considered a large enough sample of the total
population for any non-response bias to be minimal. To see
whether it might be possible to use the composite scores with
these two groups, the contingency coefficients which measure
strength of association were calculated for the pairs of
environment items for these two groups for time period 4. The
overseas group showed a similar pattern of strong associations
between all the environment items as the U.K. sample with most C
values statistically significant at the 0.05 level of confidence.
The General Manager group had far lower contingency coefficients
for the environment pairs, some being statistically not significant.

4. Contingency Coefficients for learning item pairs were high for
both overseas and General Manager groups, showing a similar
pattern to the U.K. sample with nearly every pair statistically
significant at the 0.05 level.

5. The Contingency Coefficient (which depends on Chi-Square values) and the Chi-Square cannot be used to test this hypothesis because the Chi-Square test can only be used when fewer than 20 per cent of cells in the contingency table have an expected frequency of less than 5 and no cell has an expected frequency of less than 1. (Where the expected frequency fe^i is defined as $fe^i = \dfrac{c_i \, r_i}{N}$

    where c_i = frequency in the respective column marginal and r_i is the frequency in the respective row marginal and N is the number of valid cases). The expected frequencies calculated for the composite environment scores X composite learning scores do not exceed zero in every cell.

6. Kendall's Tau C considers every possible pair of cases in the table. Each pair is checked to see if their relative ordering on the first variable is the same (concordant) as their relative ordering on the second variable or if the ordering is reversed (discordant). If the number of concordant pairs (P) is greater than the number of discordant pairs (Q) the association is positive. Tau B takes account of ties in the pairs but Tau C is appropriate for rectangular tables. It is the result of the difference between P and Q by an approximation of the total number of pairs adjusted for the number of rows or columns, whichever is smaller (M). This is columns in the case of environmental complexity learning ability tables.

$$Tau \ C = \frac{2m \ (P - Q)}{N^2 \ (M - I)} \qquad where \quad N = number \ of \ cases$$

When N is greater than 10, Tau may be considered to be normally distributed with Mean = $\mu_\tau = 0$

and Standard Deviation = $\sigma_\tau = \sqrt{\dfrac{2(2N + 5)}{9N(N - 1)}}$

Therefore $Z = \dfrac{\tau - \mu_\tau}{\sigma_\tau} = \dfrac{\tau}{\sqrt{\dfrac{2(2N + 5)}{9N(N - 1)}}}$

The probability associated with Tau under the null hypothesis (no association between variables) can be found by computing Z which is normally distributed with zero mean or unit variance and determining the significance of Z on a table of probability or observing the value in the normal curve of distribution. Tau is as powerful as Spearman's rho in rejecting the null hypothesis, which is about 91 per cent as efficient as Pearson's r, the most powerful parametric correlation.

7.   Results for General Manager and Overseas Groups:-

a) General Manager

Time Period	Tau C value
1	0.313
2	0.361
3	0.379
4	0.117
5	0.162
6	0.301

(All but periods 4 and 5 are significant at the 0.05 level of confidence)

b) Overseas

Time Period	Tau C value
1	0.477
2	0.398
3	0.492
4	0.361
5	0.436
6	0.184

(All but period 6 are significant at the 0.05 level of confidence)

CHAPTER 7

FURTHER ANALYSIS OF THE QUESTIONNAIRE DATA

1.   Objectives of Chapter 7

The objective of this Chapter is to relate the career history data obtained from the questionnaire to the composite scores of learning ability and environmental complexity (discussed in Chapter 6). The process whereby people might develop learning ability is discussed.

2.   Managers with "Multifunctional" Careers

2.1 Learning Ability and Environmental Complexity scores for "multifunctional" managers and a comparison group

It is Dunlop career development policy to give people who are thought to have senior management potential a varied career. In order to do this people are moved through as many functions (personnel, production, marketing etc.) as possible. In order to examine the effects of a "multifunctional" career, twenty managers who had indicated that they had changed occupation or function five or six times during their career (by ticking the item "I moved to a different occupation or function" in section 1 of the questionnaire) were compared with a group of managers who had indicated that they had only changed occupation or function once or not at all.[1] All had 30 years career experience.

These groups of "multifunctional" or "non-multifunctional" careers were therefore drawn from the combined responses from General Managers, Overseas and the U.K. sample. It was in no way a random sample, but picked specifically to have few or many changes in function.

Figure 7.1 compares the scores of managers with five or six changes in occupation/function during a total career span

Figure 7.1 Learning ability scores for 20 Managers who had
many changes in function or occupation and scores for
75 managers who had few changes in function

Learning scores in the range of 0-2

% Managers

80
70
60
50
40
30
20
10

Scores 0-2   0-2   0-2   0-2   0-2   0-2
Period 1 | Period 2 | Period 3 | Period 4 | Period 5 | Period 6

Learning scores in the range of 3-5

% Managers

80
70
60
50
40
30
20
10

Scores 3-5   3-5   3-5   3-5   3-5   3-5
Period 1 | Period 2 | Period 3 | Period 4 | Period 5 | Period 6

Learning scores in the range of 6-8

% Managers

80
70
60
50
40
30
20
10

Scores 6-8   6-8   6-8   6-8   6-8   6-8
Period 1 | Period 2 | Period 3 | Period 4 | Period 5 | Period 6

Key
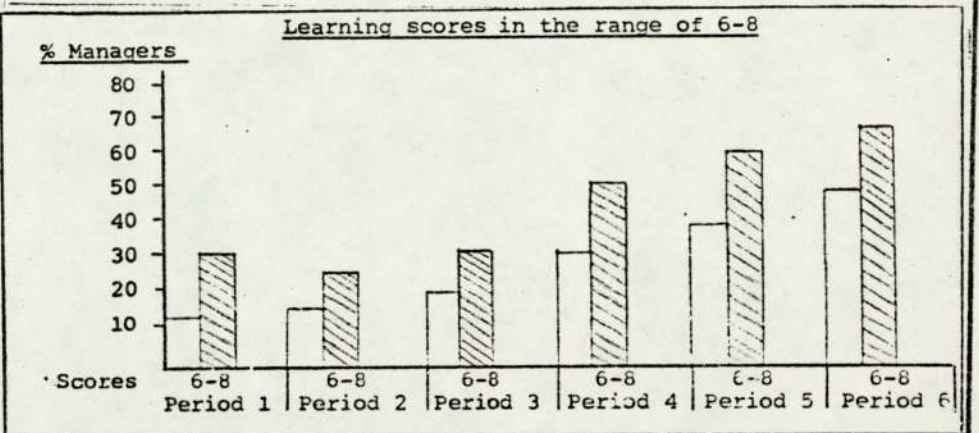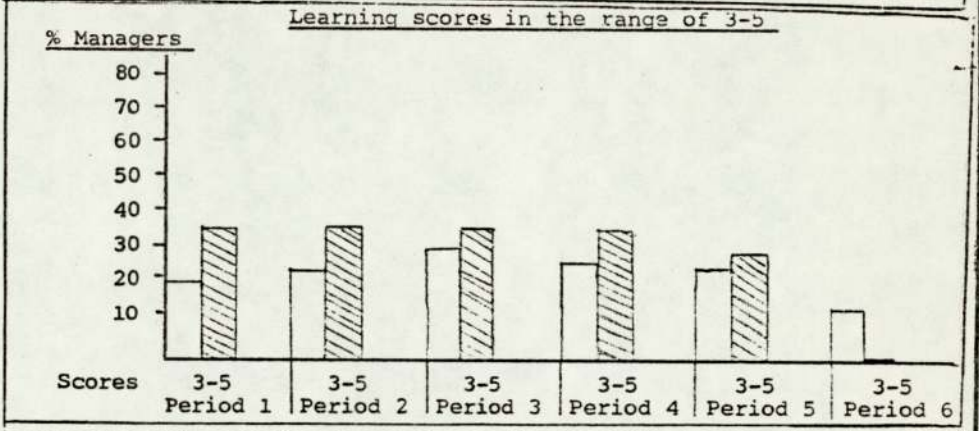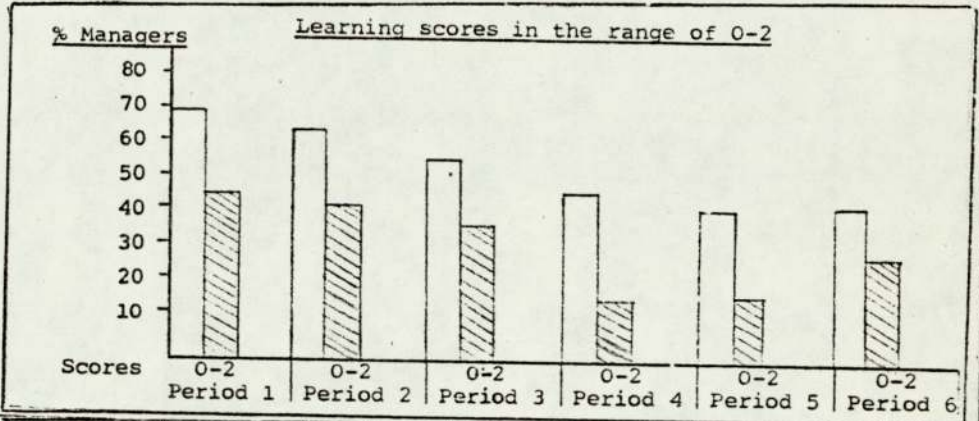
☐ = 0 or 1 change in occupation/function
      during whole career n = 75

▨ = 5 or 6 changes in occupation/function
      during whole career n = 20.

Each period represents a five year career stage. For explanation see
Chapter 6 section 3. The scoring for environmental complexity and
learning ability is explained in Chapter 4 section 4.

6.

with managers who had only one or no changes during their career, on learning ability. In this analysis the ranges of scores on learning ability were divided into low (0-2), middle (3-5), and high (6-8), not just high and low, because a black/white (high/low) dichotomy distorts the picture too much in favour of the ideas presented. It is the extremes which seem to change most; more high scores, less low scores over time: (Similarly the extremes changed most for the environmental complexity scores; therefore the scores were broken down into ranges 0-3, 4-7, 8-11, 12-15, not only into high and low). Usually all the ranges are illustrated as they shown how the overall pattern changes. The results are interesting because the two groups have different patterns of learning scores. In every time period the group with "multi-functional" careers has a higher percentage of managers with scores in the 3-5 and 6-8 range than the comparison group has. The "multifunctional" group has a lower percentage of managers with scores in the 0-2 range in every time period. This difference is more marked in the later time periods: by periods five and six the group with "multifunctional" careers has many more managers with scores in the 6-8 range (60 per cent, 65 per cent) than in the 0-2 range (15 per cent, 25 per cent). This is not so for the comparison group who have 38 per cent and 48 per cent in the 6-8 range in periods five and six, and 40 per cent and 42 per cent in the 0-2 range.

The group with "multifunctional" careers appear to perceive themselves as having developed their learning ability throughout their careers much more than the group who have only changed function once or not at all. This cannot be solely due to the number of changes in function per se.

Differences exist between the two groups even in periods one and two when the number of changes in function can only be small for both groups. This could be because managers in the "multifunctional" group are in some way inherently different from the comparison group (for example, more intelligent, hard working, or some other dimension not measured) and therefore they were invited to change function more frequently than the others. Alternatively they could have had other experiences during their careers which differentiate them from managers who did not move around so much. Another explanation could be that this is a retrospective study and people who have had many changes in function feel that they must have learned a lot from a varied experience.

Figure 7.2 shows the range of scores for these managers on environmental complexity. For environmental complexity, a higher proportion of "multifunctional" managers in each time period scored between 8 and 15, and a lower proportion of such managers scored between 0 and 7 compared with managers with few functional/occupational changes. This is not surprising in so far as the previous chapter (Chapter 6, Table 6.4) showed an association between learning ability and environmental complexity. The figures 7.1 and 7.2 do show, however, that for both these groups learning ability and environmental complexity scores tend to increase over the six time periods. (A group of managers for whom learning ability scores do not show this pattern is discussed in section 4 of this chapter, along with a discussion of environmental complexity patterns in this instance).

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Figure 7.2   Environmental Complexity scores for 20 Managers who had many changes in function or occupation and scores for 75 managers who had few changes in function or occupation

Key:

☐ = 0 or 1 change in occupation/function over total career span. n=75

▨ = 5 or 6 changes in occupation/function over total career span. n=20
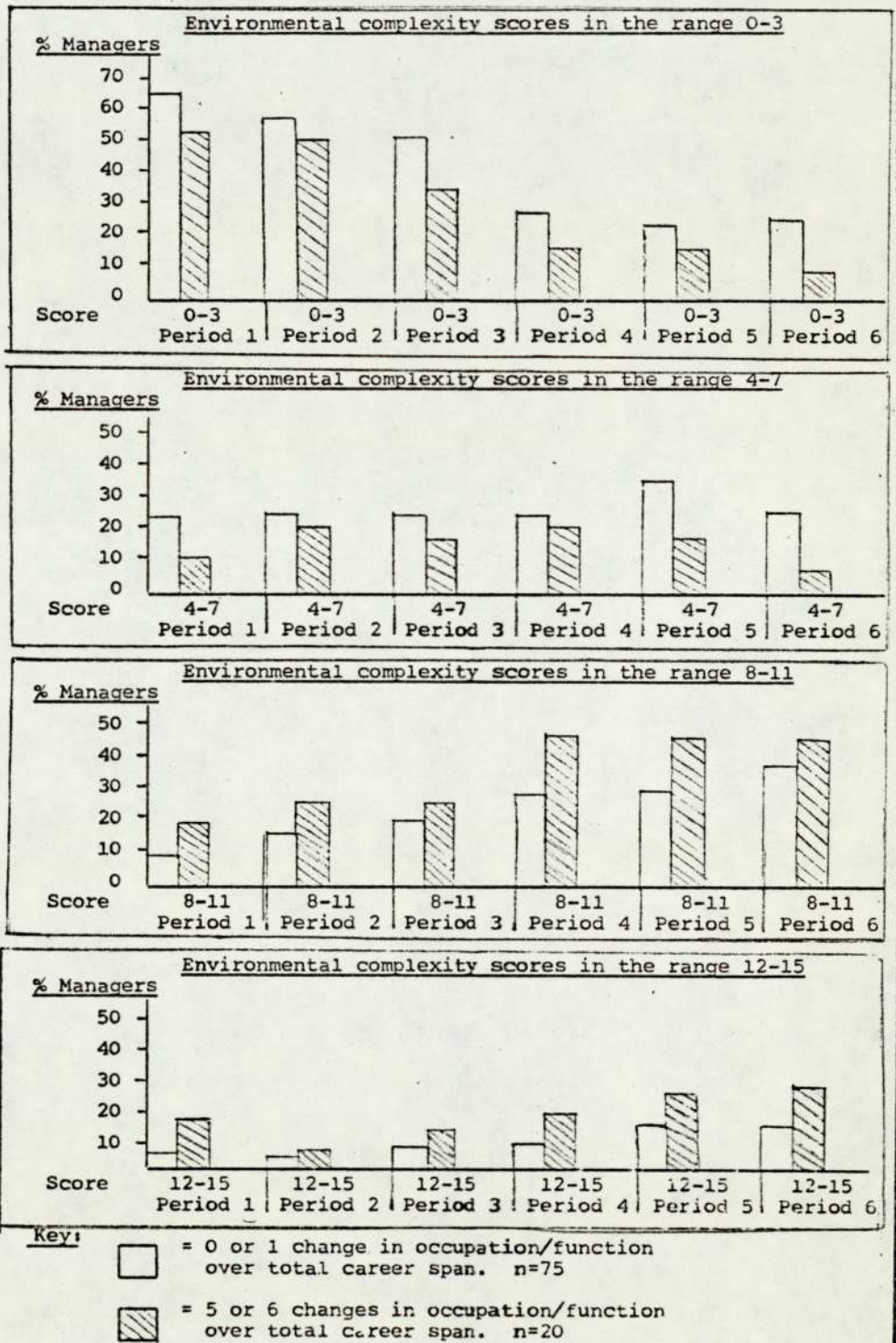
Each period represents a five year career stage. For explanation see Chapter 6 section 3. The scoring for environmental complexity and learning ability is explained in Chapter 6 section 4.

2.2 Career History Patterns for the "Multifunctional" and
     comparison group of managers

The career history patterns for the "multifunctional" and comparison groups were examined: figure 7.3 shows the results for the other items from section 1 of the questionnaire. The managers with "multifunctional" careers have a higher frequency of endorsing these statements than do the comparison group. Except for "I was heading up a line department" this was particularly marked in the first three time periods. In the first time period there are also more "multifunctional" managers who worked outside the U.K. (40 per cent) than in the comparison group (26 per cent).

This ties in very well with the fact that it is the "multi-functional" managers who had a higher number of endorsements for many career history items: many of these items could be associated with rapid progress in the Company - moving to a more responsible job, attending training, moving location, are often associated with a promotion. These managers also had a high rate of meeting someone who influenced their career - a "sponsor", perhaps, who introduced them to key people and ensured they were not overlooked. The high proportion of unnerving experiences could be associated with early responsibility. Since the differences between the "multifunctional" managers and the "non-multifunctional" group are present early in their careers the greater perceived learning ability of the "multifunctional" group could be due to their being picked out as high fliers early in their careers. This could mean that career development policies are good ones; those who are given varied careers and early responsibility do in fact learn more and so end up in later years in responsible positions (a greater proportion of "multifunctional" managers were

Figure 7.3 Endorsement of career history items by 20 managers who had many changes in function or occupation and by 75 managers who had few changes in function or occupation

% Mgrs
% Mgrs

I was heading a line department. I moved within the same country.

% Mgrs.
% Mgrs.

I moved to a different country. I moved to a more responsible job.

% Mgrs.
% Mgrs.

I met someone who influenced my career. I attended training useful to my career development

% Mgrs.
% Mgrs.

I had a major domestic change. I had an unnerving experience.

Key: ☐ = 0 or 1 change in occupation/function during career (n= 75)

▨ = 5 or 6 changes in occupation/function during career (n= 20)

Each period represents a five year career stage.

heading line departments in later time periods). This is unlikely to be the full explanation. Thirty years ago career development policies were less clearly defined than they are today and methods for selecting high fliers were even more haphazard than they are now. It is likely that some capable people were overlooked and some less capable were given early responsibility. If capability (for example, hard work, intelligence etc.) were the only important factor in developing learning ability then the differences between these two groups on career history items, particularly in the early years, might be expected to be less marked. It could be argued that the career experiences, in themselves, that were experienced more frequently by the "multifunctional" group, were the key factor in developing learning ability, and that, in fact, all people who had experienced these things would develop their learning ability. If this were the case, career development policies could be considered to be good ones, if the number of high learners produced met the Company's needs. It is possible to argue along these lines since the "multi-functional" group had different careers than the "non-multifunctional". On only three items (not shown in Figure 7.3) were the patterns similar for the two groups (I was working outside the U.K., I was heading a functional department, I was busy in areas outside of my work). For the Company view on "multifunctional" careers see footnote 1 at the end of this Chapter.

2.3 Comparison between "multifunctional" managers and the total sample from which they are drawn

When the "multifunctional" career group were compared with the total sample (General Managers, Overseas, U.K. sample) they showed a similar pattern on learning ability scores as they did when compared with managers with few functional changes. Period 4 is shown in Figure 7.4 as an illustration.

Figure 7.4   Learning ability scores in Period 4 for the total sample
              (248) and for "multifunctional" managers (20)
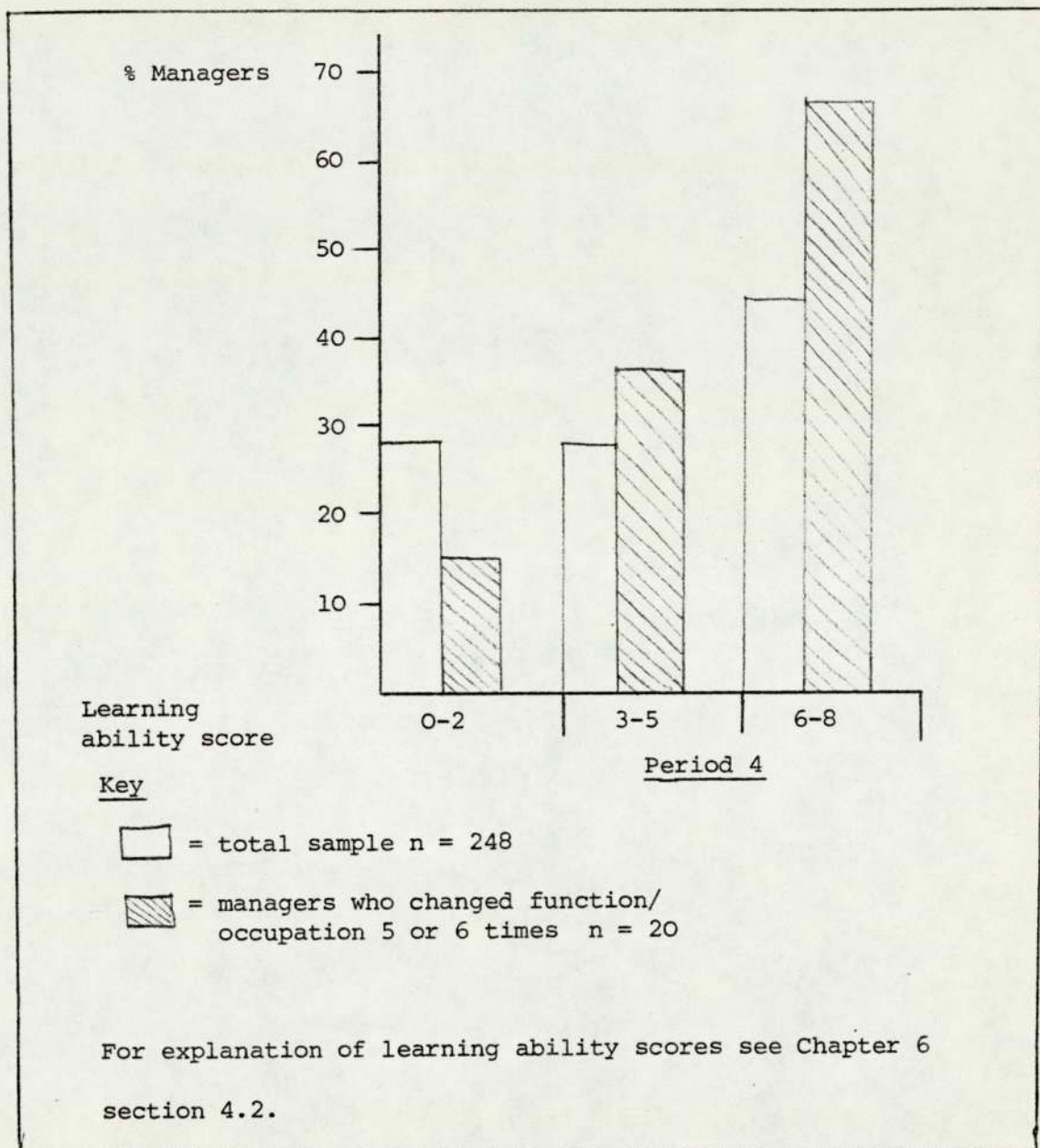
The "multifunctional" managers have a higher proportion of managers with scores in the upper ranges for learning ability than the total sample has.

However, when the proportions of "multifunctional" managers who had particular career experiences were examined they were not very different from the total sample. Again period 4 is used as an illustration (Table 7.1)

Consistent differences over time periods were observed for the items "I was heading a line department" and " I met someone who influenced my career development", with a higher proportion of "multifunctional" managers endorsing these statements. In some periods the discrepancy between the two groups was greater for "I moved to a more responsible job" (for example, for period 5, 85 per cent of "multifunctionals" endorsed this statement, 64 per cent of the total sample endorsed it). These results suggest that whilst the majority of career history items are similar for the two groups the "multifunctional" group may have achieved more head-of-line-department positions and had some one person who paid attention to their career more often than the total sample did. However, since the other items for the two groups are similar, it is unlikely that the career history experiences themselves are the reason why the learning scores of the "multifunctional" group are so high. It is more likely that the reason for the "multifunctional" group having higher learning scores is related to the way that they themselves think of their career - merely having a particular experience is not sufficient, it is necessary to value it, if one is to develop one's learning ability. For the sort of reasons discussed in Section 2.2, the "multifunctionals" may have construed their

Table 7.1 Comparing career history experiences for the total
           sample and the "multifunctional" managers for Period 4

Career history item	Total Sample % Managers (n = 248)	% Managers with 5 or 6 changes in function during career (n = 20)
I was working outside the U.K.	42	40
I was heading a functional department	49	40
I was heading a line department	30	60
I moved within the country	26	25
I moved to a different country	29	30
I moved to a more responsible job	76	80
I met someone who influenced my career	25	50
I attended training useful to my career development	33	35
I had a major domestic change	17	30
I had to face an unnerving experience	18	25
I was busy outside my work	25	15

succession of experiences as "career progress", while other
people may have construed the same sort of experiences as
"just another job"; this may lead to differences in a person's
propensity or motivation to develop his learning ability.
It was noted that, for the "multifunctional" group, progress
seemed to be more rapid than for the people who had few or no
functional changes. More of the former met people who influenced
their career and more attended training which they found useful.
A kind of "Hawthorne" effect could be responsible for their
greater development of learning ability. They may have perceived
that their management skills were valued, and that they were
likely to continue to progress to higher level management jobs.
This may have given them the necessary confidence to try out
new behaviours (act confidently, take risks), to feel that their
judgements were worthwhile (that they could judge the merits of
a case, think through problems, try to understand and influence
other people etc). Perhaps perceiving that other people had
confidence in them, they had confidence in themselves, to feel
that they were originators of action and not merely pushed around
at the whim of others or by "uncontrollable circumstances.[2]
Once people begin to feel this way, they generate for themselves
the sort of feedback about their behaviour and ideas that some
authors, (such as Bateson (1972), Schon (1975), Kelly (1955)
(see Chapter 4 section 5)) consider to be necessary for significant
learning to take place. Bandura (1977) (see Chapter 4, section 5)
also considers the problem of realistic confidence, which he
labels self-efficacy. He considers that people can gain this
confidence best when they actually perform successfully on a
particular task and construe their success as a result of their
own ability or skill rather than as luck or other external cir-

cumstances. He found that watching other people succeed in a
task produced weaker self-efficacy expectations than actually
performing oneself. It could be that people who progress
rapidly and perceive other people as taking an active interest in
their careers are in a better position to actually perform
managerial tasks themselves, and, on succeeding, attribute their
success to their own ability, thus increasing their confidence
in a realistic way. This might have a snowball effect - once
one has begun to behave in this way, subsequent problems are
tackled proactively.

Summary

Managers with "multifunctional" careers were found to have
higher scores on learning ability than managers without
"multifunctional" careers. This could not be due solely to the
fact that they changed functions often because differences were
present from the early periods before they had made any moves.
The "multifunctional" group had a greater proportion of managers
experiencing career moves which might indicate that they
were considered high fliers or were making quick progress. It
was thought that the experiences per se were not determinants
of developing learning ability, but the way they are construed
might be important. The suggestion was put forward that the
reason these managers have higher learning ability scores might
be partly due to a kind of "Hawthorne" effect whereby they
gained the necessary experience and perception of their own
ability and the confidence to tackle new problems and so develop
their learning ability to a greater extent. The question now is
whether the data furnishes any further evidence to support this
hypothesis.

2.4 "Multifunctional" Managers and content of learning in the three original samples

Of the twenty managers in the "multifunctional" group, twelve were General Managers. This is a very high proportion. The fifty-six General Managers formed the smallest of the three original samples; their high representation in the multi-functional group could be related to the content of their learning. Questionnaire Section 3, items 1-9 were examined, and Figures 7.5, 7.6, 7.7 show the proportion of managers in each of the three main samples (General Manager, U.K. and Over-seas) who endorsed each statement in each time period.

3.   The content of learning items: three comparisons

Figure 7.5 shows that policy-making and environmental knowledge is learned by bigger and bigger proportions of managers as career lengthens (except for period five overseas). (This exception could be a result of attrition since a smaller pro-portion of overseas managers have had six time periods, compared with the U.K. and General Manager groups.   See foot of figures 7.5 - 7.7). It also shows relatively lowest proportions of U.K. managers getting this knowledge for most of the periods.

Figure 7.6 shows peak learning in the technical and cost areas is in mid-career, with the exception of policy making, where the highest proportion of U.K. managers is in period five and of overseas managers is in period six. (This last group repeat the drop in period five that was characteristic of table 7.5).

Figure 7.7 shows that in day-to-day man-management the U.K. group lags behind the other two for the first four career periods (which suggests the others had subordinates earlier).

Figure 7.5 Porportion of managers in General Manager, U.K. and Overseas samples who said they increased their knowledge of policy making and of the environment, by period.
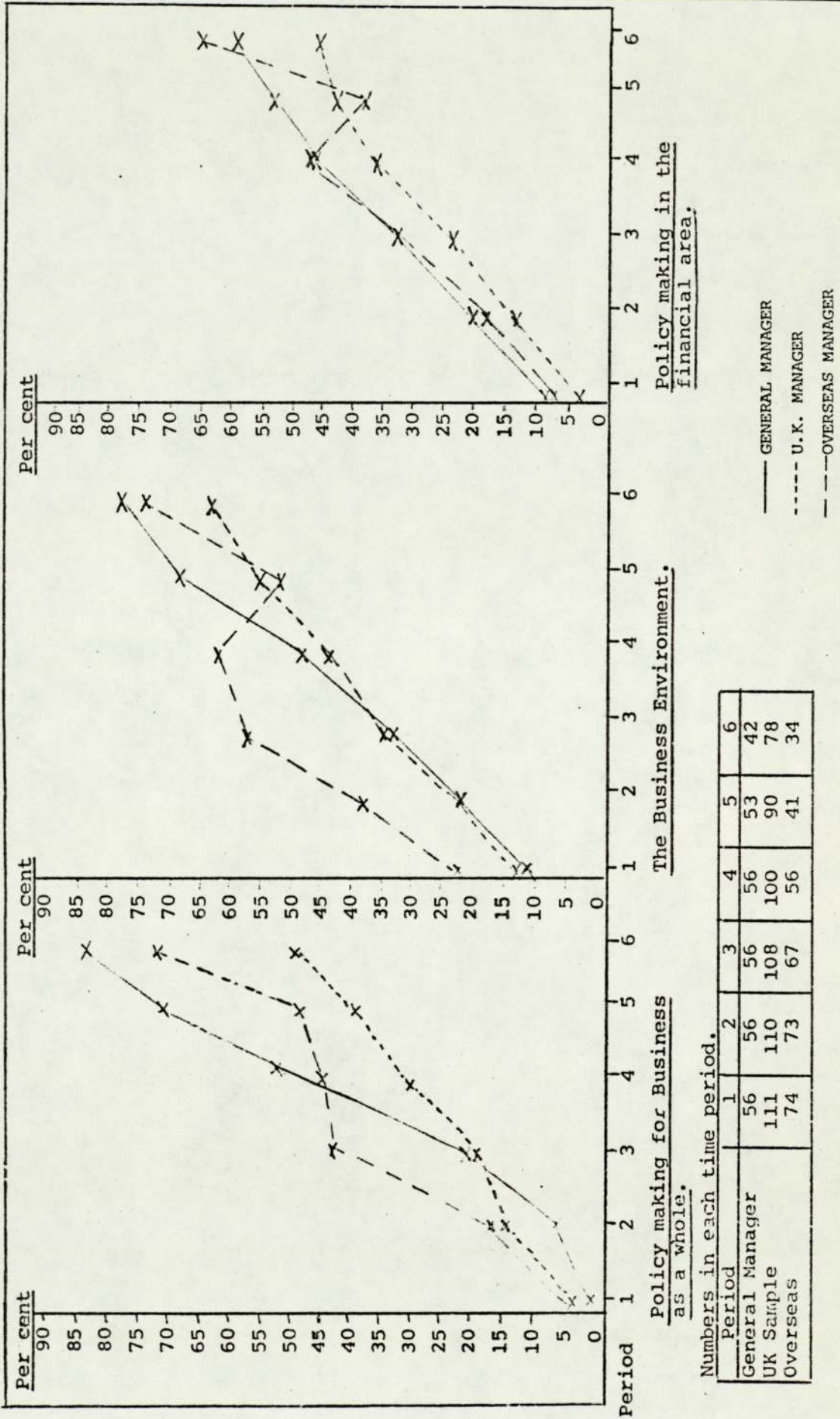
Per cent

Per cent

Per cent

Policy making in the financial area.

The Business Environment.

Policy making for Business as a whole.

Period

——— GENERAL MANAGER

----- U.K. MANAGER

—·—·— OVERSEAS MANAGER

Numbers in each time period.

Period	1	2	3	4	5	6
General Manager	56	56	56	56	53	42
UK Sample	111	110	108	100	90	78
Overseas	74	73	67	56	41	34

Each period represents 5 years. For explanation see Chapter 6, section 3.

Figure 7.6 Proportion of Managers in the General Manager, U.K. and Overseas samples who said they had increased their knowledge in the technical/cost areas, by period

Per cent

Period 1   Controlling costs of operations.   Technical aspects of operations.   Policy making in technical matters.

GENERAL MANAGER
U.K. MANAGER
OVERSEAS MANAGER

Numbers in each time period.

Period	1	2	3	4	5	6
General Manager	56	56	56	56	53	42
UK Sample	111	110	108	100	90	78
Overseas	74	73	67	56	41	34
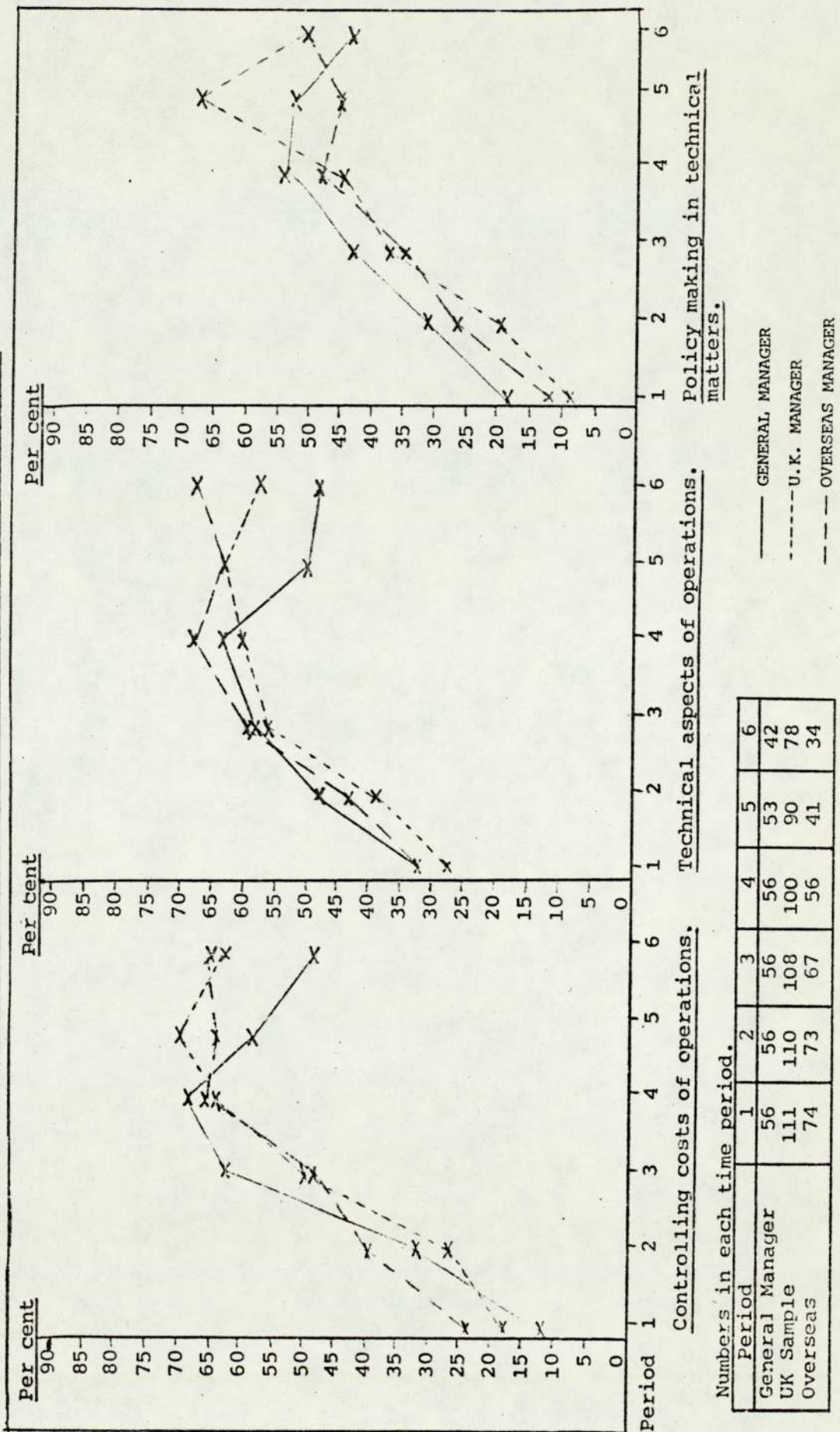
Each period represents 5 years. For explanation see Chapter 6, section 3.

Figure 7.7 Proportion of Managers in the General Manager, U.K. and Overseas samples, who said they had increased their knowledge in human and related areas, by period

Per cent
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

Period 1 2 3 4 5 6

Man management day to day.

Per cent
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

1 2 3 4 5 6

Policy making in personnel area.

Per cent
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

1 2 3 4 5 6

Inter-relatedness of technical, financial and human considerations.

Numbers in each time period.

Period	1	2	3	4	5	6
General Manager	56	56	56	56	53	42
UK Sample	111	110	108	100	90	78
Overseas	74	73	67	56	41	34

——— GENERAL MANAGERS

----- U.K. MANAGERS

—·—·— OVERSEAS MANAGERS

Each period represents 5 years. For explanation see Chapter 6, section 3.

In interrelatedness it lags behind in the middle period, and in policy making the biggest lagging discrepancies are in the mid and later periods. The man-management day-to-day knowledge is the only area where three-quarters of any sample are increasing their knowledge by period 3. It is also the area in which the smallest proportion of General Managers increased their knowledge in their last career period. In all three figures the proportions learning about policy, whether business, technical, or personnel is less than twenty per cent in the first career period.

3.1 Discussion

The earlier peak period (period when most managers endorsed a statement) for the General Manager group compared with the U.K. sample for controlling costs, technical aspects of operations, policy making in technical areas, man-management on a day-to-day basis and the interrelatedness of technical, financial and human considerations, may be further evidence that the General Manager group were coached for the top at an early stage, for example, the earlier man-management peak may indicate that they were given subordinates early in their career. The figures suggest that overseas experience may provide similar opportunities to learn about these areas. In substituting for overseas assignments, which are no longer available, it might be important to ensure that opportunities are still given to learn about these knowledge areas.

Hogarth (1978) evaluated a management development programme at the Centre Européen d'Education Permanente, Fontainebleu which had lasted over a two-and-a-half year period involving eight two-week residentials. He found that acquisition of technical expertise could lead to feelings of self confidence which in

turn permitted a manager to experiment with new patterns of behaviour. He also thought that a manager who displays technical expertise in his job will be treated differently by the people for whom he works - he could be selected out for development and training, for example. This supports the idea that the General Manager group may have been selected for early responsibility and that this helped them to gain their self-confidence.

Hogarth also found that even after increases in technical expertise diminish, behavioural changes such as growth of self confidence and efficiency continue. This also supports the finding that early development has long term effects.

4. Managers with fifteen or less years' experience compared with managers with twenty plus years of experience

4.1 Learning ability and environmental complexity scores for younger versus older managers

Except for the content of learning comparisons, the
managers [compared] have had thirty years career experience. A group of younger managers would therefore be interesting to consider in their own right. The experience of these managers may be different from older managers; older managers are often heard to express the view that styles of management have changed dramatically over the last two decades. The first years of experience as a manager may therefore be subjectively different for those who have more recently become managers than for those who started their management careers thirty or more years ago.

Figure 7.8 compares the first three time periods for managers with fifteen years' experience and twenty or more years' experience, on scores of learning ability.

Figure 7.8   Scores of learning ability for 29 managers with
fifteen years' or less experience and 218 managers with
twenty plus years of experience

% Managers   Learning scores in the range 0-2

70—
60—
50—
40—
30—
20—
10—

Score   0 - 2   0 - 2   0 - 2
         Period 1   Period 2   Period 3

% Managers   Learning scores in the range 3-5

70—
60—
50—
40—
30—
20—
10—

Score   3 - 5   3 - 5   3 - 5
         Period 1   Period 2   Period 3

% Managers   Learning scores in the range 6-8

70—
60—
50—
40—
30—
20—
10—

Score   6 - 8   6 - 8   6 - 8
         Period 1   Period 2   Period 3

Key:
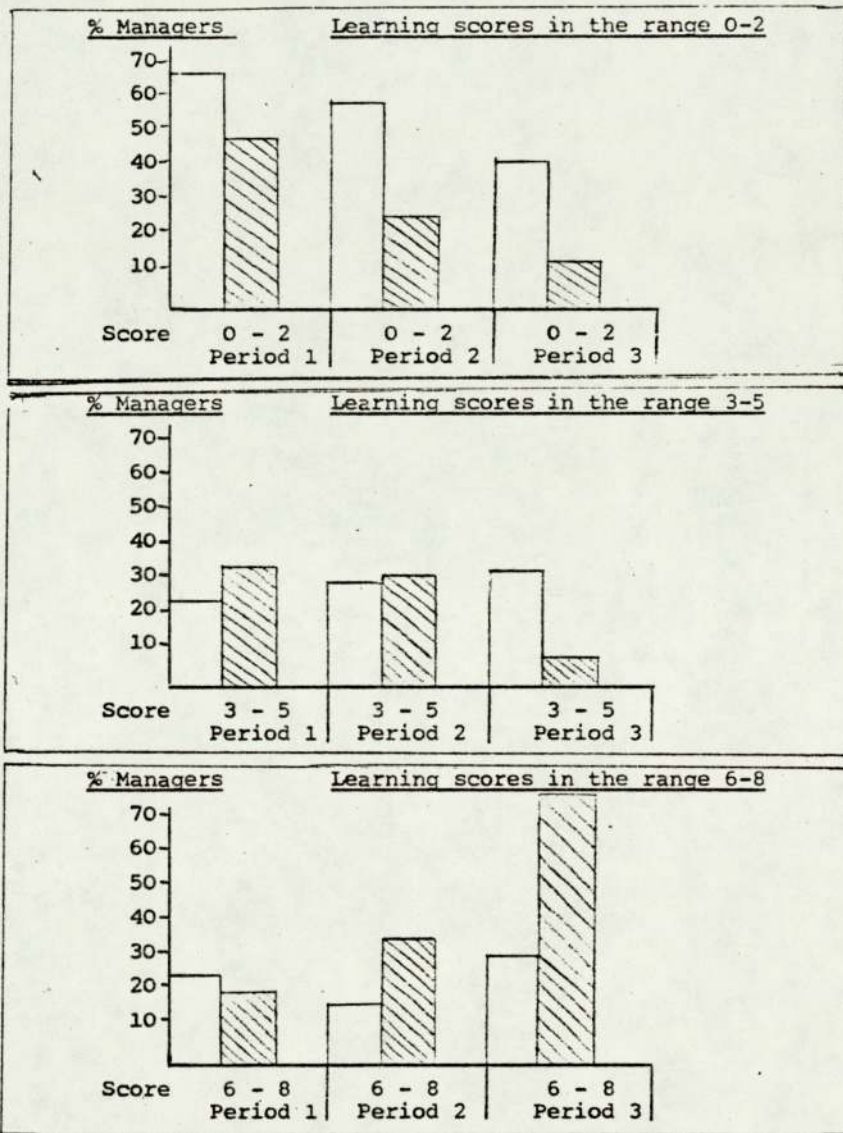
☐ = Managers with 20+ years experience
                           n = 218.

▨ = Managers with 15 years experience
         or less   n = 29

Each period represents a five year career stage. For explanation
see Chapter 6 section 3. The scoring for learning ability is explained
in Chapter 6 section 4.

These results show that the younger managers (fifteen years or less experience) have a lower frequency of scoring in the 0-2 score range on learning ability in all three periods than the older manager (twenty plus years experience). In the middle range (score 3-5) they have a higher frequency of endorsements in periods 1 and 2 than the older managers (the lower frequency in period 3 could be a result of the very high proportion scoring 6-8 in that period). In the 6-8 score range the younger managers have a far higher frequency of scoring 6-8 in periods 2 and 3 than the older managers. It appears that the younger managers have developed their learning ability in their first three periods more than the older managers did. This could be, in part, attributed to a "recency" effect - for the younger managers period 3 is closer to the present than it is for the older managers. However, the younger manager group may have other important characteristics which differentiate them from the older managers.

Figure 7.9 shows a comparison of these two groups on environmental complexity scores. The older managers have a higher frequency of scores in the 0-3 range for each period. The younger managers have higher scores in the 7-11 and 12-15 ranges in each period. The younger managers appeared to experience greater environmental complexity in the first three time periods than the older managers did. Again it is impossible to draw the conclusion that environmental complexity and learning ability, though related, are linked in a causal relationship; it may be that the last fifteen years (since the early 1960s') have themselves been more complex for everybody than the previous fifteen years. (This is discussed further in section 6 of this chapter).

Figure 7.9   Scores of environmental complexity for 29 managers with fifteen years experience and 218 managers with twenty plus years' experience

% Managers   Environmental Complexity scores in the range 0-3

70-
60-
50-
40-
30-
20-
10-

Score   0-3   0-3   0-3
        Period 1   Period 2   Period 3

% Managers   Environmental Complexity scores in the range 4-7

70-
60-
50-
40-
30-
20-
10-

Score   4-7   4-7   4-7
        Period 1   Period 2   Period 3

% Managers   Environmental Complexity scores in the range 7-11

70-
60-
50-
40-
30-
20-
10-

Score   7-11   7-11   7-11
        Period 1   Period 2   Period 3

% Managers   Environmental Complexity scores in the range 12-15

70-
60-
50-
40-
30-
20-
10-

Score   12-15   12-15   12-15
        Period 1   Period 2   Period 3
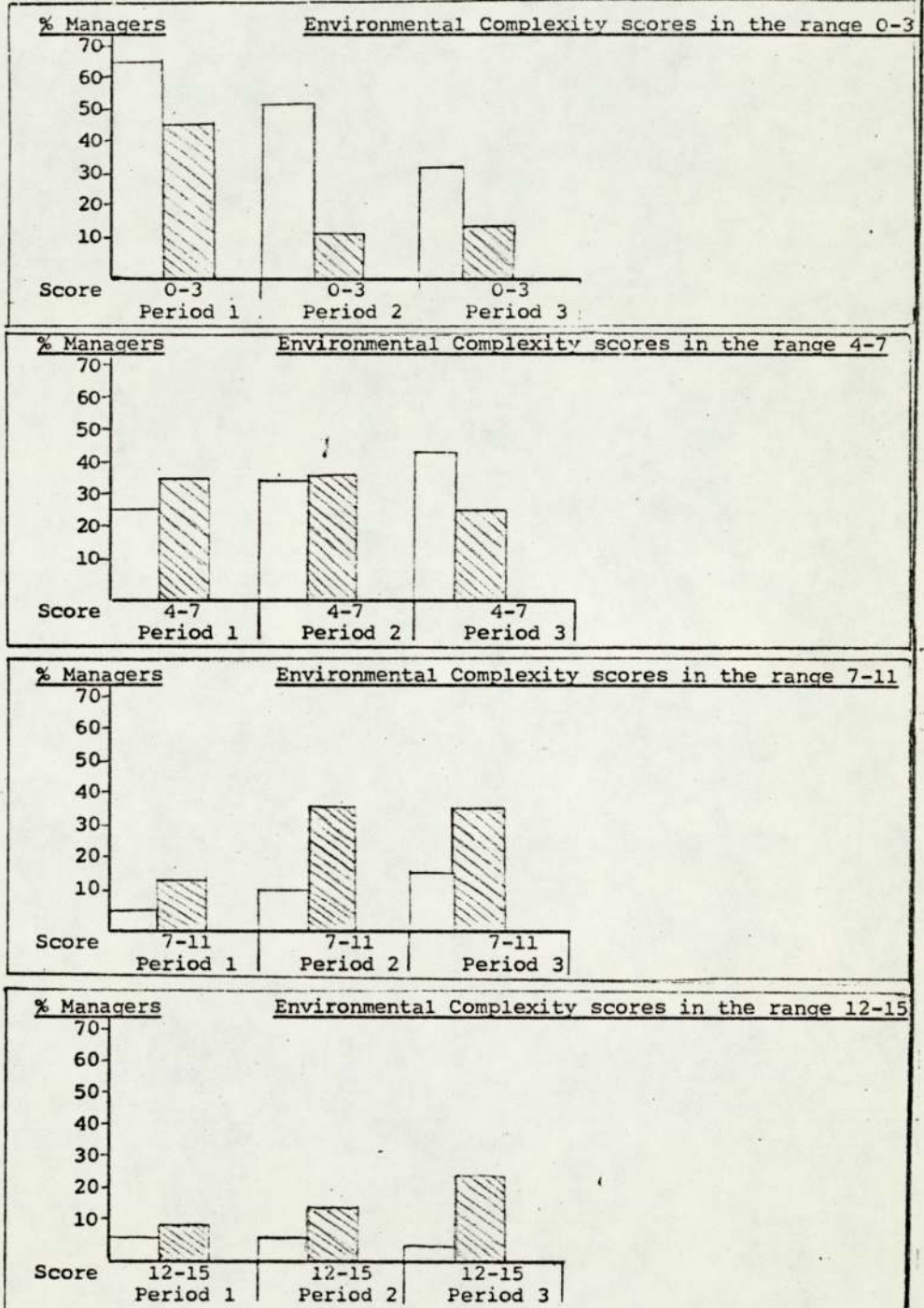
Key: ☐ = managers with 20+ years experience   n = 218

       ▨ = managers with 15 years experience   n = 29
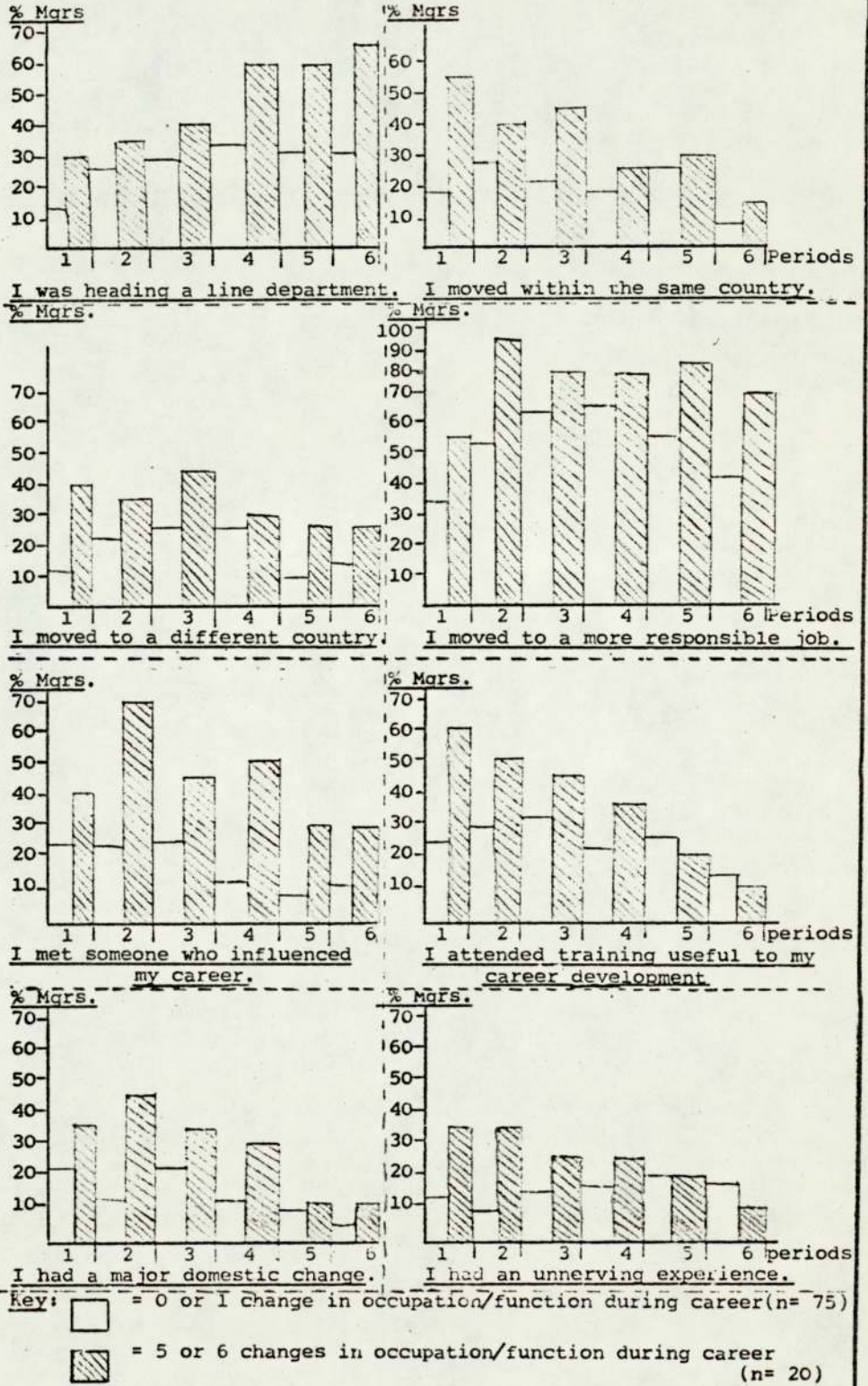   or less

Each period represents a five year career state. For explanation see Chapter 6 section 3. The scoring for environmental complexity is explained in Chapter 6 section 4.

4.2 <u>Comparison of career history items for managers with fifteen years or less experience, and managers with twenty plus years' experience</u>

The career history items for the younger and older managers were compared. The most interesting differences between the two groups occurred in the first two periods.[3] In period 3 the patterns for the two groups were similar. The items on which the younger and older managers differed are shown in Figure 7.10. The younger managers experienced a greater degree of mobility, attended more useful training, moved to more responsible jobs, and a greater proportion were already heading line departments in the first two periods than were the older managers. (It is difficult without interviewing respondents to know what major domestic changes were, but they may be associated with high mobility).

This profile is quite similar to the "multifunctional" (versus "non multifunctional") managers discussed in section 2. Again the differences in learning ability between the two groups (older versus younger) cannot be just due to the career experiences per se; in the third period they have similar career experiences but different learning ability scores.

The career history items heavily endorsed by the younger managers could support the suggestion made in section 2 that people who have a "career", who are influenced by other people favourably to their career development, and given early res- ponsibility, may construe their experiences differently from people who do not receive this attention. Knowledge of the younger Dunlop managers and recent career development policies support this notion. Younger managers experience careful monitor- ing of their career when entering the company, which is important.

Figure 7.10 Endorsement of career history items for 29 managers with fifteen years experience and 218 managers of twenty plus years of experience
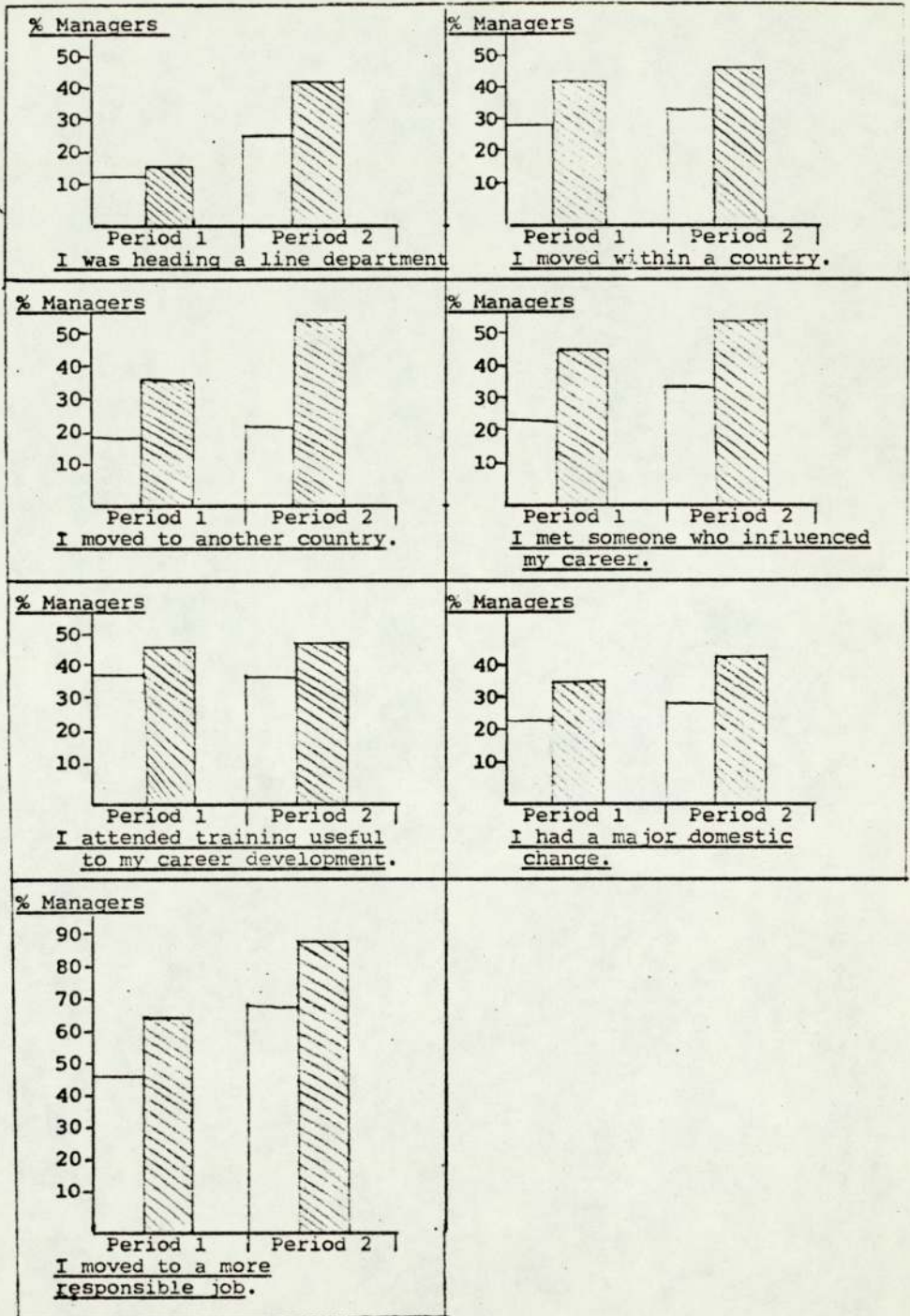
Key:
☐ = managers with 20+ years experience n = 218
▨ = managers with 15 years experience   n = 29

Each period is a five year career stage. For explanation see Chapter 6, section 3.

Graduates, in particular, and other young people considered to have senior management potential, are more carefully looked after by Central Personnel than managers used to be. Graduate schemes (such as IHD, Engineering and other professional courses) are encouraged and monitored in the early years. Such people are given to understand that they have been recruited, in part at least, for their potential. This sort of treatment may encourage a person to believe in his own capabilities. As it was argued in section 2, this may enable persons to perform difficult tasks, and, if they succeed, increase their feelings of self mastery, enabling them to go on to other things. The person who is not so treated may take longer before he is either given the oppor- tunity to try for himself or the confidence to attribute success to his own abilities. There may be other groups of people who could be capable of developing their learning ability given the opportunity to do so. (This is discussed further in Chapter 8). For Dunlop of the 1980-90s it may be important to increase the pool of people capable of taking up senior management positions; the age structure of the rubber industry suggests that the retire- ment rate will be high over the next ten years, and, within the Company, cases have been noted of people thought capable of taking on greater responsibility who have declined to do so.

A further interesting point is that, in the third period, the career history items for the younger and older managers have a similar endorsement pattern, and yet, in this period, the proportion of younger managers with scores on learning ability in the 6-8 range, diverges from the proportion of older managers even more than in the first two periods. Perhaps, once managers have the self-perception of ability, they can go on developing their learning ability even if the initial attention (such as is

paid to graduates) is not sustained at a level above that for
other managers in the Company. This is discussed further in
section 5 of this Chapter.

There were no differences in learning ability scores
between younger managers who had changed occupation or function
in each of the three time periods, and younger managers who had
never changed occupation or function. (The numbers in each
group were less than ten and so it is difficult to assess the
reliability of this result).

5.   Early, midcareer, and late learners: Managers with different
      learning score patterns

Examination of the raw data suggested that not all the
managers increased their learning ability from the beginning of
their career to the end. This was the trend for the groups so
far discussed in this chapter; learning scores are higher in
period 6 than in period 1. (See figure 7.1). Some managers
appeared to have very high scores on learning ability early
in their careers and some did not appear to have high scores on
learning ability until much later.

Therefore managers with high scores on learning ability
(score of 6 or more) in period 1 or 2 were compared with managers
who had high scores on learning ability in period 3 or 4 and
with managers who had a high score on learning ability in
periods 5 or 6. Their learning patterns are shown for all six
time periods in Figure 7.11.

These results suggest that once managers have scores of 6
or more on learning ability, they are likely to continue to
score high in subsequent periods and less likely to have scores
in the ranges 0-5 in subsequent periods. Thus of the group who

Figure 7.11   Proportions of early, mid, and late learners scoring
6 to 8 on learning ability at each period into their
career

% early learners
scoring over 6,
by period

Early learners (all scored over 6 in
periods 1 or 2)

Period Numbers	1	2	3	4	5	6
	57	55	48	42	36	31

% mid-career
learners scoring
over 6, by period

Mid-career learners (all scored over 6
in period 3 or 4

Period Numbers	1	2	3	4	5	6
	125	125	125	109	86	67

% late learners
scoring over 6,
by period

Late learners (all scored over 6
in period 5 or 6

Period Numbers	1	2	3	4	5	6
	112	112	112	112	112	92

Each period is a 5 year career stage. See Chapter 6 section 3 for
explanation - for explanation of learning ability scoring see Chapter 6
section 4

had scores in the range 6-8 in periods 1 or 2, in all four later periods a large proportion score 6-8. For managers with scores of 6-8 in periods 3 or 4, periods 5 and 6 are also periods with high learning ability scores. This data suggests that, at which ever period managers start to score high on learning ability, they are likely to continue in subsequent periods to score high. (This supports the finding in section 3 that younger managers continued to have high learning scores in periods when their career patterns were similar to the older managers). The career history patterns of the three groups were compared.

Appendix 7.1 shows the percentage endorsements in each group in each time period.

There are no strong differences between the three groups on career history patterns. The group chosen with high scores in periods 1 or 2 has a slightly higher frequency of managers working outside the U.K. in the first three time periods, more managers heading up functional departments (period 2) or line departments (periods 2 and 3), more managers moving to other countries (periods 1, 2 and 3), more movement to more responsible jobs and more people meeting someone who influenced their career (period 1). There were no differences between the three groups on total numbers of changes in occupation/function over six time periods, but, whereas 82 per cent of "late learners" have completed six time-periods, only about half the "early or mid-career learners" have.[4]

The "early learners" (score 6 or more in periods 1 or 2) have career history profiles somewhat like the "multifunctional" and younger managers discussed in sections 2 and 3, but the differences between them and the "mid-career learners" (score 6

or more in periods 3 or 4 and subsequent periods) and "late
learners" (score 6 or more in periods 4, 5 and 6) is less marked.
The interesting thing is the persistence of learning ability
scores in the high range for all periods after the first period
in which a high learning score was obtained. This could lend
support for the idea that some self confidence is needed to
develop learning ability and that once acquired people can go
on developing their learning ability - this may be independent
of what is happening to them in terms of external indicators of
career experience but may depend far more on how they construe
their career, in terms of progress, success and their own worth.
This might have implications for career development; whilst
it is never too late to learn, it may never be too early either.
The earlier people are helped to develop their learning abilities
the longer they are likely to have a chance for further learning
to occur.[5]

5.1 Environmental Complexity scores for managers who are early/ mid/late career learning ability developers

The environmental complexity scores for the "early-mid- and
late-career developers" were compared. These are shown in Figure 7.12.
The trend for all three groups of managers is for the proportion
scoring low to decrease over time and for the proportion scoring
in the upper ranges of 8-15 to increase over time. Thus the
previously found association between learning, ability and environ-
mental complexity may be due, in part, to the general trends of
each increasing over time; they could be a coincidence, with
environmental complexity a function of actual years and learning
ability a function of the person. The hypothesis that degree of
perceived environmental complexity is a function of actual years
is discussed in section 6.

Figure 7.12 Proportions of early, mid and late learners scoring 8 to 15 on environmental complexity at each period into their career

Each is a 5 year career stage. See Chapter 6 section 3 for explanation.

For explanation of environmental complexity scoring see Chapter 6 section 4.
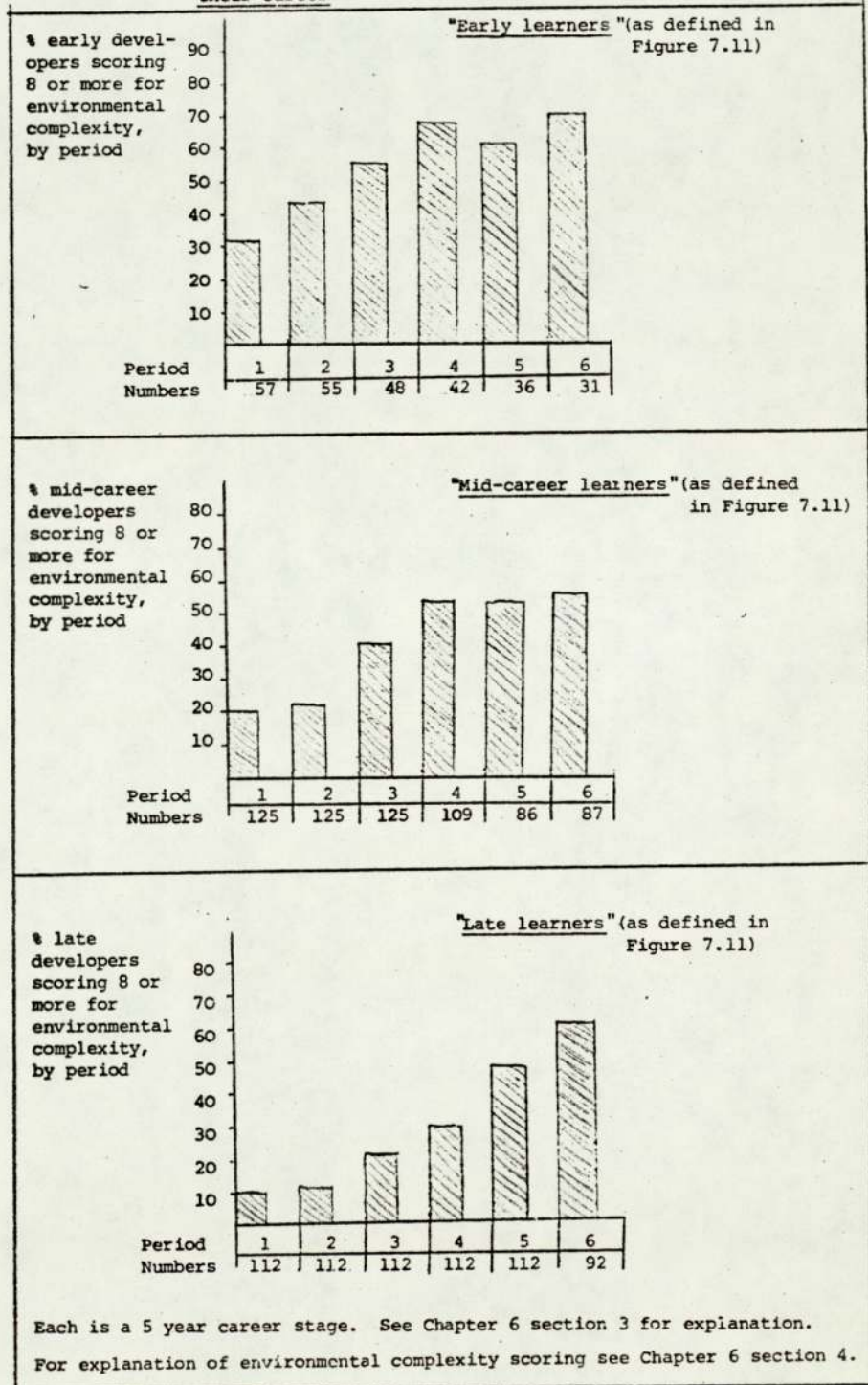
6. Comparison of environmental complexity scores for actual years, by managers of different career lengths

The environmental complexity scores for managers with thirty years, twenty-five years and twenty years career experience were compared by actual years. For example, the environmental complexity scores for 1973-77 for managers with thirty years experience were compared with environmental complexity scores for 1973-77 for managers with twenty-five years and twenty years career experience. Thus actual years rather than periods into career are compared. Some results are shown in Figure 7.13. The comparison between the three groups of managers with different career lengths suggests environmental complexity is similar for all the groups in each period of actual years, with the general trend being for environmental complexity to increase over the last two decades. However, the first time period (for the thirty year group pre-1953, for the twenty-five year group 1953-57, for the twenty year group 1958-62) is particularly low in environmental complexity wherever it occurs. The younger managers (twenty to twenty-five years experience) perceived the last period as more complex than the other group. This might be because they were taking up their first senior management appointments (they would be about 37-43 years old) in an environmentally complex period. The general pattern, however, suggests that environmental complexity could be function of actual years or stage into career, although there may be some interaction between the two, and that environmental complexity appears to be increasing.

7. Other items relating to the environment

In Chapter 5, section 3, the inclusion of four items (17/20 section II) in the questionnaire which might be thought to be associated with learning were discussed. These were "there was a sudden, dramatic and unfavourable reversal of circumstances",

Figure 7.13   Environmental complexity scores for managers of thirty
years, twenty-five years and twenty years career
experience for actual years

Environmental Complexity Scores in the range 8-15

% Managers

Years   Pre 1953 | 1953-57 | 1958-62 | 1963-67 | 1967-72 | 1973-77

Key

☐   = Managers with thirty years experience (n = 157)

▨   = Managers with twenty-five years experience (n = 33)

▧   = Managers with twenty years experience (n = 28)

For explanation of environmental complexity scores see Chapter 6

Section 4.
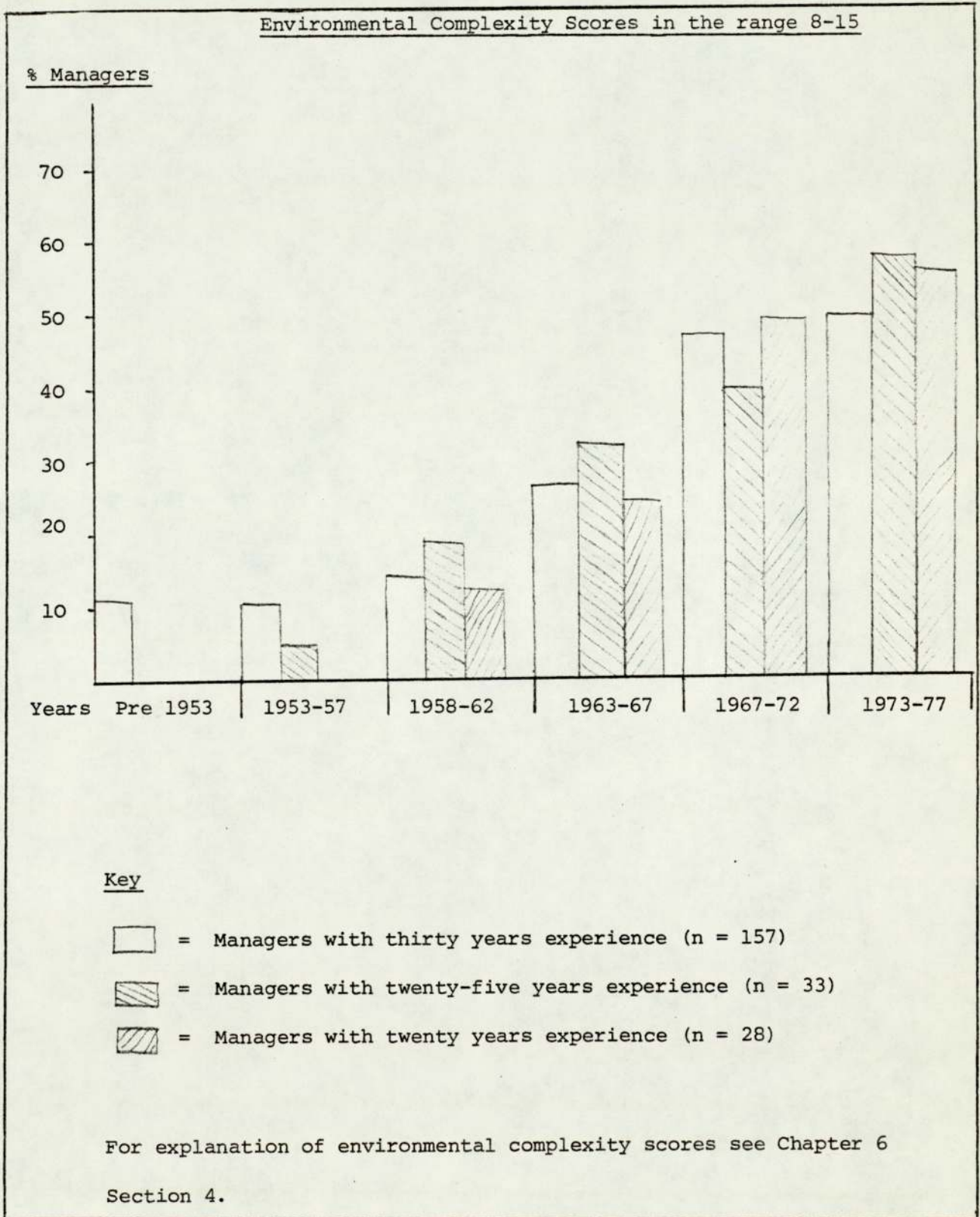
"there was prolonged retrenchment, hard times or lack of success", and "there was prolonged expansion, prosperity or success". Some theories of learning (such as Dale and Payne (1976)) suggest that disconfirming experience (that is, experience which contradicts previously held attitudes, ideas, beliefs etc) may enable people to reorganise their theories about the world and their modes of relating to the world in an enriching way. (It was thought that this might relate to the integrated learner that Kolb discusses). The idea that changes of this sort may be associated with learning ability receives some support. In particular, for all the three main samples (General Manager, U.K. and Overseas) "prolonged expansion prosperity or success" was associated with learning ability scores in the peak learning period (period 4 for the General Manager group, period 6 for the other two groups). In addition, for the General Manager group "prolonged hard times or lack of success, and "an unfavourable reversal of circumstances" were associated with learning ability on period 4.[6]

However, there were more associations between these four items and environmental complexity scores. When these were con-sidered in relation to stages in career no pattern emerged; all four items were associated with environmental complexities for some samples in some periods (at the 0.05 level of confidence). It was therefore considered that these items, like environmental complexity, might have some anchor in actual years, for example, was 1963-67 perceived as a period of expansion and prosperity regardless of career stage?

Figure 7.14 compares the frequency of response for these four items in actual years, for managers with thirty, twenty-five or twenty years experience.

Figure 7.14 Upturns and downturns in actual years, for managers with thirty, twenty-five and twenty years' experience
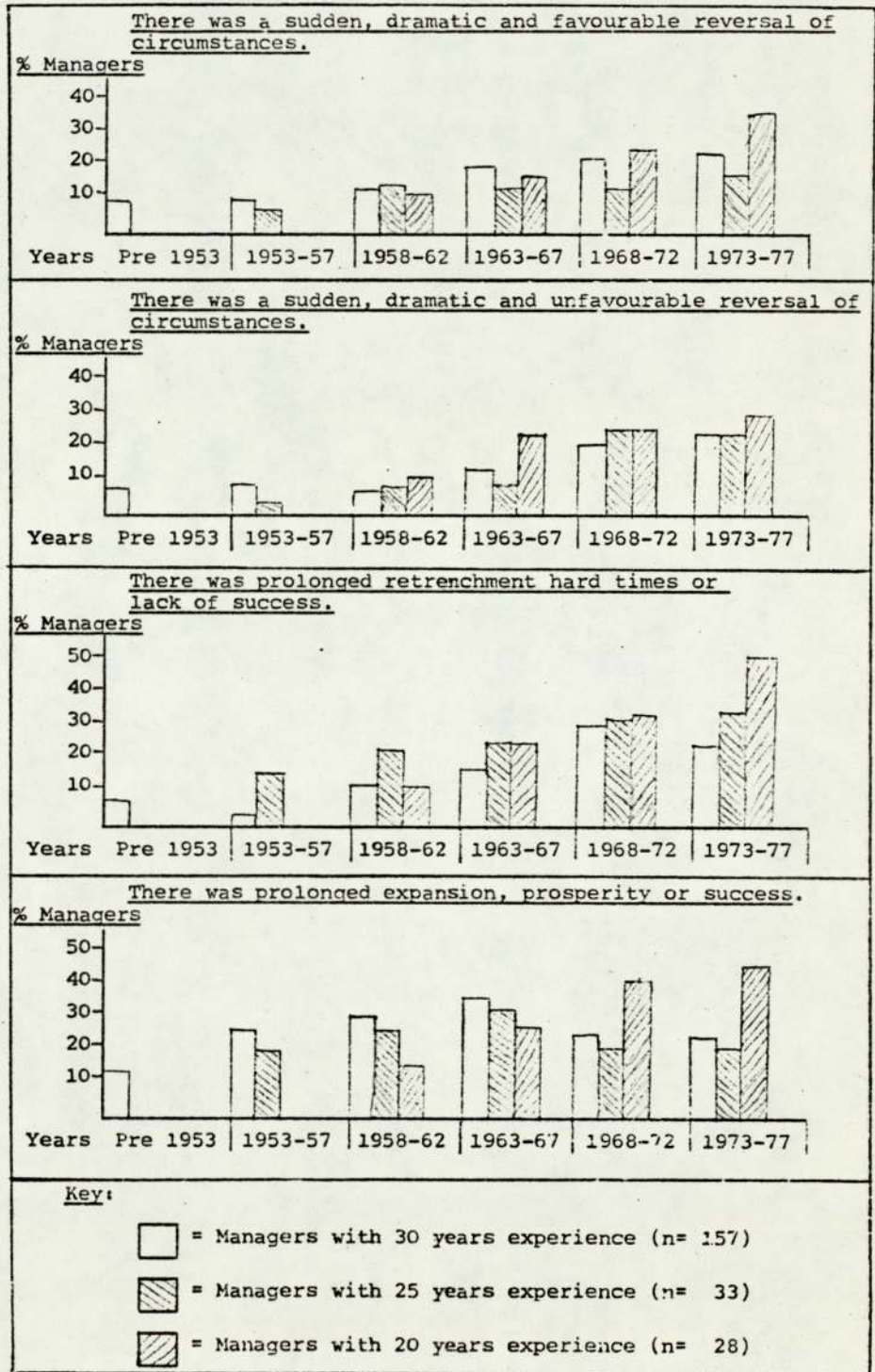
These results suggest that these items may correspond to actual years rather than stage in career. They may be an extension of the measure of environmental complexity (the fact that they were on the same page of the questionnaire may have biased this result). These changes of upturns and downturns appear to be increasing over time. The youngest group here (twenty years experience) has perceived more favourable and unfavourable reversals of circumstance and prolonged retrenchment in the last period (1973-77) and more prolonged expansion in the last two periods (1968-77) than the two older groups. This is similar to the result for environmental complexity; there may be some interaction between career stage and actual years for the perception of upturns and downturns. The fact that both favourable and unfavourable reversal of circumstances and both prolonged retrenchment and prolonged expansion are perceived in the same years may mean that managers have replied to these items from a local, personal viewpoint (such as the plant, division of the company, personal problems or country) rather than from some more global economic view point. Different divisions and parts of the world (Dunlop being a large multinational) may experience upturns and downturns at different times. Since learning ability was associated with "prolonged expansion, prosperity or success" for all samples this might influence choice of division of the company, from a career development point of view. If "success" was construed as personal success this may support the suggestions about the learning process discussed in this chapter. However, the similarity of scores suggests there was some global influence. A five year period can see large swings in the business environment.

8.   Environmental Complexity in the Future

        In section 6 of this chapter the suggestion was made that

environmental complexity might be a function of actual time and

not just of the stage a person has reached in his career.

        The scores on environmental complexity for the future

(column 1978-1982) for managers with thirty, twenty-five and

twenty years experience to date were compared.   The results are

shown in Figure 7.15.

        These can be compared with the environmental complexity scores

for 1973-77.   The future is perceived by the two older groups of

managers as rather less complex than the period 1973-77 with

more managers scoring in the range 0-7 on environmental complexity

in the future than they did for the last five years.   For the

younger group of managers (twenty years experience) the future

is seen as more complex than the past five years with more managers

scoring in the 8-15 range in the future than in the past.

(58.2 per cent of managers with fifteen years or less experience

(n = 29) scored 8 or more on environmental complexity in the future).

        The oldest group (thirty plus years experience) could perhaps

be viewing their retirement with equanimity and the youngest

group could be seeing a stormy passage for their next appointment

- or equally well be construing a highly complex future as a sea

of opportunities!

9.   Conclusions

        Some managers perceive themselves as having increased their

learning ability more than others during their career (multi-

functional managers, younger managers).   It was suggested that

career experiences are more likely to be associated with learning

Figure 7.15   Environmental Complexity Scores in the future, for
              managers with thirty, twenty-five and twenty years
              experience before 1977

% Managers

Key:

☐ = managers with 30+ years experience   n = 157

▨ = managers with 25 years experience   n = 33

▧ = managers with 20 years experience   n = 28
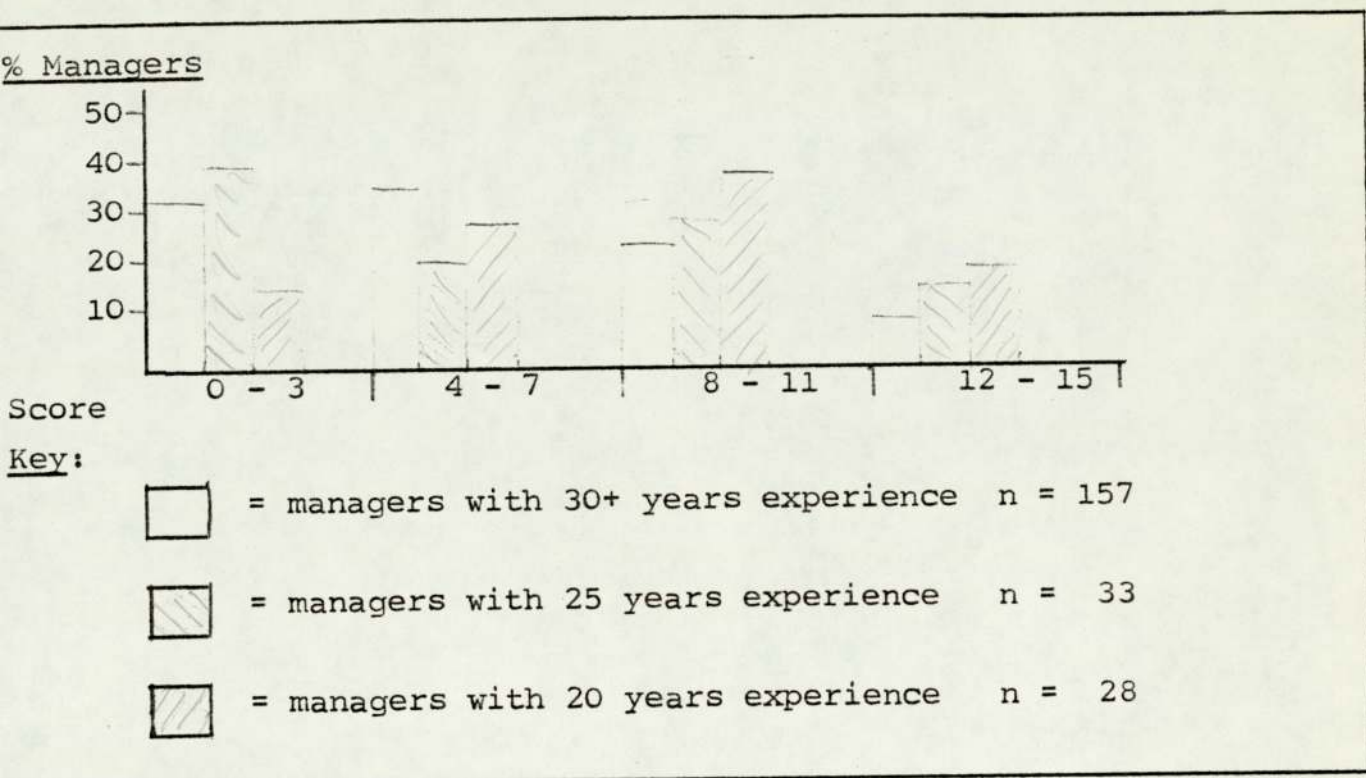
For explanation of environmental complexity see Chapter 6 section 4.

ability if they happen within the context of perceived career progression. That is, the person may need to perceive that he is making progress, that others consider he is of high potential, and that he is being successful. The reasons for these suggestions were based on theories of learning which suggest that realistic self confidence is necessary for significant learning to take place. Other results, comparing 'early, mid- and late career learners" suggested that once development had started it was perceived to be followed up by further learning.

Environmental complexity appears to be increasing with chronological time. Learning appears to be related to other variables (see above); therefore although an association between complexity in general and learning ability in general was found, this may be in part due to learning ability increasing throughout careers for many (but not all) managers in the total sample.

Footnotes to Chapter 7

1. Preliminary analysis suggested that there were no significant
    differences between managers who had spent their careers in
    single functions (marketing versus personnel versus production etc)
    on career history patterns or learning ability and environmental
    complexity scores; for example, marketing managers were similar
    to production managers etc.

    Change of function as defined by the Company is not the important
    factor here. The General Manager, Management Development indicated
    that from the Company's point of view most managers for whom
    Central Personnel keeps records, have had no or one change in
    function (shown below).

Experience of:	General Manager	Senior Executive
One function	48	151
Two functions	22	48
Three functions	6	5
Four functions	-	1

    The questionnaire asked about peoples own perception of whether
    they had changed occupation or function and therefore does not
    correspond to the information in Company records given above (the
    samples are not the same as respondents to the questionnaire)

2. Merely moving on to a more responsible job may not be sufficient:
    it may need to be construed as progress. (Many of the non-multi-
    functional group and total sample had endorsed the "moving to a
    more responsible job" item). Neither may success be just an
    externally awarded accolade - the General Manager group are not
    distinguishable in the same way as the "multifunctional" group are.
    "Success" may have to be a label you award to yourself.

3. In period 1   32.3 per cent of younger managers were working

    outside the U.K.

    In period 2   51.6 per cent of younger managers were working

    outside the U.K.

    In period 3   48.4 per cent of younger managers were working

    outside the U.K.

These figures are similar to those for the older group. This is

of interest because the Company has said it is finding increasing

difficulty in placing young people abroad. Working outside the

U.K. has traditionally been thought of as a good training ground.

4. Increases in learning ability could be a function of actual years.

    When actual years are compared for managers with different lengths

    of career there is some evidence that more learning has occurred

    in later years (last 10-15 years) but this is far less marked

    than the same analysis of environmental complexity. Thus there

    is again some link between complexity of environment and learning

    ability but the factors influencing the development of learning

    ability are complex.

5. The proportion of General Managers and U.K. sample and Overseas

    Managers comprising the groups of "early-" and "late-learners"

    were calculated. The proportion in each group is similar to

    the proportion in the total population.

    It is surprising that the General Manager group is not over-

    represented in the early and mid-career learners; in an early

    analysis it was noted that the General Manager group as a whole

    had a peak learning period (that is, the period when most managers

    endorsed the learning ability items), in period 4. For the other

    two groups the peak period was period 6. This analysis (early/

    middle/late learners) has picked the extreme cases and these

    are independent of the main sample groups.

6. Associations with learning ability

Item	General Managers	U.K. sample	Overseas	
There was a favourable reversal of circumstances	0.405 (period 6) n = 42		0.395 (period 5) n = 41	Values given are Tau C values and are statistically significant at the 0.05 level of confidence
There was an unfavourable reversal of circumstances	0.222 (period 4) n = 56			
Prolonged hard times, lack of success	0.243 (period 4) n = 56			
Prolonged expasion, prosperity, success	0.286 (period 4) n = 56 0.458 (period 6) n = 42	0.247 (period 6) n = 78 0.222 (period 5) n = 90	0.314 (period 5) n = 41	

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

1.   Objectives

       This chapter will first summarise the findings of this
research. A revised model of learning will then be suggested
and ways in which this information might be used to improve
career development in Dunlop Limited, will then be considered.

2.   Summary of this research

       This research was based on three samples of managers
totalling 249 respondents (chapter 6, section 2).

1)   An aggregate index of environmental complexity was con-
       structed which represented the data better than four separate
       types of complexity as postulated a priori on Kolb's model
       (chapter 6, section 4.1).

2)   An aggregate index of learning ability was constructed
       which represented the data better than four separate
       learning abilities. The Kolb model was therefore not
       supported in respect of distinguishable abilities or
       environments. (chapter 6, section 4.2).

3)   The index of complexity did relate to the index of learning
       ability for all three samples for most career periods.
       The Kolb hypothesis of an association between complexity
       and learning ability therefore received some support.
       (chapter 6, section 4.3).

4)   The environment appeared to get more complex with the
       passage of time (chapter 7, section 6).

5)   Managers started learning at different stages of their
       careers, but, once started, continued to add to their
       skills (chapter 7, section 5).

6)   "Multi-functional" managers learned more than "non-
     multifunctional" managers (chapter 7, section 2.1).

7)   Younger managers learned more in the first fifteen years
     than older managers (chapter 7, section 4.1).

8)   There was some evidence that "early developers" had more
     early responsibility than "late developers" (chapter 7,
     section 5).

9)   Specific career experiences were not, in isolation,
     associated with learning ability. However, there was some
     evidence that people who had developed their learning
     ability early on ("multifunctionals", younger managers,
     "early developers") had accumulated more of these experiences
     than had the comparison groups. (Chapter 7, sections 2.2,
     4.2, 5).

     Although increasing complexity of the environment and
increasing learning ability go together, it was suggested that
complexity, as such, might be a less important factor than
whether or not managers got early responsibility and encourage-
ment in their career (being given training, or meeting someone who
influenced their career). Early responsibility and encourage-
ment would lead people to perceive that they had "started a
career", whereas early job changes which involved few additional
demands could be seen as "just another move". The concept of
the need to gain realistic confidence in one's ability was
invoked as a mediating variable between experience and learning.
Early responsibility and encouragement can be seen as recognition
for one's ability.

     This concept can only be inferred from the data collected.
There is no actual measure of it. Other research, however, can
be cited which supports the idea. Bandura's (1977) concept of

self-efficacy was discussed in chapter 4 section 5.6.4. A self efficacy expectation is the conviction that one can successfully execute the behaviour required to produce the desired outcomes. Bandura's conclusions are in accord with the suggestion made here that people need to perceive that they have a career and to have their ability recognised by being given responsibility. Berlew and Hall (1966) also found that early responsibility is important for subsequent high performance and success. The responsibility given must be congruent with a person's own level of aspiration and personal standards.

3.   A revised model of learning

It was concluded (chapter 6, section 5) that Kolb's model is inadequate to deal with long periods of time. A revised model is therefore suggested which builds on the findings discussed in section 2 above. This revised model could have been further tested if a measure of "self-efficacy" had been included in the research. This could then have been related to the Kolb learning ability scores. As no such measure was used, and as there was no direct measure of performance either, what follows must be tentatively stated.

Some things enhance a person's self-efficacy expectations and some things weaken them. Enhanced self-efficacy expectations result in a person persisting in new coping behaviour, when a new and demanding task is to be tackled: if success at this new task occurs, then self-efficacy is strengthened. This could therefore be viewed as a "virtuous" circle - once you have entered a "virtuous" circle your learning ability may continue to develop. This is shown in figure 8.1.

**Figure 8.1   A "virtuous circle" for learning which strengthens self-efficacy
expectations**

Rewarding actions of others:

for example,

giving early responsibility (4.4.2)

giving training (4.1)

giving information about career progress (4.4)

giving feedback of success when appraised (4.3)

giving feedback that the person has the capability to develop further skills by giving day-to-day coaching (4.1, 4.2)

giving supportive environment (4.4.2)

Person's perceptions that reward

- is deserved - success was achieved by own abilities

- is in area to which person is committed

- was for something which person thought difficult to achieve

- has indicated new learning has occurred

- indicates that a pattern of progress is present

- is recognition by others of his ability

- is recognition of the magnitude of the risks taken

Enhanced self-efficacy expectations

Continued expression of own abilities in job and commitment to work. (Maintaining staff, (4.4) and mobility (4.4.3))

KEY : Numbers refer to sections in this Chapter

It is possible that this sort of iterative cycle may lead to Dale and Payne's (1976) "between-level learning" (see chapter 4, figure 4.1). The development of strong self-efficacy expectations may involve some fundamental reappraisal of the way the self is perceived and therefore of the way in which the individual relates to the world also.

In the same way as "virtuous" circles of learning and enhancement of self-efficacy expectations can be postulated, so can "vicious" ones. "Vicious" circles may be equivalent to moving down across Dale and Payne's levels of learning, "virtuous" circles moving up levels. In "vicious" circles self-efficacy expectations are weakened so there is less persistence in tackling new things, subsequently. "Vicious" circles may be entered when a person receives condemnatory feedback from others about his performance - for example, he does not get any early responsibility, or information about his progress, or receives feedback about his performance which indicates to him that he has not gained any ability, or that others do not recognise abilities he does have. Self-efficacy will also be weakened if the area in which he feels he has failed was one to which he was committed, and also if he thinks the condemnation was deserved, that is, failure was due to lack of personal capability rather than to uncontrollable circumstances.

Not all learning will result in changes in self-efficacy expectations. Some learning may approximate to Dale and Payne's "within-level learning". For example, if a success/failure is attributed to luck or external circumstances rather than personal ability, if a new job is not perceived as difficult to learn, if success is in an area to which a person feels no commitment, or is not seen as

relevant to overall progress, then success or failure will not affect self-efficacy expectations, even when some new learning has occurred.

Rewarding actions (see figure 8.1) are things which are within the control of the Company and which can affect the person's perceptions of his ability and thus his self-efficacy expectations.

Recommendations to the Company are therefore based on the kinds of things the Company can do in this area in order to promote "virtuous" learning cycles and avoid precipitating people into "vicious" ones.

4.   Recommendations to the Company

This research is particularly concerned with the future development of senior managers in Dunlop. However, the Company will need professional management at all levels in the Company if it is to meet the complex demands that will be made of managers in the future (chapter 2).

If management development is general, rather than just for the élite, expectations are less likely to be raised which may be unfulfilled. The Company will need a large "pool" of people from whom future senior managers can be drawn. Status needs to be accorded for good work, as well as for upward mobility, if fewer people are to be frustrated. Management development may need to be viewed as a more Company-wide, and division based, responsibility than it has been in the past. (See 4.4.1 below).

An examination of Table 8.1, the three main groups (General Manager, UK sample, overseas group) would suggest that if most

people with 25 or 30 years experience retire within the next ten

years, there will be a substantial loss of experienced managers.

Table 8.1 Duration of career from end of full-time education to the present

Years of experience	Number of managers with approximately:						Total no of managers
	5 yrs	10 yrs	15 yrs	20 yrs	25 yrs	30 yrs	
General Managers	-	-	-	3	11	42	56
U.K. Sample	-	3	8	10	12	78	111
Overseas Managers	1	6	11	15	7	34	74
Totals	1	9	19	28	30	154	241

At the most conservative estimate, 42 of the 56 General

Managers who responded to the questionnaire are likely to retire,

78 of the 111 U.K. managers and 34 of the 74 overseas managers

will retire. Therefore in ten years time only 14 General Managers,

33 U.K. managers and 40 of the overseas managers from this sample

will remain. If these are the sort of figures which are typical

of the whole Dunlop managerial population, Dunlop will need to

bring on younger managers not only to fill General Manager posts,

but also middle management posts. Only 29 managers in this sample

had 15 years or less career experience. Over the next ten years

the Company will therefore need to accelerate the career develop-

ment of the graduates it has recently recruited and/or rely on

recruitment from outside organisations to meet its needs. The

futures chapter (chapter 2) suggested that some retrenchment may

occur in the next few decades (also new developments such as micro-

processors may result in fewer managers being needed). If so,

the high retirement rate may avoid the problem of numbers of

managers but will not solve the problem of <u>quality</u> of managers.
The recommendations made here point to some steps that can be
taken to ensure that managers of the quality required are developed.

Chapter 3 described management development activities under
four headings, training off-the-job, training on-the-job, assessing
mangers' abilities and maintaining staff. The recommendations
for improving management development use the same categories.

4.1 Training off-the-job

Figure 8.1 suggested that training could be seen as one of
the actions that the Company can take which can be viewed as
rewarding by the person. That does not mean that a training
programme should be viewed as an accolade in itself, as a kind of
expensive "well done" but that, if the reasons for attending
training are well defined and explained to the person, it can be
seen as part of his development and progress, and confirmation to
him that others perceive him as having ability worth developing.

Conversely, training which is badly presented to the person
may leave him feeling that being sent on a programme is a kind
of punishment for not having done well enough in the past.

The way in which training away from the job is presented
can therefore have implications for self-efficacy expectations.

4.1.1 Training in the past

The General Manager, Management Development, asked speci-
fically whether anyone agreed that training had helped them (a
report of replies to this and other specific questions is given in
Appendix 8.1). The results of the questionnaire suggested that
training was considered to be more useful at the beginning of a
career, than at the end, when managers with 30 or more years experience

are considered. More General Managers (52 per cent) than U.K.
managers (27 per cent) had found training useful at the beginning
of their career. When younger managers are considered (those with
15 years or less career experience) the picture is brighter. Nearly
40 per cent considered they had had useful training in the first
five years and this figure remained steady for the next two time
periods. This may reflect current training policies favourably.
Certainly if training is to be considered a career-long need then
the way in which a training need is presented to an established
manager may affect the way he appraises it in terms of his self-
efficacy.

4.1.2 Coaching

For managers to develop their self-efficacy expectations
at work they will need to be given increasing responsibility,
to be given a supportive environment, and feedback on their
successes, and guidance on improving on their weaknesses, in such
a way that they are not precipitated into "vicious" circles,
but into "virtuous" ones. The development of people on the job
through being coached by their managers means that all managers
with subordinates need to have the necessary skills for coaching.
Managers are frequently exhorted by Central Personnel to "grow
their own timber". However unless managers are given training
themselves in coaching skills, it is unlikely that they will
be able to coach their subordinates. Simply telling managers to
give their subordinates more responsibility to stretch them and
to be supportive in the way they help subordinates improve on
their weaknesses is not sufficient. Most managers would feel
that they do these things anyway, (although their subordinates
might not agree with them!)

Managers need to know what kind of activities can be used as coaching tools and how to counsel and support their staff. Coaching skills could therefore be seen as an important off-the-job training area for all managers.

One of the questions raised by the General Manager, Management Development, was whether or not people recognised the need to counsel their subordinates. The environmental complexity item "people need to be advised, instructed or other-wise assisted", was important in each five year period, but became increasingly so over time for all three main samples (General Manager, U.K. and overseas). Thus, by the last five year period (1972-77) 77 per cent of the General Manager group, 89 per cent of the U.K. sample and 71 per cent of the overseas sample endorsed the statement. This reflects the increasing environmental complexity with which subordinates have to cope. Yet relatively few superiors are given instruction in how to cope with this problem.

Coaching on-the-job is an activity which managers can use to enable people to enhance their self-efficacy expectations; they can be helped to believe in their ability and to see their problems as opportunities. Pedlar, Burgoyne and Boydell (1978) have indicated some of the activities which could be used as coaching tools. Off-the-job training in coaching could enable managers to practice using these sorts of activities and to be given feedback on how they, as individuals, perform in coaching situations.

4.1.3 Training in carrying out appraisals

This will be discussed in more detail in section 4.3. The way an appraisal is carried out may have strong implications for

self-efficacy expectations. As all managers are expected to
carry out appraisals but many do not do them well, this is an
area which requires some off-the-job training where the manager
can practice carrying out appraisals and learn about the best
ways to appraise in terms of improving future performance.
This training is received by few managers at present and needs
to be more widespread.

4.1.4 Policy Making and Business Environment

The review of futures' literature (chapter 2) indicated
that in the future managers will need to be thinking in inter-
national and national terms as the countries of the world become
increasingly interdependent. This may mean thinking more in
terms of the interrelatedness of business and its environment
and in policy making. There are many managers in influential
positions in the Company who have had thirty years or more career
experience who will be retiring shortly. These will be people
with experience in policy-making areas. The patterns of endorse-
ments for the policy making and business environment items
from the questionnaire (Chapter 7, section 3) showed that very
few people learned about policy making areas early in their
career. Preparation for senior posts may therefore need to include
some formal training in these areas and in international aspects
of business. Knowledge of new management tools/aids (such as
microprocessors) would also be required, that is, an updating
of knowledge in areas associated with management. These areas
might require off-the-job training courses.

4.2 Training on-the-job

Coaching of subordinates has already been mentioned in the
previous section (4.1). This is one area where managers will
need to do a lot more. It may be one of the things which should

be part of a manager's job description and one of the things

included in his appraisal - "how well is he training his staff"?

At the moment it is often a low priority area, something which

gets done if there is time after other things are finished.

It is not envisaged that it should take priority over all other

tasks a manager has, but training on-the-job is unlikely to be done

by a manager unless it is seen to be considered important by his

manager. In order to avoid precipitating people into "vicious"

circles, managers will need to give positive support to their

staff. Feedback on success or failure needs to be given in such

a way that people know where and how they need to improve next

time, where exactly they went wrong last time, and that they are

going to be given a next time (that is, that they are encouraged

to see themselves as still capable). If they have done well they

need to see that their manager has confidence that they can

tackle something more difficult next time. If they have not,

that the manager feels that they have ability, and with more

experience will succeed. Managers may feel that they are doing

this now, but their subordinates may not see it the same way!

"Virtuous" circles require that people are given work and success

standards which approximate to their personal levels of aspir-

ation. Therefore managers need to find out what people feel

they are capable of, what they feel they could be capable of,

and try to match new tasks with peoples' own needs. Managers

who try to train subordinates by stretching them need to find

out from their staff what they feel would be stretching and not

rely only on their assumptions about their staff. Feedback to

staff of what is expected of them by the Company may also provide

people with information about the way other people perceive

their ability. This may be important in trying to enable people

to attribute successes to their abilities rather than to external circumstances. Coaching also relates to the need to give people a supportive environment when they are learning to cope with new problems. Training in coaching skills could also include some discussion of the "blocks" to learning that exist in the social environment. (Section 4.4.2).

4.3 Assessing Managers' Abilities

Although appraisal was an area in which research for the Company was discouraged, the results of the research have implications for appraisals.

Appraisals in Dunlop are frequently criticised by managers. Some divisions take them seriously and place emphasis on them being done, but this is a minority. Central Personnel exhorts divisions to complete the appraisal forms and return them to Central Personnel for central records. However, most managers do not know how to appraise or why they should bother; most see it as an unnecessary chore. Some divisions have related appraisals to MbO.

The Central Training department runs an infrequent "How To Appraise" course and a session is included on some Management Development programmes, but most of the managers in the Company are untrained in appraisal skills. Although on-the-job training requires continuous appraisal of a sort, a formal appraisal which the Company requires to be done is an additional opportunity for a manager to discuss with his staff individually their successes, failures, strengths, weaknesses and the expectations which they have and which the Company has of them. The appraisal is therefore an occasion when a manager can give subordinates constructive advice and criticism of past performance, display his

confidence in his subordinate's ability (in his strong points) and in setting targets for the future, indicate expectations held of the subordinate. It is a cliché now to say that appraisals are two-way interactions. However, Dunlop may have a problem in losing some of its most wanted managers in mid-career. Appraisals are therefore an opportunity to find out what a person's aspirations are as far as his career is concerned. He may find himself wanting to change direction, or have family commitments which prevent him from taking up posts the Company thinks are useful to his career. This is discussed further in section 4.4.3.

Central Personnel has said for a long time that appraisals should be done properly. In the same way that people are encouraged "to grow their own timber" without being trained in coaching skills, people are encouraged to appraise without being trained in appraisal skills (with few exceptions, when the total number of managers in Dunlop expected to carry out these activities are counted). Constructive appraisals may be one way of helping people into "virtuous" circles and could warrant more investment in training managers in the skills of appraising. Observation on courses on appraisal training suggests that even when managers know theoretically how they should appraise, they find difficulty putting it into practice. Video roleplays are useful here.

For appraisals to be effective in improving performance and to enhance rather than weaken self-efficacy expectations there needs to be an emphasis on performance-related behaviours, rather than on qualities a person should exhibit, or on abstract grades of excellence. The emphasis should be on what the person has achieved, and on areas where he can be helped to improve. Many suggestions have been made as to how this can be achieved. Andrew and Valerie Stewart (1977) have used a form of the Kelly Repertory Grid,

for example, as a means of extracting the behaviours and skills needed to perform a job. These can then be used as a basis of an objective appraisal rather than relying on the different assumptions held by managers of the same job. Self appraisal can also be used as a basis for discussion between a manager and his subordinate. The appraisal must be seen to be fair (rewards deserved) and the traits assessed within a manager's capability to change (dependent on his own abilities) if it is to have a positive effect on self-efficacy.

4.4 Maintaining Staff

Maintaining and monitoring staff is of course tied in with the training and appraisal schemes. The interrelatedness of these four management development areas was discussed in chapter 3. However, some specific areas of interest can be pinpointed.

4.4.1 Career Development

The results of this research suggest that people need to perceive that they have a "career" rather than a series of un-related jobs. In the pilot study of the 28 senior managers, 20 said that they had never felt that there had been any career planning for them, and those who did think that career planning had occurred, believed it happened only in the early stages of their career. This may reflect past policies. However, discussion with managers around the Company suggests that many middle managers, some senior managers, and even some young "high fliers", think that there is little being done for them, in terms of career development. This does not mean that nothing *is* being done. However, if people are to be in "virtuous" rather than "vicious" circles it is important that they are to perceive overall career progress. Realising that they are not forgotten by Central Personnel is therefore important. It is not only

necessary for Central Personnel to plan and monitor people's careers but also that they should be seen to do so. This does not just mean imparting information to senior divisional management, but to all the people they are concerned with.

Central Personnel may have tentative plans but are sometimes unwilling to disclose them because people may be disappointed subsequently. Qualifications in the initial briefings may be forgotten and people may think promises are being made. However, even if people cannot be told precisely what their next career move will be, they need to know that they are being remembered, what the sort of post is that they are likely to be offered (their views on this may require Central Personnel to change the plans), how soon they are likely to be offered a new post, and what sort of complications may arise to prevent it (forewarning of possible change to the plan). Most people really believe they are forgotten. Some career counselling and the knowledge they are not forgotten may be of use to them.

Central Personnel do not monitor every manager in the Company. Many will experience a career within a division and have only one or two promotions before retiring. Twigger (1978) noted that career development facilities are usually available for "high-fliers" but "average" people are left to struggle on alone, and yet most managers indicated that they needed to perceive some overall planning of their career and to have some career counselling. Some career counselling may be useful for all managers but in particular for those who feel that their career is at a standstill. They may not be going to senior posts but some lateral moves might provide new stimulus and confidence. The Company will need managers with learning ability at all levels, if they are to have a strong management for the future.

Career counselling may enable people to have some feedback on their overall career progress. Career progress may be construed not only as movement up the traditional management hierarchy but also in terms of the development of a person's managerial abilities. Lateral moves need not be construed as the "end of a career".

To introduce the idea that lateral moves can be helpful would need careful career counselling. Guerrier and MacMillan (1978) suggest that moving young managers to a small company/ division can be an enriching move. They may gain new skills and expertise in an environment which gives them an overview of the business. Middle managers can gain from such a move on a part-time basis and older managers can make sideways moves from large to smaller organisations, thus freeing responsible posts for up-and-coming managers. They suggest that companies may need to develop such organisations in order to cope with career development in low growth periods. Child (1978) in a study of Dunlop Limited showed that in low growth periods direct production workers decrease in numbers. There is no corresponding drop in managerial numbers. Thus there may develop a "promotion blockage" for managers in mid-career when more senior personnel no longer move into newly created jobs as they might in a time of expansion. Lateral moves may help to alleviate this problem.

For Dunlop many of the traditional posts useful for Management Development, such as overseas postings and working in small businesses, are disappearing. Although the analysis in Chapter 7 used an aggregate score of environmental complexity, three clusters were found (Chapter 6, section 4.1) which were labelled "steady state", "crisis" and "innovative" environments. It is possible that "multifunctional" experience gives managers exposure to all of these and that these may be readily accessible environments which could be used in career development to develop self efficacy excpectations.

4.4.2 Supportive Environment

In order to develop a realistic confidence in their ability managers will need to tackle difficult or threatening tasks/jobs, success in which will reinforce perception of their ability.

Temporal (1978) discusses some of the blocks to on-the-job learning. Among these are Emotional-Motivation and Environmental Blocks.

Emotional-Motivation blocks occur where the learner feels insecure in certain situations, which cause him to be reluctant to take action on his ideas and beliefs. A manager may avoid entering into learning situations that are potentially painful and that might threaten his security or credibility and be reluctant to expose his weaknesses to others in the organisation. Environmental blocks occur because risk-taking is not encouraged in the organisation and so the manager does not experiment with new ideas and behaviours: the climate is such that a manager does not feel able to be honest and open about problems.

The Central Training, Management of People course, opens with a discussion about learning and what sort of behaviour enables people to learn and what sort of behaviour inhibits learning. As the managers discuss this, it often appears that they feel that they are expected to "have learned" and be "right" and they then expect the same of subordinates (some change their views as the course proceeds). If, however, these feelings are general in the Company they would result in Emotional-Motivation and Environmental Blocks to learning in the organisation. This may come back to the importance of training people in coaching skills; they may need to learn how to give support by trying to remove blocks to learning. Managers may not do this intuitively for their subordinates. That is not to suggest that people will always be "wrong" but that learning is a life-long activity; because you are called a manager does not mean you can be expected

Early responsibility was thought to be important in enabling people to enter "virtuous" circles. Twigger (1978), in a study of seven major companies in the engineering industry, found that job changes produced feelings of excitement and exhilaration but at the same time people felt anxious and tense, primarily because little effort was made to help people overcome their self-doubt relating to ability to cope in a situation. Changing to jobs involving new responsibility may be crucial points at which people need support from their manager if they are to cope successfully with the change.

Hogarth (1978) reviewing a management development programme found that the effectiveness of the programme was dependent, in part, on the supportiveness of the immediate working environment to which managers return after the programme, and also that the "critical-mass" (proportion of people from a single organisation or part of an organisation) was important. Contacts with other managers who have had a similar learning experience can help people to follow it through, back at work. This may have implications for trying to help managers provide supportive environments at work; the number of people being trained in coaching skills may be important in terms of the impact it will have on the organisation as a whole.

4.4.3 Mobility

The General Manager, Management Development was interested in the mobility of managers (see Appendix 8.1). Moving to another location was highest for the General Manager group. This may reflect the policy of moving people around the Dunlop organisation to vary their experience as people are given more and more responsible jobs. If this policy is pursued, future senior managers will be required to move around different divisions in the Company in different locations as part of their career development.

Of the 28 managers in the pilot study who were interviewed (Appendix 5.3), 17 said they had refused jobs at some stage of their career but the general view expressed was that willingness to be mobile was important if you wanted to get on. In the past, reasons for not wanting to move have often been to do with children's schooling. If children are at a crucial stage in their schooling, such as studying for exams, parents have been unwilling to uproot them. In the future another reason for not moving may become more frequent than at present: as women take on more responsible jobs, moving to another location may mean finding a new job for a partner. These may be difficult to find in many fields of work. The more responsible and specialised the work the less easy it is to step from one job to another. If a husband/wife is offered a promotion by the Company then that promotion may have to be weighed against the loss of a second, and possibly substantial, income and loss of satisfying work for the partner. In the future Dunlop may therefore find it has more refusals of promotions involving a change in location. The Company may need to take a flexible approach to Career Development. At least six of the managers in the pilot study thought that refusing a promotion had adversely affected their career in the long term. In the larger divisions, at least, more career opportunities within a division may have to be exploited. More women are expected in management positions. They may have special difficulties in being mobile: men are less likely to follow their wives' careers around the country than women are to follow husbands, for the appreciable future. Longer warning times of career changes (some managers spoke of only a day or two warning) may be necessary for a promotion to fit in with the whole family's needs. Many managers in this position may be people the Company needs to keep; it may therefore

have to reconsider its policy on mobility and development.

Sheehy (1976) considers that there are predictable crises in adult life. The mid-thirties crisis may be particularly important for careers. At this point people may try to accelerate their career, feeling that it is now or never to pull away from their peers and make it to the top. Alternatively, people may begin to completely reappraise their aspirations, perhaps deciding to start off on a second career. In career planning and development these changes need to be considered. Career development needs to be a two way discussion - what does the Company need/ offer, what does the manager aspire to? Failure to plan careers in close conjunction with the people concerned could mean either people do not accept promotions or that they do not see promotions as progress in their terms, even though other members of the Company see it as progress. In helping people to develop learning ability it is their own cognitive appraisal of events, not the construction placed on it by other people, which is important. Career development and support from others must be seen in order to be effective.

5. Action points

    1. Coaching and appraisal need to be made more of an integral
        part of every managers job (section 4.2).

    2. Training in coaching and appraisal skills need to be part
        of every managers' training (section 4.1).

    3. Central Training has few staff and in terms of "critical
        mass" can make little impact on the whole Company. Whole
        divisions need courses in appraisal and coaching skills.
        Plans have been made some time ago for appointing Manage-
        ment Development personnel to divisions. If these people are
        to be involved in running such courses, appointments should

be made of people with knowledge of learning theory, train-
ing methods, coaching and appraisal methods so that they
can help managers learn these skills. A frequent current
practice of appointing people with no prior knowledge of
training and development should be discouraged, or appointments
should be preceded by training for these people (sections
4.1, 4.3).

4. Career counselling should readily be available for
managers. Career Development should be seen to be active
(section 4.4.1).

5. More lateral moves may be needed. Managers need to be
encouraged to develop their full range of potential skills
- the Company will need "learning managers" (Chapter 4)
at all levels, to cope with a complex future. Managers who
are not destined for top posts still need to be motivated
and developed and lateral career moves need to be encouraged,
not as an end to a career but as part of self-development,
(section 4.4.1). This may be important for managers who
reach their peak by 40 years of age or less, who have 20+
years at work before retiring. The high retirement rate
in the Company may mean that many senior managers will be
appointed young in the future (section 4).

6. Managers who are likely to move into positions where they
will need to make policy-decisions could benefit from
courses on international business affairs before they
reach such posts. This could involve the use of external
courses (section 4.1.2).

7. A supportive environment is needed if managers are to
tackle new and demanding tasks. Whilst managers cannot
be wrong all the time, support is required particularly
in the early stages of a new job, where a manager is

learning many new skills. A climate of support is most

likely to be engendered when a large number of managers

in the organisation understand the problems of learner

faces. A coaching course, covering the learner's viewpoint

among other things, would be most effective if most exist-

ing managers in an organisation attended, within a short

space of time and, thereafter, newly appointed managers

attended (section 4.4.2). If managers are to be recruited

from outside, a policy of recruiting "professional"

managers who believe in these sorts of things may need to

be adopted.

8.   Steady state, crises and innovative environments may be

used to expose managers to a variety of experiences which

may develop their self-efficacy expectations (section 4.4.1).

Further research might investigate the importance of these

experiences for career development.

6.   To conclude

As in most companies, the future managers in Dunlop will

face novel, complex problems and opportunities. This research

has tried to answer some of the questions about the kinds of

activities that need to be done now to prepare people for the

future senior management posts. Although the model of learning

was developed by studying a sample of managers in Dunlop Limited,

and the recommendations are drawn from this model, respondents

were from a variety of divisions (in terms of size, location,

technology, management structures, functions). It is therefore

probable that the recommendations made here have implications

for people working in career development outside Dunlop Limited.

Appendix 2.1   Tyre Section of R & P Processing Industry

Major Factors Expected To Influence Manpower Requirements in the 1980's

1. National Economic Growth Rate.
2. Growth or Decline of UK Automotive Industry.
3. Development of Domestic Tyre Industries in Export Markets.

1. Response of Employees to Call for Increased Efficiency.
2. £ Stirling Realistically Valued on Foreign Exchange.
3. Steady GDP Growth on Home Market.
4. Adequate Profitability to Finance Investment.

1. Radically New Technology (Late 1980's).
2. Steady Growth in Electronic Control (Need Techicians).

1. Investment in Complex Automatic Equipment will Re-inforce Need for Multi-skilled Craftsmen and Specialist Technicians.
2. Requirement to Work Expensive Equipment More Efficiently will Extend Shift-working.

ECONOMIC   1

TECHNOLOGICAL   2

Environment of Change

POLITICAL/LEGISLATIVE   3

BEHAVIOURAL/SOCIAL   4
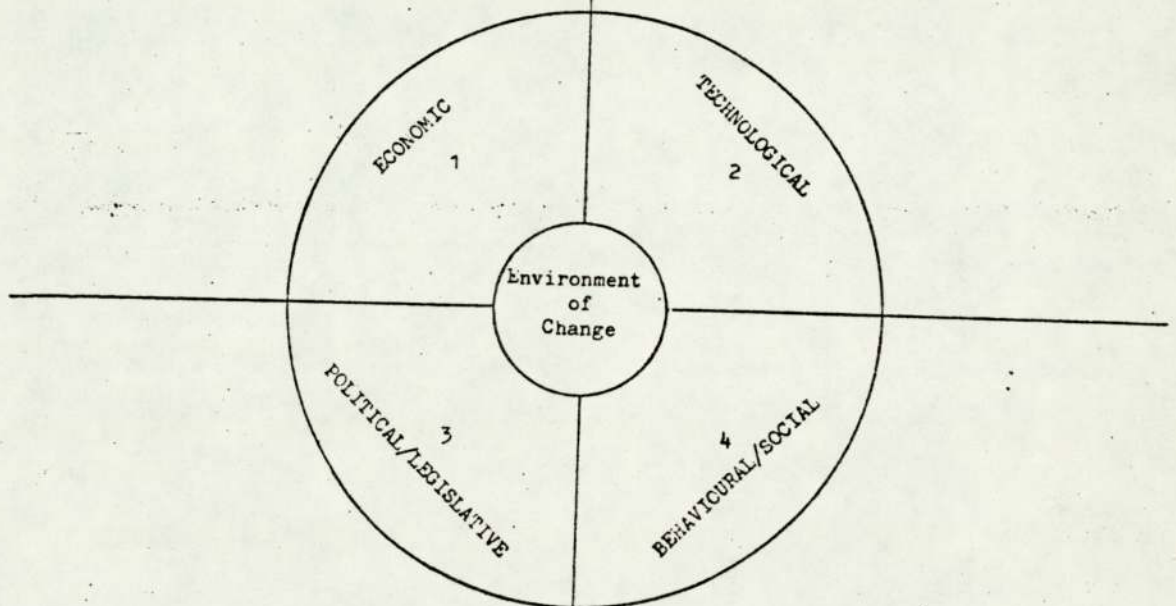
1. Tread Depth Legislation.
2. Government Transport Policy.

1. Industrial Democracy/Participation etc.
2. Increased Investment in Social/Environmental Areas – e.g. Health & Safety, Anti-pollution, etc.
3. Shift from Direct to Indirect Taxes.

1. Car Use Trends for Commuting and Leisure.

1. High Unemployment leading to Demands for Work-sharing, Reduced hours, etc.
2. Ageing Work Force; Burden of Payment of Retirement Pensions Increasing on Those Employed.
3. Increase in Shift-working to Provide more Jobs and Possibly Reduced Hours.
4. Increase in Need for Training and Retraining to Provide Flexibility.

Source: Paper produced by Rubber and Plastics Industry Training Board

G.R.G. SECTOR OF R & P PROCESSING INDUSTRY

Major Factors Expected To Influence Manpower Requirements in the 1980's

1. UK Economic Growth Rate.
2. International Competitiveness.
3. Growth or Decline of UK Automotive Industry.

1. Changes in Raw Materials Base for Some Products.
2. Shift Towards Higher Technology Products as L.D.C's Develop Their Own Basic Industries and Become Internationally Competitive in Mature Technologies.

ECONOMIC 1

TECHNOLOGICAL 2

Environment of Change

POLITICAL/LEGISLATIVE 4

BEHAVIOURAL/SOCIAL 3
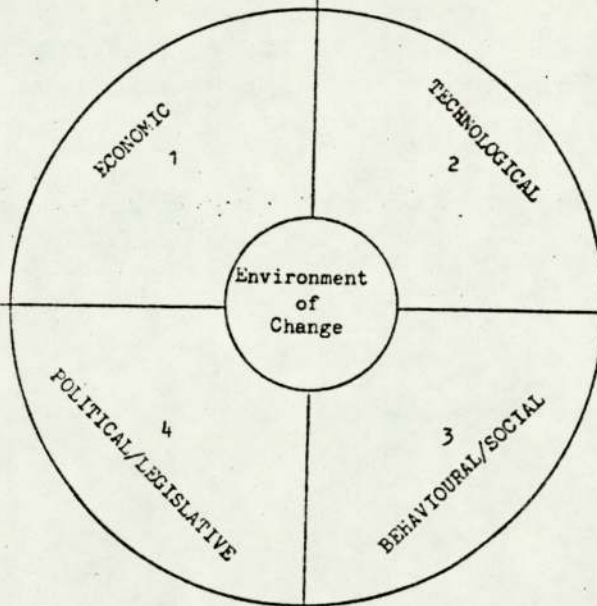
1. The G.R.G. Industry is so Diffuse and Varied that Legislative/Political Changes Affecting Particular Businesses are Unlikely to have Major Impact on the Industry as a Whole.

Excluding: Hoses, Seals and Washers, Belting, Foams, Footwear, Mountings, Balls.

1. Many Firms in G.R.G. Sector are Old, Traditional Businesses often Housed in Old Premises Using Old Equipment. If it does not make Economic Sense to Re-locate and Re-equip, these Firms may find it Increasingly Difficult to Retain Staff. Therefore, whilst the Overall Staffing Levels may be Static (or in Decline), the Turnover of Staff may Increase, thus Raising the Demand for New Entrants to the Industry.

Source: Paper produced by Rubber and Plastics Industry Training Board

RUBBER PROCESSING SECTOR   OF   R & P PROCESSING INDUSTRY

Broad Occupational Group	Expected Trend in Manpower Requirements in the 1980's
Managerial) Scientists & Technologists)	Remaining steady i.e. no marked increase or decrease in numbers relative to the size of the Industry as a whole.
Supervisory) Technical)	Comparative reduction in the numbers in both of these categories, reflecting a higher degree of skill and involvement on the part of the Operatives in inspection, maintenance, etc.
Administrative & Professional) Clerical)	A continuing reduction in the numbers in both of these categories as a result of further introduction of electronic data processing and other systems. Sub-categories e.g. Programmers might be expected to increase, but basic clerical functions should be reduced.
Craftsmen	Specialist skills such as Mould-Makers should be at least as well represented as now, and might possibly increase.
Operatives	Operative numbers should decrease relative to output as a consequence of new investment, improved methods, incentive payment schemes, etc.

These comments : (1) relate to the rubber industry only,

(2) assume that trends in the industry as a whole will follow the lead of the more enlightened firms,

(3) are related to the size of the industry as a whole, i.e. they do not make any assumptions about global economic trends.

Source: Paper produced by Rubber and Plastics Industry Training Board

Appendix 2.2   One hundred technical innovations very likely in the
last third of the twentieth century

1. Multiple applications of lasers and masers for sensing, measuring communication, cutting, heating, welding, power transmission, illumination, destructive (defensive), and other purposes.

2. Extreme high-strength and/or high temperature structural material.

3. New or improved superperformance fabrics (papers, fibres, and plastics.

4. New or improved materials for equipment and appliances (plastics glasses, alloys, ceramics, intermetallics, and cements).

5. New airborne vehicles (ground-effect machines, VTOL and STOL superhelicopters, giant and/or supersonic jets).

6. Extensive commercial application of shaped-charge explosives.

7. More reliable and longer-range weather forecasting.

8. Intensive and/or extensive expansion of tropical agriculture and forestry.

9. New sources of power for fixed installations (for example, magnetohydro dynamic, thermionic and thermoelectric, and radioactivity).

10. New sources of power for ground transportation (storage battery fuel cell, propulsion (or support) by electro-magnetic fields, jet engine, turbine, and the like).

11. Extensive and intensive worldwide use of high altitude cameras for mapping, prospecting, census, land use, and geological investigation.

12. New methods of water transportation (such as large submarines, flexible and special purpose "container ships", or more extensive use of large automated single-purpose bulk cargo ships).

13. Major reduction in hereditary and congenital defects.

14. Extensive use of cyborg techniques (mechanical aids or substitute for human organs, senses, limbs, or other components).

15. New techniques for preserving or improving the environment.

16. Relatively effective appetite and weight control.

17. New techniques and institutions for adult education.

18. New and useful plant and animal species.

19. Human "hibernation" for short periods (hours or days) for medical purposes.

20. Inexpensive design and procurement of "one of a kind" item through use of computerized analysis and automated production.

21. Controlled and/or supereffective relaxation and sleep.

22. More sophisticated architectural engineering (for example, geodesic dome "fancy" stressed shells, pressurized skins, and esoteric materials).

23. New or improved uses of the oceans (mining, extraction of minerals, controlled "farming", source of energy, and the like).

24. Three-dimensional photography, illustrations, movies and television.

25. Automated or more mechanized housekeeping and home maintenance.

26. Widespread use of nuclear reactors for power.

27. Use of nuclear explosives for excavation and mining, generation of power, creation of high temperature - high-pressure environment and/or as a source of neutrons or other radiation.

28. General use of automation and cybernation in management and production.

29. Extensive and intensive centralization (or automatic inter-connection of current and past personal and business information) in high-speed data processors.

30. Other new and possibly pervasive techniques for surveillance, monitoring, and control of individuals and organizations.

31. Some control of weather and/or climate.

32. Other (permanent or temporary) changes - or experiments - with the overall environment (for example, the "permanent" increase

in C-14 and temporary creation of other radioactivity by nuclear explosions, the increasing generation of CO_2 in the atmosphere, projects Starfire, West Ford, and Storm Fury.

33. New and more reliable "educational" and propaganda techniques for affecting human behaviour - public and private.

34. Practical use of direct electronic communication with the simulation of the brain.

35. Human hibernation for relatively extensive periods (months to years).

36. Cheap and widely available central war weapons and weapons systems.

37. New and relatively effective counterinsurgency techniques (and perhaps also insurgency techniques).

38. New techniques for very cheap, convenient, and reliable birth control.

39. New, more varied, and more reliable drugs for control of fatique, relaxation, alertness, mood, personality, perceptions, fantasies, and other psychobiological states.

40. Capability to choose the sex of unborn children.

41. Improved capability to "change" sex of children and/or adults.

42. Other genetic control and/or influence over the "basic constitution" of an individual.

43. New techniques and institutions for the education of children.

44. General and substantial increase in life expectancy, postponement of aging, and limited rejuvenation.

45. Generally acceptable and competitive synthetic foods and beverages (for example, carbohydrates, fats, proteins, enzymes, vitamins, coffee, tea, cocoa, and alcoholic liquor).

46. "High quality" medical care for undeveloped areas (for example use of medical aids and technicians, referral hospitals, broad spectrum antibiotics, and artificial blood plasma).

47. Design and extensive use of responsive and supercontrolled environ-

ments for private and public use (for pleasurable, educational, and vocational purposes).

48. Physically nonharmful methods of overindulging.

49. Simple techniques for extensive and "permanent" cosmetological changes (features, "figures", perhaps complexion and even skin colour, and even physique).

50. More extensive use of transplantation of human organs.

51. Permanent manned satellite and lunar installations - interplanetary travel.

52. Application of space life systems or similar techniques to terrestrial installations.

53. Permanent inhabited undersea installations and perhaps even colonies.

54. Automated grocery and department stores.

55. Extensive use of robots and machines "slaved" to humans.

56. New uses of underground "tunnels" for private and public transportation and other purposes.

57. Automated universal (real time) credit, audit and banking systems.

58. Chemical methods for improving memory and learning.

59. Greater use of underground buildings.

60. New and improved materials and equipment for buildings and interiors (for example, variable transmission glass, heating and cooling by thermoelectric effect, and electroluminescent and phospherescent lighting).

61. Widespread use of cryogenics.

62. Improved chemical control of some mental illnesses and some aspects of senility.

63. Mechanical and chemical methods for improving human analytical ability more or less directly.

64. Inexpensive and rapid techniques for making tunnels and under-

ground cavities in earth and/or rock.

65. Major improvements in earth moving and construction equipment generally.

66. New techniques for keeping physically fit and/or acquiring physical skills.

67. Commercial extraction of oil from shale.

68. Recoverable boosters for economic space launching.

70. Simple inexpensive home video recording and playing.

71. Inexpensive high-capacity, worldwide, regional and local (home and business) communication (perhaps using satellites, lasers, and light pipes).

72. Practical home and business use of "wired" video communication for both telephone and television (possibly including retrieval of taped material from libraries or other sources) and rapid transmission and reception of facsimiles (possibly including news, library material, commercial announcements, instantaneous mail delivery, other printouts, and so on).

73. Practical large-scale desalinization.

74. Pervasive business use of computers for the storage, processing, and retrieval of information.

75. Shared time (public and interconnected?) computers generally available to home and business on a metered basis.

76. Other widespread use of computers for intellectual and professional assistance (translation, teaching, literature search, medical diagnosis, traffic control, crime detection, computation, design, analysis and to some degree as intellectual collaborator generally).

77. General availability of inexpensive transuranic and other esoteric elements.

78. Space defense systems.

79. Inexpensive and reasonably effective ground-based BMD.

80. Very low-cost buildings for home and business use.

81. Personal "pagers" (perhaps even two-way pocket phones) and other personal electronic equipment for communication, computing, and data processing program.

82. Direct broadcasts from satelites to home receivers.

83. Inexpensive (less than $20), long lasting, very small battery operated television receivers.

84. Home computers to "run" household and communicate with outside world.

85. Maintenance-free, longlife electronic and other equipment.

86. Home education via video and computerized and programmed learning.

87. Stimulated and planned and perhaps programmed dreams.

88. Inexpensive (less than one cent a page), rapid high-quality black and white reproduction; followed by colour and high-detailed photography reproduction - perhaps for home as well as office use.

89. Widespread use of improved fluid amplifiers.

90. Conference television (both closed circuit and public communication system).

91. Flexible penology without necessarily using prisons (by use of modern methods of surveillance, monitoring, and control).

92. Common use of (longlived?) individual power source for lights, appliances, and machines.

93. Inexpensive worldwide transportation of humans and cargo.

94. Inexpensive road-free (and facility-free) transportation.

95. New methods for rapid language teaching.

96. Extensive genetic control for plants and animals.

97. New biological and chemical methods to identify, trace, incapacitate, or annoy people for police and military uses.

98. New and possibly very simple methods for lethal biological and chemical warfare.

99. Artificial moons and other methods for lighting large areas at night.

100. Extensive use of "biological processes" in the extraction and processing of materials.

Source : R. E. Weber "Human Potential and the Year 2000", Journal of Creative Behaviour, Vol 7, 1973, pp 145-148

Appendix 2.3   Two possible future uses of computers

Scenario 1

Computers will prove so powerful, via efficiency in operations and improvement in decision-making techniques, that data technology specialists (systems designers) will become dominant. They will design the information systems and the decision tools upon which top management depends; they will design the information systems, the project structures, and the procedures used by the operating sections of the organization.

Because systems design is a complex, highly technical field, only the few experts will be able to participate in systems design decisions. True, top executives will still make the major entrepreneurial decisions (about, for example, which fields to invest in and which to leave); however, these decisions will often be made with the aid of quantitative decision tools that the top executives use but do not fully understand.

At the middle levels, managers will have to take on faith the data, structures, and procedures given them. Few will be the opportunities for middle- and lower-level managers, lacking expertise in systems design, to participate in any significant decision making.

Operating units, typically project structures, will be fully integrated operations. Departmentalization as it is now known will have disappeared; work will move in an integrated flow rather than from department to department. Decision criteria will optimize (by focusing on the overall organisational objectives) rather than suboptimize (by focusing on departmental objectives, some of which may be in conflict with overall objectives). The results produced by lower-level managers along the line of work flow will not be identifiable or measurable. Accordingly, only the top managers for projects can be

held accountable for results, and their responsibility will be diluted by the fact that they are operating a system designed by others. Thus, MBO, with its appraisal-by-results feature, will be workable, if at all, no lower than at the project-manager level.

Because complex information systems and automated operations are so expensive to design and build, there will be pressure to move ahead rapidly without fitting them to the people involved; rather the people, what few of them there will be, will be selected for compatibility with the automated technical system. Also, the great cost of changing such systems will bring resistance to change once a system has operated successfully. Paradoxically, although the coming era is seen as an era of rapid change, it will also be an era of inflexible, massive computerized systems.

In sum, technology specialists known as systems designers will dominate all but the very top level of management, and they will have considerable influence at that level, too. Managers at other levels will have little responsibility and little chance to participate in decision making. Established systems may show strong resistance to change. The form of leadership used will, perhaps, be called techno-logical bureaucracy - impersonal, relatively rigid, based on expertise in information technology and automated equipment.

Scenario 2

Professional managers will have long since learned that a system (manufacturing, information, or other type of operation) can be designed by the finest engineers yet fail because it has neglected human factors. In fact, managers will have become so professional that they will view an organisation as a social system as well as an information system, a technical system, and an economic system. They will know that, for example, every feature designed into the technical system may affect the social system by affecting the type of workers needed, the type of leadership required by those workers, the type of training needed by those workers, or any of many other aspects of the social system. They will think in terms of human/machine systems rather than machine systems; they will balance concern for human values with concern for production.

Top-level professional managers, now truly generalists, will through OD procedures, diagnose each situation (the personalities of key executives, the demands of the technology, the types of workers required etc) to decide what instructions to give the systems designers. In some cases they will order a highly centralized decision-making system that offers little opportunity for participative patterns of management; in other cases they will order just the opposite or something in between.

The important point is that the higher-level executives will have sufficient understanding of information technology and quantitative decision techniques to be able to direct the system designers intelligently rather than be somewhat mystified by the complexities of systems analysis and systems design.

Middle- and lower-level managers will be freed of most of the detailed supervising of operations because operations will be automated; nonmanagerial technicians will maintain the operations. The managers will also be largely freed from data gathering and interpretation, because data will be gathered automatically and processed into just the form they need. They will be freed from having to pass data to superiors and subordinates, since each manager will receive the data that is needed. Thus, these managers will have time to plan improvements, time to be creative, time to coach their subordinates, time to work on improving organisational effectiveness.

Information technology will have advanced to the point where changes can be made readily in established systems. Thus, when managers at any level work out a desirable change, systems specialists can implement that change, at reasonable cost and without disrupting the total system. Also, as projects change from stage to stage, information systems can be readily adjusted.

Those systems that have been designed for delegation of substantial decision-making authority to lower levels and to encourage participative management will also provide organizational units (job structures and work flow) that make possible allocation of responsibility for the decisions made. Thus the appraisal-by-results features of MBO will be feasible at a number of managerial levels. In sum, managerial leadership will be situationally effective, the type of leadership being contingent upon the situational factors. There will be increasing use of participative styles, but other styles will be used too. Information technology specialists will serve managers rather than dominate them.

Source: Buchele R. B., The Management of Business and Public Organisations, McGraw-Hill, 1977 (pp 192-194).

APPENDIX 2.4 SUMMARY OF FUTURE'S FORECASTS

Author	Employment	Technology	Social	T.U.	Political	Economy	Industry
A. Toffler (1974)		"Futureshock" rate of change too fast to cope with. Decreasing time between invention & innovation.	World population doubling in 11 years from 1960.			Output of goods & services doubling every 15 years or less in advanced society.	
A. Burgess (1977)			Getting more money not better goods & services will be driving force. Leisure dominated by T.V.; vandalism & mugging will increase.	Britain will be dominated by T.U.'s			Private enterprise will have to cope with more sabotage by Unions.
P. Hall (Own View) (1977)				Long interruptions of supplies in electricity, railways, postal service, water, public health & education.	Possible swing to extreme left or right as a result of ineffective Labour & Conservative policies.	Long term economic decline. Inflation rising.	Less investment in industry by rich who will prefer to invest in antiques.
S. Finer (1977)			Move towards a more egalitarian society.			Modest prosperity due to N. Sea oil in U.K.	Gross overmanning British industry's productivity falling further behind continental & N. American levels. Small private sector with much of industry being nationalised.
K. Kumar (1977)							Services are what Britain is good at - e.g. in 1975 Insurance & Banking Services earned 2% amount in exports as total industry. Britain should concentrate on selling education, B.B.C. services. art & entertainment to earn foreign money in the future.
H. Kahn & B. Bruce-Briggs (1972)		"Green revolution" - better agricultural techniques could result in food surplus rather than shortage world wide. Technological crisis in mid 80's. Technological possibilities will cause moral & physical threats e.g. in nuclear energy, genetics, chemical waste products. Possibly more consumer, environmental pressure groups on large scale.	World wide community developing with similar urban life styles in industrial world with similar things to hear, read & see (in different languages). Better communication & transport linking world together. Charity & social action becoming more institutionalised & less community caring. Social alienation a growing problem.		Survival of nation state system but a politically more multipolar world - relative decline of the 2 superpowers (U.S.A. & U.S.S.R.) rise of Japan as a superstate. Germany (BRD) will make a political recovery. Strengthened E.E.C. will increase its political influence.	World wide economic development & progress particularly in Japan, parts of Latin America, non Communist & Pacific Asia & South Europe. Low growth rate in Britain, Africa & most of Latin America & so wealth gaps will not change appreciably. Greater understanding of process & techniques for sustained economic development.	

Source								
"Plan Europe 2000" (Chairman, Peter Hall) (1977)	Population ageing. Womens role changing likely to be more women at work requiring flexible provision of more nurseries. Over 75's will constitute 30% of population by late 1980's. Increasing unemployment in Europe, particularly for young. Retired people may want to have some form of employment. Education & training will need to be a life long affair to meet needs of structural changes in skills, knowledge.	More technical hazards similar to Thalidomide, cyclamates, aerosols. Increasing demand for better testing of products for long term hazards. Information explosion - use of computers, telecommunications, microfilm, video-cassettes. This will cause problems for people who will have to sift, code & retrieve relevant information. A second problem is privacy - increasing access to information about individuals. Industry will be increasingly called upon to control waste products.	Guerilla warfare & terrorism likely to continue & increase. Increasing urbanisation in the industrial heartland (Birmingham-Milan-Dortmund). Increasing alienation at work, boredom at work. Break up of the family unit continuing. Alienation & social disintegration manifest in strikes & crime. Alienation from environment accelerated by planners breaking up old communities in cities and replacing them with structures allowing little social interaction. The degree of inequality of wealth & income will continue. For the unemployed (youth, disabled, structurally unemployed) the gaps could increase. Social class will increasingly depend on organised power with the highest classes being the Political, Economic & T.U. elite followed by Professional & Bureaucratic then Middle Mgmt, Unionised manual & service employees. With the lowest being the unorganised groups of all kinds.	T.U. power increasing - likely increased unionism in White Collar areas. T.U. elite becoming powerful.	Few international legal & political institutions but industry, commerce & finance becoming more international. Increase in violence, guerilla warfare & persistence of chronic confrontations (Arab-Israeli, India-Pakistan, U.S.A-Soviet-China). Turmoil in Africa & Latin America likely to continue. Five political possibilities:- (i) No change - Europe divided in two, half under U.S. influence, half under U.S.S.R. influence. (ii) Structural low growth, low investment, low profit, high wage rates, increasing unemployment. Can only compete with Third World developments if Europe unites & co-operates in research & development & uses it's mass of expertise in specialised products. This could lead to a very strong E.E.C. with any new communist governments aligning themselves with the E.E.C. rather than the U.S.S.R. (iii) Nation states strengthen & policies of selective protectionism predominating (iv) Regions which are poor, not in the industrial heartland breaking away (e.g. Scotland, Brittany, Pays-Basques, Mezzogiorno) fragmenting Europe.	Inflation an perennial problem. Inequity of income (including access to goods, services, education, health, recreation) between urban & rural regions & wealth & less wealthy sectors within cities, likely to continue.	Traditional values declining (duty, patriotism, work achievement, puritan ethic) resulting in diminishing "meaning & purpose" in peoples' lives. As a result of the ideologies of Christianity, Communism & Capitalism to make them acceptable a consequent mosaic culture with an underlying ideology of freedom, creation, spontaneity...	Confrontation between industrialised economies & Third World suppliers with supplies becoming erratic & short, resulting in greater stress laid on service sector. Europe's future is in the production of sophisticated products with high quality & reliability, long life-span & non-polluting. High labour intensive industry will decline because it cannot compete with the cheap labour of the Third World (except in areas such as haute-couture fashion). The Service sector will continue to rise in importance. To avoid problems of increasing cost of raw materials from primary producing countries & erratic energy supplies, Europe can - concentrate on high technology, high skill areas - concentrate on areas that substitute capital in the form of new technology for energy - concentrate energy intensive & material intensive processes in regions where production costs are low (e.g. petro-chemical production in Near East).

					(v) Unlikely but possible possible explosive changes in E. Europe. Most probable:- divided Europe (E&W) nation states continue as basic powers but with EEC gaining strength in technical & economic areas. Partial devolution in the nation states.		- guarantee supplies by promising more development aid to Third World countries.
C. Leicester (1972)	Population likely to grow by 20% by end of Century.		Increased spending on Social Services. People will have better housing, more cars, spending more on leisure goods & telecommunications. More people in higher education, Shorter working weeks, longer holidays.			By turn of Century level of economic activity in UK will be 2x that of present. Production will increase by a factor of 2.2 to 2.7. Total flow of goods & services 3x that of the late 60's.	More resources devoted to investment rather than consumption.
D. Bell (1976, 1974)			Technologists, scientists & researchers increasing in importance as society depends on theoretical knowledge & innovation → demand for things educated people often want (amenities, good education system etc.)				Post-industrial society. - Most people in service sector.
F, Hirsch (1977)				There are Social limits to growth - individual economic activity has collective results.			
J. Robertson (1977)			People involved in creating things for themselves with less institutionalised caring, health & education. Importance of unpaid work, (e.g. housewives) being realised. Reasons:- value of goods often depends on their scarcity e.g. joy of motoring decreases as no. of cars increase. Sense of alienation in an increasing institutionalised world grows. High			Informal sector of economy increasing in importance.	Post industrial society with many people being fairly self sufficient in service sector.

F. Sadler (1978)	High unemployment...	Idea of wealth first, social well being after wearing thin (why produce more sweets so you can have more dents?) — wages cease to compensate. Social costs of creating wealth are too high. Quality of life, self-realisation, egalitarianism mainspring of life in future.	Service sector (professional, financial & public) will exceed in employment numbers mining, manufacturing & transport by 1984 in UK (already does in USA). Countries such as Taiwan, Korea, Japan can export goods to UK cheaper than cost of raw materials here; therefore need to move to services & highly sophisticated goods.
W. Barman (1978)		More control over technology – pressure groups, commissions of inquiry. Dominant cultural paradigm – self realisation & ecological ethics. People will demand meaningful work roles & education throughout life.	
W. Philips (1978)			Kondratiev's theory suggests we can expect a crash the size of the 1929 Wall Street crash in 1984, followed by long economic decline.
Cambridge Economic Policy Group (B.L. Sedgemore 1978)	High unemployment in coming decades. Need to create 500,000 jobs in industry & 500,000 in construction & public utilities.		High inflation, low growth in coming decades. To raise world trade need to have import controls, sustained investment & more protectionism. Cannot afford a decline in British industry & disaster if we rely on the service sector.

			Unwillingness to work in poor conditions as workers aspirations rise.
Rubber & Plastics Industry Training Board.	½ of skilled manpower in industry is over 50. Possibility of work sharing, reduced hours to alleviate high unemployment rates. Technological improvement leading to reduction in numbers in some operative and clerical areas. Need for training & retraining to provide flexibility.		
Central Policy Review Staff (1977)	Difficult to predict size of population in future (forecasts for 1990 vary from 70 million (1979 based) with present population of 56 million). Changes in birth rates (size of family, spacing of children) will affect the no. or working women. A slight peak is expected in the late 60's to 1990 when the large no. of women born in the 60's start families.		
T. Forester (1978)	For unemployment to go down to 800,000 by the early 80's at least 1.4 million jobs need to be created, whereas over the last year (1978) there has been a net loss of over 164,000 jobs. The number of 16 year olds entering the labour market will be very high over the next few years due to the high birth rates in the 60's and 50's. This will be accompanied by a low retirement rate (low birth rates in 1914-18). More married women seeking work. Early retirement likely. More People in higher education These two will offset unemployment trend very slightly.		

Marked increase of labour force of about 170,000 extra each year for next 5 years. 0.5 million may be unemployed by end of century. 2½% growth rate needed to keep unemployment at 1.5 million.

APPENDIX 2.5

GRAPH DEPICTING THE NUMBERS OF HOME UNDERGRADUATE ENTRANTS TO
UNIVERSITIES FOR THE YEARS 1988/89 AND 1995/96 AND ACTUAL NUMBERS FOR
1976/77.

University
Entrants
(G.B.)
Thousands

110 —

100 —

90 —

80 —

70 —

60 —

50 —

40 —

30 —

20 —

10 —

0 —

1976/77
- Men aged 26 and over
- Women aged 26 and over
- Women aged 21–25
- Women aged 20 and under
- Men aged 20 and under

1988/89
- Women aged 26 and over
- Men aged 26 and over
- Women aged 21–25
- Men aged 21–25
- Women aged 20 and under
- Men aged 20 and under

1995/96
- Women aged 26 and over
- Men aged 26 and over
- Women aged 21–25
- Men aged 21–25
- Women aged 20 and under
- Men aged 20 and under

Year

Source: DES Discussion Document "Higher Education into the
          1980s", 1978

APPENDIX 5.1

Learning Style Inventory

This inventory is designed to assess your method of learning.
As you take the inventory, give a high rank to those words which
best characterise the way you learn and a low rank to the words
which are least characteristic of your learning style.

You may find it hard to choose the words that best describe your
learning style because there are no right or wrong answers.
Different characteristics described in the inventory are equally
good. The aim of the inventory is to describe how you learn, not
to evaluate your learning ability.

Instructions

There are nine sets of four words below. Rank order each set of
four words assigning a 4 to the word which best characterises your
learning style, a 3 to the word which next best characterises your
learning style, a 2 to the next most characteristic word, and a 1
to the word which is least characteristic of you as a learner. Be
sure to assign a different rank number to each of the four words in
each set. Do not make ties.

1. Discriminating	– tentative	– involved	– practical
2. receptive	– relevant	– analytical	– impartial
3. feeling	– watching	– thinking	– doing
4. accepting	– risk-taker	– evaluative	– aware
5. intuitive	– productive	– logical	– questioning
6. abstract	– observing	– concrete	– active
7. present-oriented	– reflecting	– future-oriented	– pragmatic
8. experience	– observation	– conceptualisation	– experimentatio
9. intense	– reserved	– rational	– responsible

FOR SCORING ONLY

CE _____	RO _____	AC _____	AE _____
234578	136789	234589	136789

Source: "Organisational Psychology : An Experiential Approach"
2nd Ed D. A. Kolb, I. M. Rubin, J. M. McIntyre, Prentice-
Hall, Englewood Cliffs, 1974, pp 23-24.

Learning Style Profile

Norms for the Learning Style Inventory
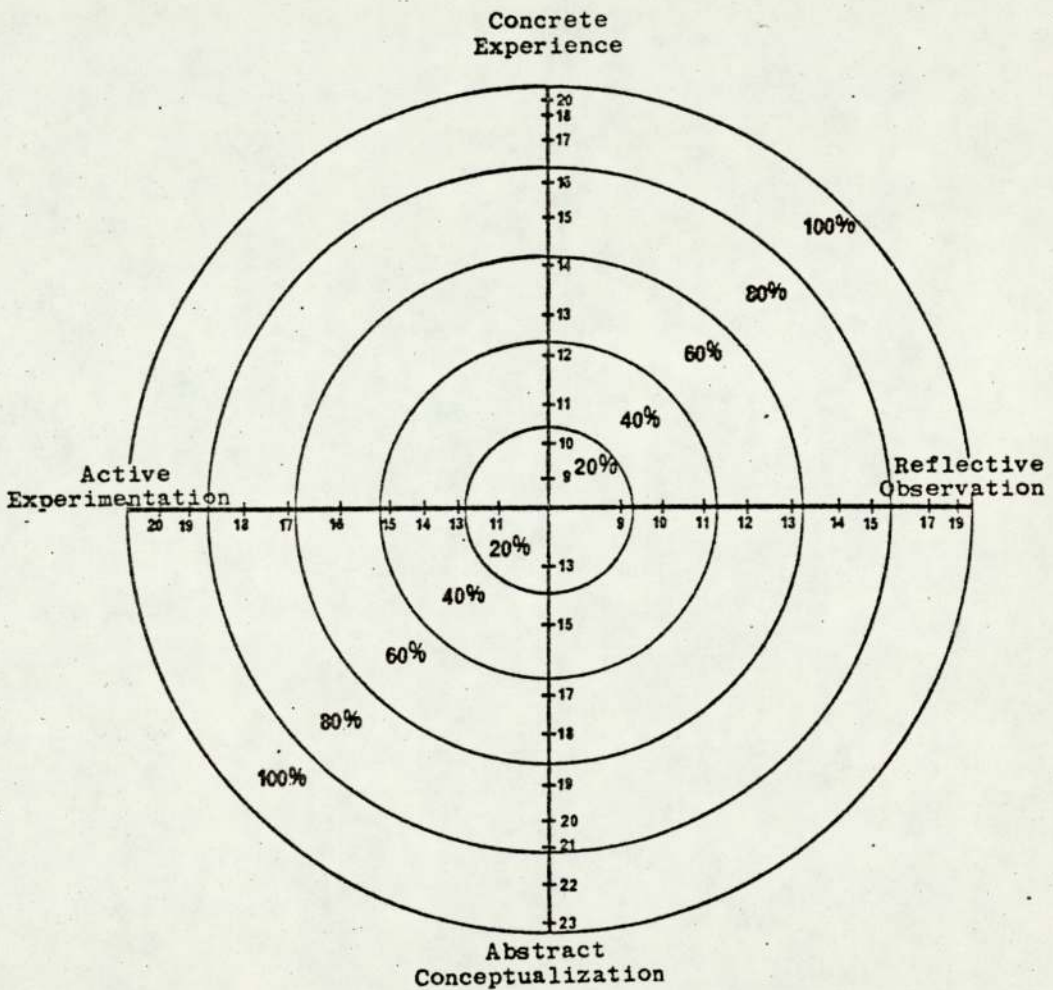
The concentric circle represents percentile scores on the
combined responses of 127 practicing managers and 512 Harvard
and M.I.T. graduate students in management. (For example, a
raw score of 21 on Abstract Conceptualization means you scored
higher on this dimension than 80% of the managers and students
tested, a score of 24 would indicate you scored higher than
anyone in the population on which these norms are based).

Source: "Organisational Psychology: An Experiential Approach"
         2nd Ed D. A. Kolb, I. M. Rubin, J. M. McIntyre,
         Prentice-Hall, Englewood Cliffs, 1974, pp 23-24.

APPENDIX 5.2

QUESTIONAIRE ABOUT KEY ACTIVITIES MANAGERS ARE CONCERNED WITH

I am interested in categorising the different types of demands which jobs in various functions make on the managers of the company.   As a starting point I would like to know what are the key activities which persist over time, in your type of job in the company.   I would like you to try to think of not only the problems peculiar to your particular job, but of the job of " *Buying Manager* " in general.

Here are some guidelines to help you think about this.

A   Some tasks require you to be sensitive to other peoples feelings and reactions to your ideas; for example, in developing teams, training subordinates, in liaising with people outside your department or outside the organisation where relationships are important and where people may have different objectives.

B   Some tasks require you to think about things from a variety of different viewpoints, to reflect on ideas and to choose the best way of tackling a problem when there is no "right" answer.   For example, in looking for new opportunities for the company, in initiating controlled changes, in looking for new information from a variety of sources to understand the company (or department) and the environment in which it operates.

C   Some tasks require you to sort out what meaning can be attributed to a problem, to sort out from a collection of observations what the right answer to a problem is, to be able to evaluate the true worth of information for example, in evaluating proposals and authorising their implementation, in dealing with a lot of information on trends, internal operations and producing analyses, forming policies and strategies, in solving a problem where there is a breakdown in a system.

D   Some tasks require you to choose a course of action and do things to put problems right; for example, in dealing with crises and things disturbing the smooth running of the organisation and removing the cause of the trouble, in establishing basic work systems and deciding how and who will do what.

I would like you to list the key tasks in your sort of job which persist over time (i.e. not the one-off task which occurs very rarely) :

List 3 tasks which take up a great deal of your time.

List 3 tasks which have the greatest impact on your achievement in your job.

(These two categories may overlap: if so, list the 6 most important tasks of your job, in terms of achieving the objectives set).

Limit yourself to 6 unless you feel this would miss out things
equally important to the 6 stated.

```
              ( 1.
              (
       time   ( 2.
              (
              ( 3.

              ( 4.
              (
     impact   ( 5.
              (
              ( 6.
```

Do you feel any of these could be considered to come within the categories
outlined in the guidelines?   Remember the examples are not inclusive.
If so, please indicate by letter the category to which you feel each key
task belongs.

Thank you.

APPEND IX 5.3   a)   FORMAT FOR INTERVIEWS

1. Could you please describe the resposibilities of your present post
   and the sort of things you do now?

2. Activities (after Mintzberg)

   These are some descriptions of what managers do. Rate each description
   on the scale I give you. Give the first rating you think of, as this
   the best answer. There are no right or wrong answers.

   Applicable to my job   Not
                    0 ─────────────────────────────────── 7 applicabl
                                                              to my job

2.1 I am a troubleshooter. I concentrate on things which disturb the
    smooth running of the organisation. I seek to remove immediate causes
    of trouble and to buy time to put other things right in due course.

2.2 I deal with a lot of information on, for example, internal operations;
    Ideas; Trends; external events; I produce analyses.

2.3 I liaise with people outside the organisation. They can help me and
    sometimes I can help them. I pass on information to colleagues inside
    the organisation.

2.4 I take charge when the organisation is involved in important
    negotiations with other organisations.

2.5 I initiate policies where important decisions are made.

2.6 I design and initiate major changes in the organisation or I am
    involved in policy formulation.

2.7 I evaluate proposals submitted to me and I authorise significant
    decisions before they are implemented.

2.8 I am always on the look out for new opportunities that the company
    could exploit.

2.9 I decide the basic work system in my area of the organisation. I
    decide what will be done, who will do it, and what methods will be used.

2.10 I am responsible for hiring, and training subordinates and for
     putting them forward for promotion. I have authority to recommend dismissal
     (if necessary)

2.11 I continually seek information from a variety of sources so as to
     develop an understanding of the organisation and its environment.

3. Current job activities

3.1 Job performance is often very hard to measure, but what in your opinion would distinguish someone who could make a success of your job from someone who would not succeed, or particular qualities he would need.

3.2 Do you feel you have scope for development of your own interests in your present job?

3.3 Does your present job provide you with sufficient interest for you to remain in it for some time? If not, what would you be looking for?

3.4 What proportion of your work is laid down for you?

mostly
laid   mostly decided
down   7 _____ 0   by me.

3.5 What is the longest time for which you can plan ahead in your job? What is the average time for which you can plan ahead?

3.6 What is the longest time in your job before you know the results of a decision you have made? What is the average time before you know the results of a decision you have made?

4 Career

4.1 How did you learn to do each of your jobs since you left full time education?

4.2 Do you feel that what you learned in previous jobs was of value in subsequent jobs, even if you didn't realise it at the time? If so can you give examples?

4.3 Do you feel that your promotions were planned for you, or do you think you have made your own opportunities? Do you think future promotions will be planned or made by you?

4.4 Have you ever declined a move for personal reasons? If so, do you feel that this has effected your career prospects in any way? Do you regret the decision or are you happy with it?

4.5 How did you get to hear of your present job?

4.6 Have you any professional qualifications which you think will help you follow your career?

4.7 Do you think you have the opportunity to hear of other jobs that you may wish to apply for, whilst you are in your present position?

4.8 What do you feel a manager in your position is required to do to help his subordinates improve their present performance and to prepare them for promotions?

4.9 Is it sometimes difficult to reconcile the needs of your subordinates with the needs of your area or of the company?

5   Job Change

5.1 Are there any important ways in which the things you do in your job today differ from the things you did when you were first appointed to the job?

5.2 If you were in this job in five years time, what things do you think will have changed about it?

5.3 Can you foresee changes in the Company or the business environment that may affect jobs like yours in the future?

6   Climate measures

Think of the area of the organisation which you know well and in which you are a subordinate of a team, as well as head of a function. Mark on the scale a point which you think best describes your situation.

6.1 There is little or no planning of the work that comes my way

7 _____ 0

We are involved in the planning process and feel committed to the deadlines agreed.

6.2 Work relationships are based on traditions with strong emphasis on vertical hierarchical structure.

7 _____ 0

People get together around common tasks as the need arises, and pay little attention to formal channels.

6.3 You are expected to do as you are told and not question decisions.

7 _____ 0

People are normally allowed to contribute to decisions which ahve major impact on their work or when they have knowledge to contribute.

6.4 People only take limited action on request.

7 _____ 0

People can take initiative within agreed broad guidelines

6.5 People are guided more by pressure from above than by a sense of committment.

7 _____ 0

People do things because they have a common sense of purpose and not because they are driven.

6.6 The section (dept.)
    believes in throwing people in
    at the deep end.   7 _____ 0

There is a real effort to
diagnose people's training
needs and to satisfy them.

6.7 There is considerable
    friction and lack of   7 _____ 0
    cooperation between
    section/departments.

Sections/departments work
well together to achieve
maximum overall effectiveness.

6.8 You're all right in this
    team (dept.) if   7 _____ 0
    your face fits.

People here are judged very
largely on performance against
agreed standards and objectives.

APPENDIX 5.3 continued

b) REPORT ON

INTERVIEWS CONDUCTED WITH SENIOR DUNLOP MANAGERS

CONTENTS

INTRODUCTION

SECTION 1. CURRENT JOB ACTIVITIES

    1.1 Relations to others
    1.2 Business Understanding
    1.3 Career Objectives
    1.4 Job Interest
    1.5 Time Span
    1.6 Activities of the manager
    1.7 Work laid down for managers

SECTION 2. CAREER

    2.1 Learning to do the job.
    2.2 Accumulating Experience.
    2.3 Management Planning
    2.4 Professional Qualifications
    2.5 Training Subordinates.

SECTION 3. CHANGES IN THE JOB

    3.1 Changes over the last five years
    3.2 Changes in the next five years

SECTION 4. ORGANISATIONAL CLIMATE

    4.1 Looking at Climate rating scales.

CONCLUSIONS

FORMAT FOR INTERVIEWS

INTERVIEWS CONDUCTED WITH SENIOR DUNLOP MANAGERS

(DECEMBER 1975 - JANUARY 1976)

INTRODUCTION

The purpose of these interviews was to look at the
activities of the senior manager in Dunlop, at his
career pattern and training, at the training he is
currently giving his subordinates and at the way
he perceives the environment in which he works.

Several of the questions were open ended, to which
the manager could respond at length.   The rest
were rating-scales for which a single figure was
required as a response.   The report which follows
is a summary of the findings from these questions.

For the open ended questions the main points drawn
out for comment are those things which occurred
frequently or predominantly in one function or in
some other way appeared to be important and stood
out in the raw data.

The rating scale questions have been grouped approp-
riately and the tables will be presented and these
commented upon.

SECTION I.   CURRENT JOB ACTIVITIES

1.1 RELATIONS TO OTHERS

Whilst the degree of emphasis changes from function to function, the overwhelming impression (with the possible exception of the finance section) is one of senior managers in all functions being primarily concerned with people - either personally in that their own personality is important (e.g. ability to sell ideas, take risks, see ahead clearly, have analytical ability) or more often with relating to other people - the ability to influence and motivate others, communicate with and get on with others, comes through time and time again.

1.2 BUSINESS UNDERSTANDING

A general understanding of business principles and also of the Dunlop organisation and its environment seem very important. Technical/Professional competence is seen as being particularly important in GMS and Finance.   Managers often stress the importance of an analytical ability and approach.

Personnel people seem to be required to be particularly resilient!

1.3 CAREER OBJECTIVES

This depended at this level on the managers age and present post because some managers who had reached their objectives and were approaching retirement had no career objectives as such.   For the others the three main areas which seemed important were

      (1)   Carrying more responsibility.

      (2)   A desire to improve on their own area or function before leaving it.

      (3)   Step into General Management, if not already there, or a position on the board.

1.4 JOB INTEREST

Most of these people felt they did have scope for development of their own interests, although time was mentioned as a limiting factor and most felt that their job was challenging and held their interest.   Factors which affected this were

      (1)   Frustrations in the job ("batting against a brick wall" feeling)

      (2)   Having been long enough in the job to have exhausted all the new lines of interest.

      (3)   Team well trained enough now to get on with it.

1.5 TIME SPAN

   a) Planning ahead.

It is difficult to see definite trends or patterns here.   Those involved in policy formation are planning furthest ahead, regardless of function.   Finance seems fairly short term but

we cannot say that other functions are not planning in the
short term - e.g. subject Z talks in terms of only planning
a month ahead.   People found it difficult to assess how long
ahead they are planning,possibly because their jobs are varied
e.g. planning for staff and management plan, planning for
function/area for future - to planning meetings and trouble-
shooting.

b) Receiving results of a decision

Again people found this difficult to answer because so often,
they said, results are not black and white and it would often
be difficult to determine what would have happened had an
alternative decision been made.

Many pointed out that in policy formation the results are never
known, particularly as plans are constantly adjusted.

1.6 ACTIVITIES OF THE MANAGER (after Mintzberg)

The data is shown in Table 1.   The scores have been roughly
divided so that one third of respondents fall into each category
of low applicability (0-4.5), medium applicability (5-6) and
high applicability (6.5 or 7).   The frequency with which each
activity appears in these categories for all respondents has
then been calculated.   On the basis of this the activities
have been divided into codes A,B,C,D and E.

A =   Activities which score very high for the majority.
B =   Activities which score medium for the majority
C =   Activities where there is a spread of roughly equal
      numbers across all ratings.
D =   Activities with only a minority of high ratings.
E =   "Negotiation" which has a low number of medium ratings
      i.e. is a bimodal distribution.

This means that the most applicable activities for the senior
managers interviewed were:-

(i) Deciding the basic work system of his area of the
    organisation - deciding what will be done, who will
    do it and what methods will be used.

(ii) Responsibility for hiring and training subordinates
     and for putting them forward for promotion. Having
     authority to recommend dismissal.

The next group of activities which are less applicable than
those (most frequently rated as medium applicability) are

(iii) Always being on the lookout for new opportunities
      the company can exploit.

(iv) Initiating policies where important decisions are made
     or being involved in policy formation.

(v) Continually seeking information from a variety of
    sources in order to develop an understanding of the
    organisation and its environment.

There was an even spread of high, medium and low applicability
for   .

MINTZBERG CATEGORIES FOR SENIOR MANAGERS

Q.No.	Type of Activity	Code	Degree of Applicability to respondents. n= 28 = 100%		
			Low Applicability Rated 0 - 4.5	Medium Applicability rated 5 - 6	High Applicability rated 6.5 or 7.0
			%	%	%
2.9	Programmer	A	10.7 (3)	21.5 (6)	67.8 (19)
2.10	Team		10.7 (3)	32.1 (9)	57.2 (16)
2.8	Opportunity	B	17.9 (5)	42.9 (12)	39.2 (11)
2.5	Policy		10.7 (3)	75.0 (21)	14.3 (4)
2.11	Exploration		25.0 (7)	42.9 (12)	32.1 (9)
2.3	Contact	C	35.7 (10)	35.7 (10)	28.6 (8)
2.2	Information		39.2 (11)	*28.6 (8)	32.1 (9)
2.1	Trouble shooter		42.9 (12)	39.2 (11)	17.9 (5)
2.7	Authority	D	46.5 (13)	39.2 (11)	14.3 (4)
2.6	Change		57.2 (16)	35.7 (10)	7.1 (2)
2.4	Negotiation	E	60.6 (17)	17.9 (5)	21.5 (6)
	means		32.1 (9.0)	37.5 (10.5)	30.4 (8.5)

* This row does not add up to 100% owing to rounding.

TABLE 1-1   SHOWING HOW APPLICABLE TO THEIR JOB MANAGERS RATED THE ELEVEN ACTIVITY CATEGORIES TAKEN FROM MINTZBERG.

SKETCH GRAPHS ILLUSTRATING FREQUENCY DISTRIBUTIONS OF
ENDORSEMENTS OF EACH ACTIVITY CATEGORY FOR HIGH,
MEDIUM AND LOW SCORES.

The activities have been grouped according to their
differing distributions.

A   Rating frequencies ascend from low to high.
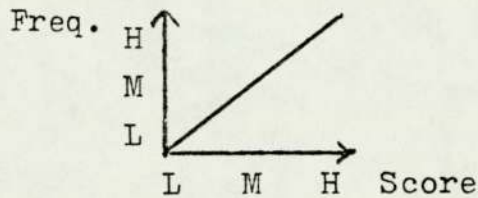
B   Frequencies peak in the medium range.
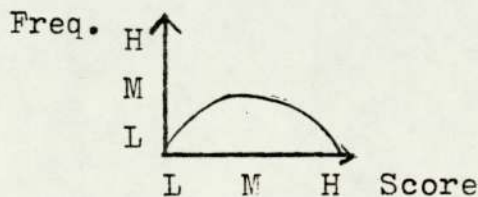
C   There are similar frequencies for each
category: high, medium and low.
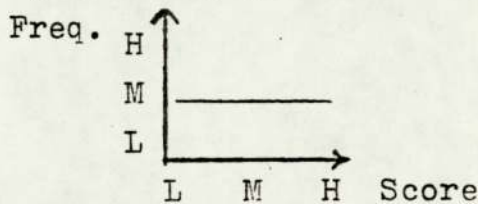
D   Rating frequencies descend from high to low.
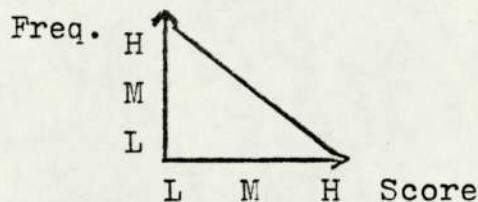
E   The lowest frequency is in the medium range.
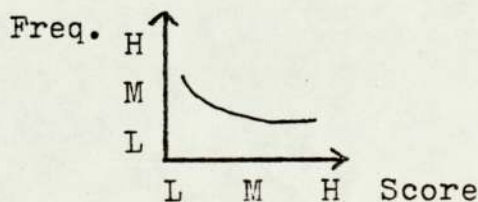
   (vi) liaising with people outside the organisation and

  (vii) dealing with a lot of information on trends, ideas
        external events and producing analyses.   This is
        interesting as a lot of managers stressed the
        importance of an analytical approach to their work.
These were not seen as applicable by most managers:-
(viii) Troubleshooting,

   (ix) evaluation of proposals and authorisation of
        significant decisions and

    (x) initiating major organisation changes
The following was on its own.

   (xi) Negotiating with other organisations was a bimodal
        distribution but on the whole it was inapplicable for
        more managers than it was applicable.

Thus, a picture of the "typical" Dunlop manager can be drawn:-

A man for whom programming work and developing a team is
very important, for whom policy formation, exploitation of
new opportunities and seeking information from a variety of
sources is of medium importance, for whom liaising with other
organisations and dealing with information may or may not be
applicable for whom troubleshooting and authorising proposals
and negotiating with other organisations are not so significant.

This is illustrated below.

Probability
of being
applicable
to job.

```
+----------------+
| Programmer     |
| Team           |
| developer      |
|                |---------------+
|                | Policy former |
|                | Seeking       |
|                | information   |
|                | and new ideas |---------------+
|                |               | Troubleshooting|
|                |               | Authorising    |
|                |               | proposals.     |
|                |               | Negotiating.   |
+----------------+---------------+---------------+
```
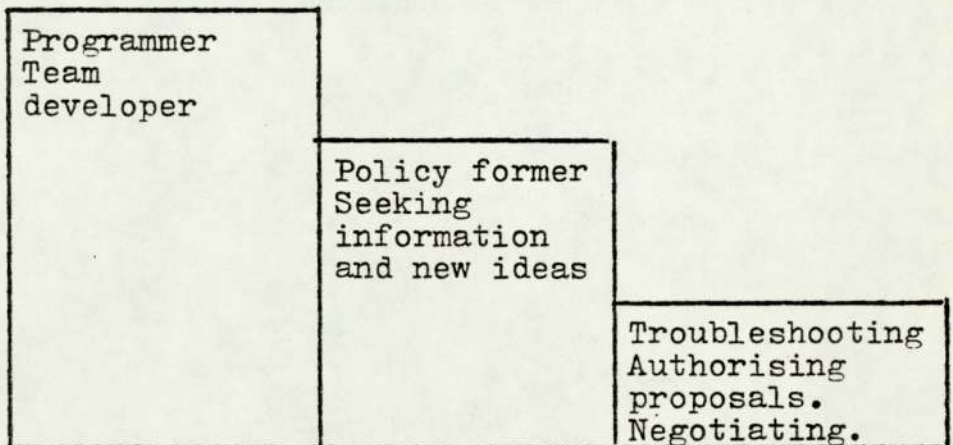
Figure 1.   "THE TYPICAL DUNLOP MANAGER"   (not to scale)

Three interviewees fitted this picture.   These were all from
different functions.

The data for the high scores was examined to see if any
particular function had "skewed" the data or whether the
high scores were of the same proportion across functions,
for the programmer and team.

·The results are shown overleaf

PROGRAMMER

FUNCTION	NO. OF HIGH RESPONSES	n = 28 NO. IN GROUP	HIGH RESPONSE RATE
Personnel	5	7	0.71
Marketing	3	4	0.75
GMS	3	3	1.00
Finance	1	3	0.33
Insurance	0	2	–
Supplies & Distribution	2	2	1.00
Buying	2	3	0.66
Technical Development & Production	1	3	0.33
Comptroller	1	1	1.00

TABLE 1-2.   SHOWING RESPONSE RATE IN THE HIGH
SCORES FOR 'PROGRAMMER'.

TEAM DEVELOPER

FUNCTION	NO. OF HIGH RESPONSES	n = 28 NO. IN GROUP	HIGH RESPONSE RATE
Personnel	5	7	0.71
Marketing	2	4	0.50
GMS	2	3	0.66
Finance	1	3	0.33
Insurance	1	3	0.33
Supplies & Distribution	2	2	1.00
Buying	3	3	1.00
Technical Development & Production	3	3	1.00
Comptroller	1	1	1.00

TABLE 1-3.   SHOWING RESPONSE RATE IN THE HIGH
SCORES FOR 'TEAM DEVELOPER'.

whilst the sample size is small it appears that all functions
have contributed to team developer and programmer being
particularly important in senior management in Dunlop.
Finance and Insurance show lower contribution to this than
the other functions but at this stage it is difficult to say
whether or not this is significant.

...

1.7 WORK LAID DOWN FOR MANAGERS

The managers responded on a scale indicating what proportion
of their work was laid down for them.

The results are shown in the table below:

Decided by
manager

↓

Laid down
for manager

Score	Frequency
0 - 2 (Low)	70.37% (19)
3 - 4 (Med)	7.40% (2)
5 - 7 (High)	22.22% (6)

n = 27

TABLE 1-4.   SHOWING FREQUENCY OF RESPONSES IN EACH
             OF SCORE GROUPS INDICATING PROPORTION
             OF WORK LAID DOWN FOR THE MANAGER.

This can be seen to be a skewed distribution with the majority
of managers indicating that little of their work is laid down
for them (70%)

However, it is slightly bimodal and just over 22% of managers
felt that a lot of their work was laid down for them.

This may indicate that in different areas of the organisation
management style is more or less autocratic, although an
autocratic style would not be expected at this level.   It
may therefore reflect something about the nature of the work
these managers do.   It does not appear related to one particular
function as these 22% cover finance, insurance, production
and personnel.   (Only one third of these rated troubleshooting
highly in the previous section).

SECTION 2.   CAREER

2.1 LEARNING TO DO THE JOB

Some functions, notably finance, insurance and computors (GMS) had had some formal training, mostly at the beginning of the career.   This was not the general case of personnel, marketing etc.   There is a fair smattering of senior management executive seminars and other modules that managers have been on in later career.

The main way managers felt they learned to do their work was on the job experience - learning from colleagues and superiors around them.

Two main things which they felt helped them were:

(1) A good boss at some or all stages, who gave them responsibility, help and stretched them.

(2) Running a business - or being a big cog in a smaller wheel - either abroad or in their own company.   This they felt gave them experience in a wide range of functions which is important for senior management.

They felt there was a gradual built up of experience and things learned during their career contributed to the next job.   Many had learned jobs by jumping in at the deep end.   A few said their early training in accountancy was vital to them, even after changing functions.   In some areas, particularly GMS, people had their own jobs when they were breaking into new areas and everyone was learning from everyone.   A few felt reading was important.   One felt his accelerated experience as a foreman when a production trainee was valuable.   This may be a useful line of inquiry - how to accelerate the growth of experience and on-the-job knowledge for younger managers.

2.2 ACCUMULATING EXPERIENCE

The sorts of accumulated experience, mentioned above, which appeared to be important are -

(1) Learning about people - how to get on with them, manage them, motivate them.

(2) Experience abroad or in small company where they were able to learn about many functions and had experience in managing people.

(3) Product knowledge and knowledge of Dunlop in particular.

(4) Financial training.

2.3 MANAGEMENT PLANNING

20/28 managers thought their promotions had no planning at all.

5/28 thought there had been some planning but were critical of the success and even the feasibility of career development.

Some felt there had been planning at the early stages but not later on.

When asked how they had got their present job, 20/28 said
they had been offered the job without seeking it specifically.
4/28 had stepped into their bosses shoes.   This is interesting
as 20/28 had previously said (above) that there had been no
career planning at all - although most said that they had
been offered their present job.   7/28 expected specifically
to be invited to take up their next post.   (4/28 did not feel
that they would have the opportunity to apply for other jobs).

On being asked whether they had ever refused a job for personal
reasons, 9/27 said they had not.   Of the 17 that had refused
a job:-

   (i)   7 did not think it had affected their career and
         did not regret the decision.

  (ii)   5 thought it had affected career but did not regret
         it as it was the only course at the time.

 (iii)   1 said he declined a job but later accepted when he
         was told it would definitely affect his career.

During the interviews a lot of managers expressed a view that
mobility was important if you wanted to get on - you had to
be willing to move at a moment's notice.   There is an
implication here that some planning was being carried out -
you have to be on someone's list to be asked to move!

2.4   PROFESSIONAL QUALIFICATIONS

There was general scepticism as to the worth of professional
examinations, particularly with relation to higher levels of
the organisation.   GMS, Marketing, Buying were notable for
their lack of interest in professional qualifications.
Qualifications were frequently criticised for not being
practical enough.

2.5   TRAINING SUBORDINATES

These managers are training their subordinates by:-

  (1) Giving responsibility and stretching them, delegating
      to them.

  (2) Giving criticism, advice and encouragement. Spending
      time with them.

  (3) Assessment of training and experience required.

  (4) Providing the right climate for self development.

  (5) Setting targets.

  (6) Detecting weaknesses and finding suitable training.

  (7) Making sure their subordinates are training all
      down the line.

  (8) Using training courses - particularly in technical areas.

  (9) Extending their experience e.g. taking them along
      when negotiating.

 (10) Monitoring progress.

 (11) Looking ahead to next job and trying to fill in
      knowledge he will need then.

...

(12) Giving the benefit of own experience.

(13) Having an open door so he can talk about problems.

Obviously not all the managers are doing all of these things.
Some favour an approach of giving subordinates "freedom" and
room to develop under as little control as possible.   Some
favour a more structured approach - finding weaknesses and
correcting them.

Nine managers felt they had no difficulty in reconciling
the needs of their subordinates with the needs of the company,
of those who did find difficulty the main problem areas were:-

(1) Limitations of the department in terms of
developing the individual and providing
promotion prospects.

(2) Reconciling personal development with company
directives and getting on with the job.

(3) Finance mentioned problems of understaffing.

(4) Problems of promoting people because of grading
system.

(5) Domestic problems - holidays, weekend work etc.

The problem which 7 of the managers raised was difficulty
in promoting good people.   This may be important for the
project in terms of difficulty in implementation.

SECTION 3.   CHANGES IN THE JOB

3.1 CHANGES OVER THE LAST FIVE YEARS

Managers mentioned changes which appeared idiosyncratic for
their particular job, but in addition these changes seem
to have had a more wide ranging effect.

1) Gaining confidence in the job because he knows
   more about the job and the organisation and
   therefore finds it easier to make decisions,
   delegate etc.

2) Cash flow problems - has meant cut downs in
   departments, change in emphasis of jobs and
   more cost consciousness and general effects
   of the state of the economy (e.g. 3 day week).

3) Technical changes - e.g. particularly in
   computors.

3.2 CHANGES FORESEEN IN THE NEXT FIVE YEARS

Change is commonly expected in these areas:-

1) Improvement in professionalism (particularly
   personnel)

2) Legislation will affect the work of many
   managers - from Trade Union activities, and
   Industrial Democracy to pension schemes,
   advertising etc.

3) Increased importance and sophistication of the
   use of computors.

4) Various structural changes will take place -
   in some areas slightly more centralisation is
   envisaged, there should be development of a
   unified European Market and direct shipping to
   Europe etc.

5) A better skilled and trained staff is expected.

6) Continued checking on costs and use of resources.

7) The importance of the European Market was
   emphasised.

   The two most important areas which concerned
   managers seemed to be the increase in legislation
   and use of computors.

SECTION 4.   ORGANISATIONAL CLIMATE

4.1   LOOKING AT CLIMATE RATING SCALES

The data is presented in Table 4.1. *Low scores favourable pgs 248-249*

The data is all skewed to the low end of the scale.   The
means are very low.   The data was difficult to group
meaningfully as so much is clustered at the low end of the
scales.   However questions 6.2 and 6.6 (Coded as A) appeared
to have a grouped effect, peaking at about 2 or 3 and tailing
off either side of this.   This is illustrated in the first
sketch graph.

Question 6.1 (Coded as B) has a much more even distribution
throughout the whole range of the scale, although this too
is weighted to the low end of the scale.   This is illustrated
in the second sketch graph.

Questions 6.5, 6.7, 6.8, 6.3 and 6.4 (Coded as C) all appear
to be much more weighted towards the low end of the scale.
This is illustrated in the third sketch graph.   It is a
debatable point whether or not Question 6.5 should be Coded
B or C.

The major point to note about this data is its definite skew
towards the low end of the scale.

This means that most managers feel committed and involved
in their work and feel performance is judged on objective
standards and get on well with other departments.   There is
a definite bias towards a non restrictive environment where
people can take initiative and so on.   There were quite a
few managers who felt that whilst people did get together around
common tasks formal channels were still important in their
area - hence the peak in question 6.2.   Similarly people also
felt there was a mixture of diagnosing training needs and
throwing people in at the deep end.   Question 6.1 proved
very difficult for people to answer.   There is a fair spread
of scores, here, this may reflect both the area of work
but also whether the question was taken to mean being told
to do something or how to do it.

People certainly felt they could contribute to decision making
and take initiative.

The three interviewees who showed a "typical" job activity
pattern in Section 1.6, showed low scores on all these questions
except for one high score in question 6.2.   Thus they continue
to be fairly "typical" in this area, too.   Only one manager
showed high scores throughout (three scores of 6, two scores
of 6, one score of 7 and one score of 3).   This was a personnel
person.   No particular function stands out as rating very high
or very low.

This area of questions were found to be particularly difficult
for managers to rate.   This was partly because the two ends of
the scales were not polar opposites and therefore it was difficult
to judge how to rate the statements.   It is felt that any further
investigation of organisational climate would require a refinement
of technique.

	Question	7	6	5	4	3	2	1	0	Total No. in Group	Mean
		Frequency at each score. (figures rounded up to whole nos)									
A.	6.2 Work relationships	2	0	3	2	6	9	0	1	25	3.0
	6.6 Management Development	0	2	0	7	7	8	0	2	26	2.9
B.	6.1 Planning Work	0	4	2	2	5	3	2	7	25	2.6
	6.5 Commitment	1	1	1	3	7	4	5	4	26	2.4
C.	6.7 Sectional Cooperation	0	1	1	1	10	3	7	3	26	2.2
	6.8 Assessment	0	0	2	0	4	7	7	5	25	1.7
	6.3 Participation	0	0	0	1	5	5	3	12	26	1.4
	6.4 Initiation	0	0	1	0	2	4	12	7	26	1.2

TABLE 4.1:   SHOWING FREQUENCY OF SCORES ON CLIMATE QUESTIONS

FIGURE 4-1. SKETCH GRAPHS OF CLIMATE RATING SCORES

A. Frequency
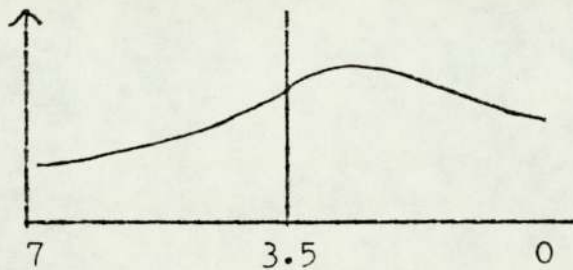
B. Frequency
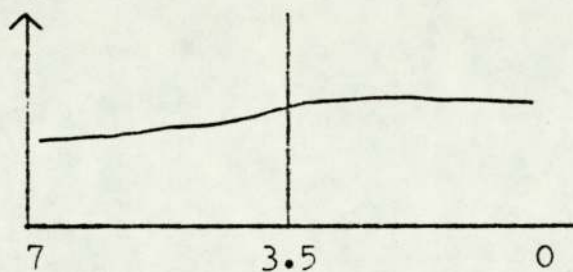
C. Frequency
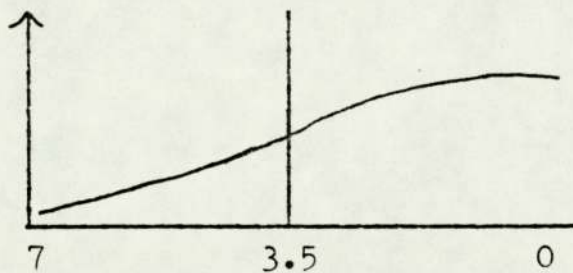
C O N L U S I O N S

This questionaire has yielded a lot of useful information about senior
management in Dunlop. It has shown that it is possible to compare very
different kinds of jobs in various functions. It has also shown up areas
which are difficult to quantify in senior management, such as time span
of discretion and also areas where further study would require a
refinement of technique e.g. climate measures.

It is apparent, that for those people interviewed, training has been
mainly by coaching and experience on the job. They have been coached and
are coaching their subordinates. They see themselves as having been
trained by superiors and now train their subordinates. This comes out in
the team developer being the most applicable Mintzberg category.

These people have "arrived" and their perception of the organisation is
favourable This is a usual phenomenon in climate measures, although
people further down the organistaion do not always see it like that.

The question arises whether or not the Mintzberg classifications are
a suitable basis for looking at the discrepancy between middle and senior
managers and a suitable peg on which to base predictions about future
managers. Now the senior manager in Dunlop today has been examined, a look
must be taken at the people likely to be in these sorts of positions in
the future and at the sorts of things which may affect the type of manager
Dunlop will need in the next decade.

APPENDIX 5.4

APPENDIX 5.4

MANAGERS' EXPERIENCE QUESTIONNAIRE

The purpose of this questionnaire is to find out what are the types of jobs, training and work experiences from which Dunlop managers feel they have learnt most about managing.

Your replies will be useful in helping the Management Development Division to plan more systematically for the kinds of beneficial career experience that managers of the future may require.

There are three sections. The first will ask about jobs, the second about planned learning situations, and the third about particular experiences which may have come unsought but from which you learned something.

SECTION I : JOBS

Please consider your career to date whether in Dunlop or not. If you can name a job in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a job, please skip columns 2 to 5 and go on to the next question.

Have you:	1. What was the Job? Please insert name of the job, if there was one. If there was no such job please put a X.	2. How did you cope at first (NOT TOO WELL / ADEQUATELY / FINE)			3. How strong was the impact? (SLIGHT / MODERATE / STRONG)			4. This is the only example I can think of (Yes No) / I could think of a few more examples (Yes No) / There are many more instances I could give. (Yes No)			5. What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
1. ever worked outside the U.K.											
2. been in charge of a small business?											
3. been in charge of a large business?											
4. held a job which gave you a broad perspective on business?											
5. had a job dealing with outside organisations?											

SECTION I : JOBS

Page 2.

	1 What was the Job? Please insert name of the job, if there was one. If there was no such job please put a X.	2 How did you cope at first			3 How strong was the impact?			4 This is the only example I can think of		I could think of a few more examples		5 There are many more instances I could give.		What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
		NOT TOO WELL	ADEQUATELY	FINE	SLIGHT	MODERATE	STRONG	Yes	No	Yes	No	Yes	No	
Have you: 6. had a job which gave you a better technical knowledge of the industry?														
7. had a job which required specialised knowledge you didn't have at the time of appointment?														
8. changed from one function to another? (put former job first, then later one, and reply with ref. to the change itself)														
9. Have you changed from one Dunlop Division to another? (Put former job first and then later one and reply with ref. to the change itself)														

Please consider your career to date whether in Dunlop or not. If you can name a job in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a job, please skip columns 2 to 5 and go on to the next question.

Page 3.

SECTION I : JOBS

	1. What was the Job? Please insert name of the job, if there was one. If there was no such job please put a X.	2. How did you cope at first			3. How strong was the impact?			4. This is the only example I can think of		I could think of a few more examples		There are many more instances I could give		5. What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
		NOT TOO WELL	ADEQUATELY	FINE	SLIGHT	MODERATE	STRONG	Yes	No	Yes	No	Yes	No	
Please consider your career to date whether in Dunlop or not. If you can name a job in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a job, please skip columns 2 to 5 and go on to the next question.														
Have you: 10. had a job which required you to teach or advise others?														
11. had a job which changed your outlook?														
12. had a job which gave you new insight into the sorts of things other people or departments do?														
13. had a job where you were thrown in at the deep end? (i.e. which your previous career had not fitted you for)														

SECTION I : JOBS

Page 4

Please consider your career to date whether in Dunlop or not. If you can name a job in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a job, please skip columns 2 to 5 and go on to the next question.

	1. What was the Job?	2. How did you cope at first?			3. How strong was the impact?			4. This is the only example I can think of	I could think of a few more examples	There are many more instances I could give	5. What did you gain?
	Please insert name of the job, if there was one. If there was no such job please put a X.	NOT TOO WELL	ADEQUATELY	FINE	SLIGHT	MODERATE	STRONG	Yes No	Yes No	Yes No	Note anything you learned that you felt was valuable either at the time or for your future.
Have you: 14. had a job in a newly created department, or set-up which you had to organise from the start?											
15. had a job which was pioneering in some other way than in 13 above?											
16. ever been a personal assistant to someone?											

SECTION II : PLANNED LEARNING SITUATIONS

	1. What was the Situation? Please insert name of job, course, seminar etc. If there was no such situation please put a X.	2. Did you welcome it? Then (Yes No)	2. Did you welcome it? Later (Yes No)	3. How Strong was the impact? SLIGHT	3. MOD.	3. STRONG	4. This is the only example I can think of (Yes No)	4. I could think of a few more examples (Yes No)	4. There are many more instances I could give. (Yes No)	5. What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
Please consider your career to date whether in Dunlop or not. If you can name a situation in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a situation, please skip columns 2 to 5 and go on to the next question.										
1. Have you attended any course which stays in your memory because there were techniques or knowledge you could apply?										
2. Have you attended any course which gave you a chance to meet people with different ideas and experience than your own?										
3. Have you had a chance on a course to experiment with ideas in a non-judgemental environment?										

SECTION II : PLANNED LEARNING SITUATIONS

Page 2

Please consider your career to date whether in Dunlop or not. If you can name a situation in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a situation, please skip columns 2 to 5 and go on to the next question.

	1 — What was the Situation? Please insert name of job, course, seminar etc. If there was no such situation please put a X.	2 — Did you welcome it? Then (Yes No)	Later (Yes No)	3 — How Strong was the impact? SLIGHT	MOD.	STRONG	4 — This is the only example I can think of. Yes No	I could think of a few more examples. Yes No	There are many more instances I could give. Yes No	5 — What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
4. Have you had a chance on a course to see aspects of business outside your everyday concerns?										
5. Have any other aspects of a course had an impact on you?										
6. Have you been to any conferences, seminars etc. which got you interested in a subject that had not interested you before?										

SECTION II : PLANNED LEARNING SITUATIONS

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Please consider your career to date whether in Dunlop or not. If you can name a situation in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a situation, please skip columns 2 to 5 and go on to the next question.

	1 What was the Situation? Please insert name of job, course, seminar etc. If there was no such situation please put a X.	2 Did you welcome it?		3 How Strong was the impact?			4			5 What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
		Then	Later	SLIGHT	MOD.	STRONG	This is the only example I can think of	I could think of a few more examples	There are many more instances I could give.	
		Yes No	Yes No				Yes No	Yes No	Yes No	
7. Have you come across reading matter through which you have picked up important knowledge?										
8. Have you had any special assignments or projects which were useful to you?										
9. Have you received, coaching or counselling or other help from a colleague or superior that helped your development?										

SECTION II : PLANNED LEARNING SITUATIONS

Page 4

	1 What was the Situation? Please insert name of job, course, seminar etc. If there was no such situation please put a X.	2 Did you welcome it?			3 How Strong was the impact?			4 This is the only example I can think of	I could think of a few more examples	There are many more instances I could give.	5 What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
		Then	Later		SLIGHT	MOD.	STRONG				
		Yes No	Yes	No				Yes No	Yes No	Yes No	
Please consider your career to date whether in Dunlop or not. If you can name a situation in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a situation, please skip columns 2 to 5 and go on to the next question.											
10. Have your subordinates passed on tips or other information you have found useful?											
11. Is there any other event or happening or experience that was intended as a form of training?											

APPENDIX 5.4 continued

SECTION III   OTHER EXPERIENCES

Please consider your career to date whether in Dunlop or not. If you can name a job in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a job, please skip columns 2 to 5 and go on to the next question.

	1. What was the Job? Please insert name of the job, if there was one. If there was no such job please put a X.	2. How did you cope at first			3. How strong was the impact?			4. This is the only example I can think of	I could think of a few more examples	5. There are many more instances I could give.	What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
		NOT TOO WELL	ADEQUATELY	FINE	SLIGHT	MODERATE	STRONG	Yes / No	Yes / No	Yes / No	
1. Has there been any occasion when you had to deal with information of a kind to which you were not accustomed?											
2. Have you had any job which was very ill-defined so that much of what you did was at your own discretion?											
3. Have there been any times when the circumstances under which you were working changed dramatically and required you to make very different decisions in consequence?											

SECTION III   OTHER EXPERIENCES

Page 2.

Please consider your career to date whether in Dunlop or not. If you can name a job in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a job, please skip columns 2 to 5 and go on to the next question.	1 What was the Job? Please insert name of the job, if there was one. If there was no such job please put a X.	2 How did you cope at first — NOT TOO WELL	ADEQUATELY	FINE	3 How strong was the impact? — SLIGHT	MODERATE	STRONG	4 This is the only example I can think of — Yes	No	I could think of a few more examples — Yes	No	There are many more instances I could give. — Yes	No	5 What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
4. Have you had any experience which changed the way you saw your own role at work?														
5. Have you been in any situation in which you have had to reach agreement with persons whose views have been different from yours?														
6. Have you had any experience which was unnerving or unpleasant at the time but from which you learned something important?														

SECTION III   OTHER EXPERIENCES   Page 3

What was the Job?	How did you cope at first			How strong was the impact?			This is the only example I can think of	I could think of a few more examples	There are many more instances I could give.	What did you gain?
Column 1	Column 2			Column 3			Column 4			Column 5
Please insert name of the job, if there was one. If there was no such job please put a X.	NOT TOO WELL	ADEQUATELY	FINE	SLIGHT	MODERATE	STRONG	Yes No	Yes No	Yes No	Note anything you learned that you felt was valuable either at the time or for your future.

Please consider your career to date whether in Dunlop or not. If you can name a job in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a job, please skip columns 2 to 5 and go on to the next question.

7. Have you been conscious of making a mistake from which you learned as part of trial and error?

8. Have you had any experience which made you feel particularly good at the time from which you learned something important?

9. Has there been any occasion when it was particularly important for you to figure out what was making people act the way they did?

SECTION III   OTHER EXPERIENCES   Page 4

	1 What was the Job? Please insert name of the job, if there was one. If there was no such job please put a X.	2 How did you cope at first? NOT TOO WELL / ADEQUATELY / FINE	3 How strong was the impact? SLIGHT / MODERATE / STRONG	4 This is the only example I can think of (Yes No) / I could think of a few more examples (Yes No)	5 There are many more instances I could give. (Yes No) / What did you gain? Note anything you learned that you felt was valuable either at the time or for your future.
Please consider your career to date whether in Dunlop or not. If you can name a job in answer to the first question below, please also complete Columns 2 to 5. If you cannot name a job, please skip columns 2 to 5 and go on to the next question.					
10. Have you been in any situation which required you to change your management style because the type of subordinates changed, e.g. from people who needed to be closely supervised to people who were capable of working on their own (or vice versa)?					
11. Is there some experience you have had which you would say has, more than anything else, taught you how to manage people?					
Were all the experiences outlined above during the time you have been at Dunlop? YES / NO (Please delete which is inapplicable)					

APPENDIX 5.5

MANAGERS' EXPERIENCE QUESTIONNAIRE

The purpose of this questionnaire is to find out what are the types of jobs, training and work experiences from which Dunlop managers feel they have learnt most about managing.

Your replies will be useful in helping the Management Development Division to plan more systematically for the kinds of beneficial career experience that managers of the future may require.

There are three sections. The first will ask about your career history, the second about environments in which you have worked, and the last about how you think your knowledge has been extended and your abilities increased.

I would like a summary of the findings of this questionnaire when processing has been completed.

YES/NO

(Please delete which is inapplicable)

MANAGERS' EXPERIENCE QUESTIONNAIRE: SECTION I

CAREER HISTORY

Please consider your career to date, whether in Dunlop or not. For the five-year periods listed below please give the title of the most important post you held, and the type of organization (e.g. army, civil service, manufacturing, retail, etc. If you were in full-time education put "education"). The most recent period is on the left, the earliest on the right.

	1973-77	1968-72	1963-67	1958-62	1953-57	before 1953
Job	....	....	....	....	....	....
Organization	....	....	....	....	....	....

You will find below a list of things which may have happened to you. If the statement is true for the whole or any part of a five year period, please PUT A TICK under the appropriate column.

	'73-77	'68-72	'63-67	'58-62	'53-57	before '53
1. I was working outside the UK	......	......	......	......	......	......
2. I was heading up a functional department/division	......	......	......	......	......	......
3. I was heading up a line department/division	......	......	......	......	......	......
4. I was running my own business	......	......	......	......	......	......
5. I moved to another locality in the same country	......	......	......	......	......	......
6. I moved to another country	......	......	......	......	......	......
7. I moved to a more responsible job	......	......	......	......	......	......
8. I met someone who influenced my career development	......	......	......	......	......	......
9. I attended training which helped my career development	......	......	......	......	......	......
10. I had a major change in my domestic circumstances	......	......	......	......	......	......
11. I moved into a different occupation or function	......	......	......	......	......	......
12. I had to face an experience that was particularly un-nerving or unpleasant.	......	......	......	......	......	......
13. I was busy in areas outside of my work. (e.g. voluntary organizations)	......	......	......	......	......	......

MANAGERS' EXPERIENCE QUESTIONNAIRE: SECTION II

WORKING ENVIRONMENT

Below are some statements about working environments. If you think a statement was substantially true of the place where you were working during the whole or a part of one of the five-year periods, please PUT A TICK under the appropriate column. NB. the first column is THE FUTURE!

It frequently happened that:

	1978-82 (anticipated)	'73-77	'68-72	'63-67	'58-62	'53-57	before '53
1. crises occurred which required immediate attention	......	......	......	......	......	......	......
2. the unexpected happened in spite of all preparations	......	......	......	......	......	......	......
3. the consequences of decisions followed swiftly	......	......	......	......	......	......	......
4. the results of activity were unpredictable	......	......	......	......	......	......	......
5. there were no clear precedents for judgement	......	......	......	......	......	......	......
6. changing or conflicting evidence kept coming in	......	......	......	......	......	......	......
7. recommendations from a variety viewpoints circulated concurrently	......	......	......	......	......	......	......
8. it was hard to tell whether something would develop into a problem or not	......	......	......	......	......	......	......
9. agreement had to be reached among people of widely differing interests	......	......	......	......	......	......	......
10. people were liable to change their demands unpredictably	......	......	......	......	......	......	......
11. people needed to be instructed, advised, or otherwise assisted	......	......	......	......	......	......	......
12. it was impossible to get more than a few moments alone	......	......	......	......	......	......	......
13. copious dossiers were kept about on-going problems	......	......	......	......	......	......	......
14. some problems required adherence to specific procedures for their resolution	......	......	......	......	......	......	......
15. different specialist used their own jargon when called in for advice	......	......	......	......	......	......	......
16. if things were not working properly the person responsible was expected to find what was wrong and correct it	......	......	......	......	......	......	......
17. there was a sudden, dramatic, and favourable reversal of circumstances	......	......	......	......	......	......	......
18. there was a sudden, dramatic, and unfavourable reversal of circumstances	......	......	......	......	......	......	......
19. there was prolonged retrenchment, hard times, or lack of success	......	......	......	......	......	......	......
20. there was prolonged expansion, prosperity, or success	......	......	......	......	......	......	......

MANAGERS' EXPERIENCE QUESTIONNAIRE: SECTION III

PERSONAL DEVELOPMENT

Below are some statements about knowledge and abilities that you have been acquiring during the course of your career. If the whole or a part of any of the five year periods was particularly important in terms of extending your knowledge or increasing your ability, please PUT A TICK under the appropriate column. NB the first column is THE FUTURE!

In this period I increased my knowledge of:

	1978-82 (anticipated)	'73-77	'68-72	'63-67	'58-62	'53-57	before '53
1. the technical aspects of managing operations	.....	.....	.....	.....	.....	.....	.....
2. policy making in technical matters	.....	.....	.....	.....	.....	.....	.....
3. the ways of controlling costs of operations	.....	.....	.....	.....	.....	.....	.....
4. policy making in the financial area	.....	.....	.....	.....	.....	.....	.....
5. man-management on a day to day basis	.....	.....	.....	.....	.....	.....	.....
6. policy making in the personnel area	.....	.....	.....	.....	.....	.....	.....
7. the inter-relatedness of technical, financial, and human considerations	.....	.....	.....	.....	.....	.....	.....
8. the business environment (economic, political, etc.)	.....	.....	.....	.....	.....	.....	.....
9. policy making for a business as a whole	.....	.....	.....	.....	.....	.....	.....

In this period I increased my ability to:

	1978-82 (anticipated)	'73-77	'68-72	'63-67	'58-62	'53-57	before '53
10. act confidently	.....	.....	.....	.....	.....	.....	.....
11. take risks when necessary	.....	.....	.....	.....	.....	.....	.....
12. choose among competing alternatives	.....	.....	.....	.....	.....	.....	.....
13. judge dispassionately the merits of a case	.....	.....	.....	.....	.....	.....	.....
14. understand and influence my own feelings	.....	.....	.....	.....	.....	.....	.....
15. understand and influence other people	.....	.....	.....	.....	.....	.....	.....
16. think through problems in a logical way	.....	.....	.....	.....	.....	.....	.....
17. apply general principles to particular cases	.....	.....	.....	.....	.....	.....	.....
18. (other, please specify)........................	.....	.....	.....	.....	.....	.....	.....

....

If you wish to make any observations about the Questionnaire, please do so here.

APPENDIX 6.1 Table a) Showing Contingency Coefficients (C) between pairs of environment items
(Time Period 1)

	UNEXPECTED HAPPENED	DECISIONS FOLLOWED SWIFTLY	RESULTS OF ACTIVITY UNPREDICTABLE	NO PRECEDENTS FOR JUDGEMENT	CONFLICTING EVIDENCE	VARIETY OF RECOMMENDATIONS	HARD TO TELL IF SOMETHING A PROBLEM	PEOPLE OF DIFFERING INTERESTS	PEOPLE CHANGED THEIR DEMANDS	PEOPLE NEEDED ADVICE	PEOPLE IMPOSSIBLE TO BE ALONE	COPIOUS DOSSIERS KEPT	PROBLEMS REQUIRED SPECIFIC PROCEDURES	SPECIALISTS USED THEIR OWN JARGON	SPECIALISTS CORRECT SOMETHING WRONG
CRISES OCCURRED	0.527	0.527	0.314	0.379	0.259	0.216	0.374	0.223	0.232	0.280	0.360	0.216	0.359	0.374	0.416
UNEXPECTED HAPPENED		0.494	0.458	0.355	0.374	0.212	0.368	0.140	0.215	0.258	0.282	0.270	0.317	0.328	0.371
DECISIONS FOLLOWED SWIFTLY			0.296	0.355	0.411	0.152	0.443	0.241	0.260	0.361	0.376	0.325	0.505	0.368	0.488
RESULTS UNPREDICTABLE				0.305	0.294	0.063	0.368	0.172	0.283	0.201	0.203	0.278	0.210	0.320	0.210
NO PRECEDENTS FOR JUDGEMENT					0.346	0.317	0.371	0.276	0.279	0.274	0.245	0.383	0.224	0.419	0.325
CONFLICTING EVIDENCE						0.345	0.532	0.224	0.310	0.335	0.260	0.400	0.404	0.384	0.307
VARIETY OF RECOMMENDATIONS							0.307	0.369	0.187	0.271	0.104	0.326	0.239	0.243	0.277
HARD TO TELL IF A PROBLEM								0.249	0.338	0.339	0.338	0.422	0.286	0.275	0.384
PEOPLE OF DIFFERING INTS.									0.316	0.335	0.230	0.430	0.341	0.249	0.164
PEOPLE CHANGED THEIR DEMANDS										0.283	0.296	0.187	0.126	0.188	0.209
PEOPLE NEEDED ADVICE											0.385	0.322	0.294	0.262	0.355
IMPOSSIBLE TO BE ALONE												0.260	0.195	0.167	0.165
COPIOUS DOSSIERS KEPT													0.239	0.307	0.328
PROBLEMS REQD SPECIFIC PROCEDURES														0.286	0.371
SPECIALISTS USED THEIR OWN JARGON															0.230
CORRECT SOMETHING WRONG															

Grouping labels within the matrix: Behaviourally Complex; Perceptual Complexity; Affective Complexity; Symbolic Complexity

(The Chi-square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.208)   n = 111 managers

APPENDIX 6.1 Table b) Showing Contingency Coefficients (C) between pairs of environment items
(Time Period 2)

	CRISES OCCURRED	UNEXPECTED HAPPENED	DECISIONS FOLLOWED SWIFTLY	RESULTS OF ACTIVITY UNPREDICTABLE	NO PRECEDENTS FOR JUDGEMENT	CONFLICTING EVIDENCE	VARIETY OF RECOMMEND-ATIONS	HARD TO TELL IF SOMETHING A PROBLEM	PEOPLE OF DIFFERING INTERESTS	PEOPLE CHANGED THEIR DEMANDS	PEOPLE NEEDED ADVICE	IMPOSSIBLE TO BE ALONE	COPIOUS DOSSIERS KEPT	PROBLEMS REQUIRED SPECIFIC PROCEDURES	SPECIALISTS USED THEIR OWN JARGON	CORRECT SOMETHING WRONG
CRISES OCCURRED		0.530	0.396	0.226	0.202	0.214	0.017	0.271	0.254	0.327	0.228	0.350	0.195	0.284	0.234	0.304
UNEXPECTED HAPPENED			0.425	0.419	0.189	0.323	0.019	0.338	0.069	0.239	0.108	0.298	0.240	0.288	0.301	0.289
DECISIONS FOLLOWED SWIFTLY				0.112	0.279	0.247	0.009	0.374	0.069	0.317	0.220	0.341	0.186	0.356	0.182	0.254
RESULTS UNPREDICTABLE					0.243	0.327	0.033	0.338	0.102	0.206	0.073	0.022	0.237	0.225	0.338	0.098
NO PRECEDENTS FOR JUDGEMENT						0.353	0.312	0.321	0.333	0.287	0.268	0.243	0.402	0.112	0.321	0.071
CONFLICTING EVIDENCE							0.299	0.423	0.155	0.364	0.341	0.327	0.354	0.250	0.388	0.186
VARIETY OF RECOMMENDATIONS								0.262	0.322	0.118	0.241	0.033	0.250	0.152	0.212	0.218
HARD TO TELL IF A PROBLEM									0.213	0.299	0.180	0.292	0.412	0.266	0.285	0.130
PEOPLE OF DIFFERING INTS										0.136	0.318	0.155	0.422	0.283	0.213	0.113
PEOPLE CHANGED THEIR DEMANDS											0.218	0.393	0.210	0.244	0.168	0.072
PEOPLE NEEDED ADVICE												0.297	0.214	0.328	0.180	0.237
IMPOSSIBLE TO BE ALONE													0.359	0.225	0.195	0.051
COPIOUS DOSSIERS KEPT														0.216	0.257	0.181
PROBLEMS REQD SPECIFIC PROCEDURES															0.266	0.296
SPECIALISTS USED THEIR OWN JARGON																0.209
CORRECT SOME-THING WRONG																

Named factor groupings (on the diagonal):
- Behavioural Complexity — CRISES OCCURRED, UNEXPECTED HAPPENED, DECISIONS FOLLOWED SWIFTLY, RESULTS OF ACTIVITY UNPREDICTABLE
- Perceptual Complexity — NO PRECEDENTS FOR JUDGEMENT, CONFLICTING EVIDENCE, VARIETY OF RECOMMENDATIONS, HARD TO TELL IF SOMETHING A PROBLEM
- Active Complexity — PEOPLE OF DIFFERING INTERESTS, PEOPLE CHANGED THEIR DEMANDS, PEOPLE NEEDED ADVICE, IMPOSSIBLE TO BE ALONE
- Symbolic Complexity — COPIOUS DOSSIERS KEPT, PROBLEMS REQUIRED SPECIFIC PROCEDURES, SPECIALISTS USED THEIR OWN JARGON, CORRECT SOMETHING WRONG

(The Chi-square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.208)

$n = 110$ managers

APPENDIX 6.1   Table c) Showing Contingency Coefficients (C) between pairs of environment items
(Time Period 3)

	CRISES OCCURRED	UNEXPECTED HAPPENED	DECISIONS FOLLOWED SWIFTLY	RESULTS OF ACTIVITY UNPREDICTABLE	NO PRECEDENTS FOR JUDGEMENT	CONFLICTING EVIDENCE	VARIETY OF RECOMMENDATIONS	HARD TO TELL IF SOMETHING A PROBLEM	PEOPLE OF DIFFERING INTERESTS	PEOPLE CHANGED THEIR DEMANDS	PEOPLE NEEDED ADVICE	IMPOSSIBLE TO BE ALONE	COPIOUS DOSSIERS KEPT	PROBLEMS REQUIRED SPECIFIC PROCEDURES	SPECIALISTS USED THEIR OWN JARGON	CORRECT SOMETHING WRONG
CRISES OCCURRED	*Behavioural Complexity*	0.513	0.387	0.132	0.317	0.193	0.109	0.180	0.206	0.239	0.311	0.317	0.146	0.167	0.186	0.303
UNEXPECTED HAPPENED			0.358	0.333	0.293	0.321	0.148	0.275	0.205	0.245	0.312	0.255	0.208	0.246	0.262	0.262
DECISIONS FOLLOWED SWIFTLY				0.163	0.354	0.223	0.164	0.298	0.171	0.360	0.278	0.318	0.165	0.310	0.126	0.326
RESULTS UNPREDICTABLE					0.355	0.271	0.283	0.342	0.197	0.228	0.078	0.015	0.117	0.221	0.283	0.243
NO PRECEDENTS FOR JUDGEMENT					*Perceptual Complexity*	0.393	0.377	0.365	0.361	0.402	0.261	0.296	0.332	0.144	0.377	0.092
CONFLICTING EVIDENCE							0.335	0.377	0.221	0.420	0.304	0.241	0.307	0.230	0.355	0.180
VARIETY OF RECOMMENDATIONS								0.158	0.399	0.315	0.222	0.129	0.168	0.160	0.252	0.222
HARD TO TELL IF A PROBLEM									0.106	0.273	0.224	0.324	0.409	0.247	0.202	0.269
PEOPLE OF DIFFERING INTS									*Affective Complexity*	0.282	0.326	0.123	0.323	0.323	0.298	0.222
PEOPLE CHANGED THEIR DEMANDS											0.143	0.366	0.207	0.293	0.277	0.041
PEOPLE NEEDED ADVICE												0.216	0.196	0.304	0.178	0.224
IMPOSSIBLE TO BE ALONE													0.233	0.266	0.260	0.049
COPIOUS DOSSIERS KEPT													*Symbolic Complexity*	0.170	0.168	0.185
PROBLEMS REQD SPECIFIC PROCEDURES															0.310	0.283
SPECIALISTS USED THEIR OWN JARGON																0.184
CORRECT SOMETHING WRONG																

(The Chi-Square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.210)   n = 108 managers

APPENDIX 6.1   Table d)   Showing Contingency Coefficients (C) between pairs of environment items
(Time Period 5)

Environment items (both rows and columns):

1. CRISES OCCURRED
2. UNEXPECTED HAPPENED
3. DECISIONS FOLLOWED SWIFTLY
4. RESULTS OF ACTIVITY UNPREDICTABLE
5. NO PRECEDENTS FOR JUDGEMENT
6. CONFLICTING EVIDENCE
7. VARIETY OF RECOMMENDATIONS
8. HARD TO TELL IF SOMETHING A PROBLEM
9. PEOPLE OF DIFFERING INTERESTS
10. PEOPLE CHANGED THEIR DEMANDS
11. PEOPLE NEEDED ADVICE
12. IMPOSSIBLE TO BE ALONE
13. COPIOUS DOSSIERS KEPT
14. PROBLEMS REQD SPECIFIC PROCEDURES
15. SPECIALISTS USED THEIR OWN JARGON
16. SPECIALISTS CORRECT SOMETHING WRONG

Diagonal groupings (shaded): items 1–4 = Behavioural Complexity; items 5–8 = Perceptual Complexity; items 9–12 = Affective Complexity; items 13–16 = Symbolic Complexity.

Item	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 CRISES OCCURRED	0.440	0.382	0.050	0.256	0.412	0.302	0.122	0.306	0.332	0.179	0.004	0.022	0.152	0.131	0.183
2 UNEXPECTED HAPPENED		0.421	0.265	0.206	0.407	0.248	0.275	0.307	0.341	0.246	0.054	0.077	0.150	0.203	0.236
3 DECISIONS FOLLOWED SWIFTLY			0.146	0.172	0.409	0.172	0.202	0.200	0.228	0.199	0.037	0.007	0.147	0.079	0.346
4 RESULTS UNPREDICTABLE				0.206	0.255	0.108	0.525	0.213	0.260	0.219	0.172	0.180	0.241	0.179	0.170
5 NO PRECEDENTS FOR JUDGEMENT					0.216	0.214	0.093	0.316	0.324	0.035	0.147	0.050	0.128	0.089	0.059
6 CONFLICTING EVIDENCE						0.336	0.394	0.179	0.423	0.284	0.039	0.214	0.219	0.216	0.234
7 VARIETY OF RECOMMENDATIONS							0.139	0.397	0.159	0.171	0.092	0.102	0.083	0.262	0.082
8 HARD TO TELL IF A PROBLEM								0.189	0.302	0.080	0.051	0.290	0.202	0.193	0.129
9 PEOPLE OF DIFFERING INTS									0.264	0.206	0.032	0.020	0.245	0.206	0.053
10 PEOPLE CHANGED THEIR DEMANDS										0.256	0.280	0.165	0.186	0.119	0.036
11 PEOPLE NEEDED ADVICE											0.111	0.132	0.321	0.120	0.155
12 IMPOSSIBLE TO BE ALONE												0.050	0.325	0.027	0.049
13 COPIOUS DOSSIERS KEPT													0.104	0.127	0.191
14 PROBLEMS REQD SPECIFIC PROCEDURES														0.123	0.266
15 SPECIALISTS USED THEIR OWN JARGON															0.290
16 CORRECT SOMETHING WRONG															

(Chi-square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.230)

n = 90 managers

APPENDIX 6.1   Table e)   Showing Contingency Coefficients (C) between pairs of environment items
(Time Period 6)

Columns (same 16 items as rows):
1 = CRISES OCCURRED
2 = UNEXPECTED HAPPENED
3 = DECISIONS FOLLOWED SWIFTLY
4 = RESULTS OF ACTIVITY UNPREDICTABLE
5 = NO PRECEDENTS FOR JUDGEMENT
6 = CONFLICTING EVIDENCE
7 = VARIETY OF RECOMMENDATIONS
8 = HARD TO TELL IF SOMETHING A PROBLEM
9 = PEOPLE OF DIFFERING INTERESTS
10 = PEOPLE CHANGED THEIR DEMANDS
11 = PEOPLE NEEDED ADVICE
12 = IMPOSSIBLE TO BE ALONE
13 = COPIOUS DOSSIERS KEPT
14 = PROBLEMS REQUIRED SPECIFIC PROCEDURES
15 = SPECIALISTS USED THEIR OWN JARGON
16 = CORRECT SOMETHING WRONG

Row item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 CRISES OCCURRED															
2 UNEXPECTED HAPPENED	0.411														
3 DECISIONS FOLLOWED SWIFTLY	0.323	0.360													
4 RESULTS UNPREDICTABLE	0.128	0.116	0.060												
5 NO PRECEDENTS FOR JUDGEMENT	0.329	0.236	0.052	0.159											
6 CONFLICTING EVIDENCE	0.432	0.432	0.274	0.204	0.229										
7 VARIETY OF RECOMMENDATIONS	0.292	0.213	0.025	0.145	0.322	0.302									
8 HARD TO TELL IF A PROBLEM	0.111	0.280	0.106	0.331	0.027	0.268	0.219								
9 PEOPLE OF DIFFERING INTS	0.324	0.196	0.054	0.000	0.249	0.109	0.265	0.131							
10 PEOPLE CHANGED THEIR DEMANDS	0.402	0.337	0.201	0.134	0.271	0.338	0.199	0.226	0.090						
11 PEOPLE NEEDED ADVICE	0.294	0.162	0.040	0.102	0.056	0.295	0.222	0.183	0.167						
12 IMPOSSIBLE TO BE ALONE	0.292	0.157	0.131	0.143	0.112	0.145	0.145	0.032	0.148	0.150	0.110				
13 COPIOUS DOSSIERS KEPT	0.257	0.331	0.113	0.193	0.113	0.360	0.153	0.290	0.139	0.128	0.135	0.106			
14 PROBLEMS SPECIFIC PROCEDURES	0.324	0.433	0.280	0.105	0.101	0.223	0.223	0.286	0.236	0.214	0.360	0.253	0.292		
15 SPECIALISTS USED THEIR OWN JARGON	0.292	0.261	0.025	0.084	0.229	0.346	0.302	0.062	0.313	0.150	0.295	0.092	0.311	0.319	
16 CORRECT SOMETHING WRONG	0.273	0.209	0.369	0.019	0.048	0.172	0.172	0.077	0.130	0.005	0.054	0.042	0.184	0.173	0.172

Diagonal blocks (hatched) are labelled:
Behavioural Complexity — Perceptual Complexity — Affective Complexity — Symbolic Complexity

(Chi-square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.240)   n = 78 managers

APPENDIX 6.2   MCQUITTY CLUSTERS OF ENVIRONMENTAL COMPLEXITY ITEMS

Time Period 1

ENVIRONMENT ITEMS

RESULTS OF ACTIVITY WERE UNPREDICTABLE ←0.458→ UNEXPECTED HAPPENED ←0.527→ CRISES OCCURRED REQUIRING IMMEDIATE ATTENTION ←0.360→ IMPOSSIBLE TO BE ALONE ←0.385→ PEOPLE NEEDED ADVICE, INSTRUCTION

0.527

CONSEQUENCES OF DECISIONS FOLLOWED SWIFTLY

0.443

PROBLEMS REQUIRED ADHERENCE TO SPECIFIC PROCEDURES

0.505

HARD TO TELL IF SOMETHING WOULD DEVELOP INTO A PROBLEM

0.488 → IF THINGS WERE NOT WORKING PERSON RESPONSIBLE TO FIND OUT WHY AND CORRECT IT

0.532 → CONFLICTING EVIDENCE KEPT COMING IN

COPIOUS DOSSIERS WERE KEPT ←0.430→ AGREEMENT HAD TO BE REACHED AMONG PEOPLE OF DIFFERING INTERESTS

0.430

0.369

RECOMMENDATIONS FROM A VARIETY OF VIEWPOINTS CIRCULATED

SPECIALISTS USED THEIR OWN JARGON ←0.419→ NO CLEAR PRECEDENTS FOR JUDGEMENT

PEOPLE LIABLE TO CHANGE THEIR DEMANDS UNPREDICTABLY

Appendix 6.2 continued

Time Period 2

B'down

ENVIRONMENT ITEMS

RESULTS OF ACTIVITY 0.419 ⟷ UNEXPECTED ⟵ 0.530 ⟶ CRISES 0.304 ⟷ IF THINGS
WERE UNPREDICTABLE HAPPENED OCCURRED NOT WORKING
REQUIRING PROPERLY PERSON
IMMEDIATE RESPONSIBLE
ATTENTION EXPECTED TO
FIND OUT WHY AND
CORRECT IT

0.425

CONSEQUENCES OF
DECISIONS FOLLOWED
SWIFTLY

0.356

PROBLEMS REQUIRED ADHERENCE
TO SPECIFIC PROCEDURES

- -

HARD TO TELL IF 0.423 ⟷ CONFLICTING ⟵ 0.341 ⟶ PEOPLE NEEDED
SOMETHING WOULD EVIDENCE KEPT ADVICE, INSTRUCTION
DEVELOP INTO A COMING IN
PROBLEM

0.388

SPECIALISTS USED THEIR
OWN JARGON

- -

Innov

NO CLEAR 0.402 ⟷ COPIOUS DOSSIERS ⟵ 0.422 ⟶ AGREEMENT HAD TO 0.322 ⟷ RECOMMENDATIONS
PRECEDENTS WERE KEPT BE REACHED AMONG FROM A VARIETY
FOR JUDGE- PEOPLE OF DIF- OF VIEWPOINTS
MENT FERING INTERESTS CIRCULATED
CONCURRENTLY

steady state

- -

PEOPLE LIABLE TO 0.393 IMPOSSIBLE TO BE
CHANGE THEIR ⟷ ⟶ ALONE
DEMANDS UNPREDICTABLY

291

Appendix 6.2 continued

Time Period 3

ENVIRONMENT ITEMS

UNEXPECTED HAPPENED ←0.513— CRISES OCCURRED REQUIRING IMMEDIATE ATTENTION ←0.387→ CONSEQUENCES OF DECISIONS FOLLOWED SWIFTLY ←0.326→ IF THINGS WERE NOT WORKING PERSON RESPONSIBLE EXPECTED TO FIND OUT WHY AND CORRECT IT

- - - - - - - - - -

CONFLICTING EVIDENCE KEPT COMING IN

RESULTS OF ACTIVITY WERE UNPREDICTABLE

0.393

NO CLEAR PRECEDENTS FOR JUDGEMENT

0.355

0.420

0.402

0.377

SPECIALISTS USED THEIR OWN JARGON

PEOPLE LIABLE TO CHANGE THEIR DEMANDS UNPREDICTABLY

0.326

IMPOSSIBLE TO BE ALONE

- - - - - - - - - -

PEOPLE NEEDED ADVICE, INSTRUCTION

RECOMMENDATIONS FROM A VARIETY OF VIEWPOINTS CIRCULATED

C.326

0.399

AGREEMENT HAD TO BE REACHED AMONG PEOPLE OF DIFFERING INTERESTS

0.326

PROBLEMS REQUIRED ADHERENCE TO SPECIFIC PROCEDURES

HARD TO TELL IF SOMETHING WOULD DEVELOP INTO A PROBLEM ←0.409→ COPIOUS DOSSIERS WERE KEPT

Appendix 6.2 continued

Time Period 5

ENVIRONMENT ITEMS

COPIOUS DOSSIERS   0.290   HARD TO TELL   0.525   RESULTS OF
WERE KEPT   ←——————→   WHETHER SOMETHING   ←——————→   ACTIVITY WERE
                         WOULD DEVELOP INTO   UNPREDICTABLE
                         A PROBLEM

CONSEQUENCES   CRISES OCCURRED
OF DECISIONS   0.382   WHICH REQUIRED   0.440   UNEXPECTED
FOLLOWED   ←——————→   IMMEDIATE   ←——————→   HAPPENED
SWIFTLY   ATTENTION

                                                    NO CLEAR
                                                    PRECEDENTS
                                                    FOR JUDGE-
0.290   MENT

                                                    0.324

THINGS NOT WORKING
PROPERLY PERSON   PEOPLE LIABLE TO
RESPONSIBLE   CHANGE THEIR
EXPECTED TO FIND OUT   DEMANDS UNPRE-
WHY AND CORRECT IT   DICTABLY

0.290   0.423
                                                    CONFLICTING EVIDENCE
SPECIALISTS USED   KEPT COMING IN
THEIR OWN JARGON

                    AGREEMENT HAD TO BE   0.397   RECOMMENDATIONS
                    REACHED AMONG PEOPLE   ←——————→   FROM A VARIETY
                    OF WIDELY DIFFERING   OF VIEWPOINTS
                    INTERESTS   CIRCULATED

PEOPLE NEEDED ADVICE,   0.321   PROBLEMS REQUIRED   0.325   IMPOSSIBLE TO
INSTRUCTION   ←——————→   ADHERENCE TO   ←——————→   BE ALONE
                          SPECIFIC PROCEDURES

293

Appendix 6.2 continued

Time Period 6

ENVIRONMENT ITEMS

APPENDIX 6.3

APPENDIX 6.3   Table a) showing contingency coefficients (C) between pairs of learning ability items
(Time Period 1)

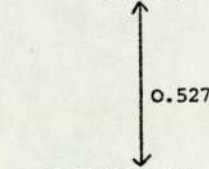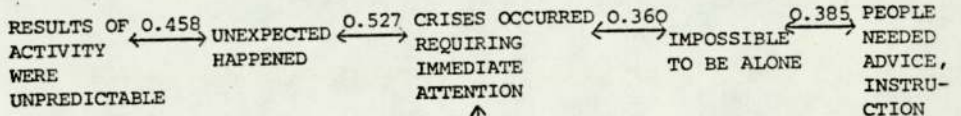|	ACT CONFIDENTLY	TAKE RISKS	CHOOSE BETWEEN COMPETING ALTERNATIVES	JUDGE THE MERITS OF A CASE	UNDERSTAND & INFLUENCE MY FEELINGS	UNDERSTAND & INFLUENCE OTHERS	THINK LOGICALLY	APPLY GENERAL PRINCIPLES TO CASES
ACT CONFIDENTLY	*ACTIVE EXPERIMEN- TATION*	0.505	0.495	0.434	0.403	0.372	0.464	0.448
TAKE RISKS			0.540	0.455	0.244	0.341	0.326	0.363
CHOOSE BETWEEN COMPETING ALTERNATIVES			*REFLECTIVE OBSERVATION*	0.484	0.315	0.409	0.520	0.451
JUDGE THE MERITS OF A CASE					0.424	0.507	0.491	0.488
UNDERSTAND & INFLUENCE MY FEELINGS					*CONCRETE EXPERIENCE*	0.383	0.367	0.313
UNDERSTAND & INFLUENCE OTHERS							0.399	0.479
THINK LOGICALLY							*ABSTRACT CONCEPTUALISATION*	0.417
APPLY GENERAL PRINCIPLES TO CASES								

(Chi-Square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.208)   A = 111 managers

Table b) showing contingency coefficients (C) between pairs of learning ability items (Time Period 2) Appendix 6.3 continued

	ACT CONFIDENTLY	TAKE RISKS	CHOOSE BETWEEN COMPETING ALTERNATIVES	JUDGE THE MERITS OF A CASE	UNDERSTAND & INFLUENCE MY FEELINGS	UNDERSTAND & INFLUENCE OTHERS	THINK LOGICALLY	APPLY GENERAL PRINCIPLES TO CASES
ACT CONFIDENTLY	[hatched]	0.238	0.264	0.306	0.319	0.359	0.320	0.238
TAKE RISKS	ACTIVE EXPERIMENTATION [hatched]	[hatched]	0.427	0.323	0.305	0.334	0.297	0.285
CHOOSE BETWEEN COMPETING ALTERNATIVES			REFLECTIVE OBSERVATION [hatched]	0.463	0.344	0.375	0.347	0.395
JUDGE THE MERITS OF A CASE			[hatched]		0.441	0.408	0.402	0.431
UNDERSTAND & INFLUENCE MY FEELINGS					CONCRETE EXPERIENCE [hatched]	0.318	0.295	0.376
UNDERSTAND & INFLUENCE OTHERS					[hatched]		0.314	0.407
THINK LOGICALLY							ABSTRACT CONCEPTUALISATION [hatched]	0.297
APPLY GENERAL PRINCIPLES TO CASES								[hatched]

(Chi-square values for contingency coefficients greater than 0.208 are statistically significant at the 0.05 level of confidence)

n = 110 managers

Table c) showing contingency coefficients (C) between pairs of learning ability items . Appendix 6.3 continued

	ACT CONFIDENTLY	TAKE RISKS	CHOOSE BETWEEN COMPETING ALTERNATIVES	JUDGE THE MERITS OF A CASE	UNDERSTAND & INFLUENCE MY FEELINGS	UNDERSTAND & INFLUENCE OTHERS	THINK LOGICALLY	APPLY GENERAL PRINCIPLES TO CASES
ACT CONFIDENTLY	ACTIVE EXPERIMENTATION	0.438	0.326	0.308	0.320	0.373	0.367	0.314
TAKE RISKS			0.458	0.329	0.312	0.433	0.369	0.328
CHOOSE BETWEEN COMPETING ALTERNATIVES			ACTIVE OBSERVATION	0.414	0.339	0.434	0.343	0.294
JUDGE THE MERITS OF A CASE					0.338	0.397	0.407	0.303
UNDERSTAND & INFLUENCE MY FEELINGS					CONCRETE EXPERIENCE	0.465	0.418	0.382
UNDERSTAND & INFLUENCE OTHERS							0.395	0.362
THINK LOGICALLY							ABSTRACT CONCEPTUALISATION	0.447
APPLY GENERAL PRINCIPLES TO CASES								

(Chi-square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.210) n = 108 managers

Table d) showing contingency coefficients (C) between pairs of learning ability items (Time period 5)   Appendix 6.3 continued

	ACT CONFIDENTLY	TAKE RISKS	CHOOSE BETWEEN COMPETING ALTERNATIVES	JUDGE THE MERITS OF A CASE	UNDERSTAND & INFLUENCE MY FEELINGS	UNDERSTAND & INFLUENCE OTHERS	THINK LOGICALLY	APPLY GENERAL PRINCIPLES TO CASES
ACT CONFIDENTLY	ACTIVE EXPERIMENTATION	0.381	0.442	0.492	0.429	0.381	0.397	0.336
TAKE RISKS			0.301	0.432	0.388	0.383	0.326	0.436
CHOOSE BETWEEN COMPETING ALTERNATIVES			REFLECTIVE OBSERVATION	0.421	0.419	0.415	0.276	0.319
JUDGE THE MERITS OF A CASE					0.480	0.432	0.378	0.428
UNDERSTAND & INFLUENCE MY FEELINGS					CONCRETE EXPERIENCE	0.422	0.336	0.326
UNDERSTAND & INFLUENCE OTHERS							0.364	0.498
THINK LOGICALLY							ABSTRACT CONCEPTUALISATION	0.455
APPLY GENERAL PRINCIPLES TO CASES								

(Chi-square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.230)   n = 90 managers

Table e) showing contingency coefficients (C) between pairs of learning ability items (Time period 6)

Appendix 6.3 continued

	ACT CONFIDENTLY	TAKE RISKS	CHOOSE BETWEEN COMPETING ALTERNATIVES	JUDGE THE MERITS OF A CASE	UNDERSTAND & INFLUENCE MY FEELINGS	UNDERSTAND & INFLUENCE OTHERS	THINK LOGICALLY	APPLY GENERAL PRINCIPLES TO CASES
ACT CONFIDENTLY		0.549	0.557	0.539	0.447	0.440	0.505	0.428
TAKE RISKS	ACTIVE EXPERIMENTATION		0.516	0.532	0.526	0.443	0.463	0.327
CHOOSE BETWEEN COMPETING ALTERNATIVES				0.573	0.546	0.487	0.473	0.388
JUDGE THE MERITS OF A CASE			REFLECTIVE OBSERVATION		0.477	0.424	0.489	0.408
UNDERSTAND & INFLUENCE MY FEELINGS						0.412	0.385	0.399
UNDERSTAND & INFLUENCE OTHERS					CONCRETE EXPERIENCE		0.335	0.387
THINK LOGICALLY								0.447
APPLY GENERAL PRINCIPLES TO CASES							ABSTRACT CONCEPTUALISATION	

(Chi-square values are statistically significant at the 0.05 level of confidence for contingency coefficients greater than 0.240)

n = 78 managers

APPENDIX 6.4   MCQUITTY CLUSTERS OF LEARNING ABILITY ITEMS

Time Period 1

LEARNING ITEMS

CHOOSE AMONG COMPETING ALTERNATIVES ←0.540→ TAKE RISKS ←0.505→ ACT CONFIDENTLY

0.520 → THINK THROUGH PROBLEMS LOGICALLY

UNDERSTAND AND INFLUENCE MY OWN FEELINGS   0.424 → JUDGE DISPASSIONATELY THE MERITS OF A CASE ←0.488 APPLY GENERAL PRINCIPLES TO PARTICULAR CASES

UNDERSTAND AND INFLUENCE OTHER PEOPLE 0.529
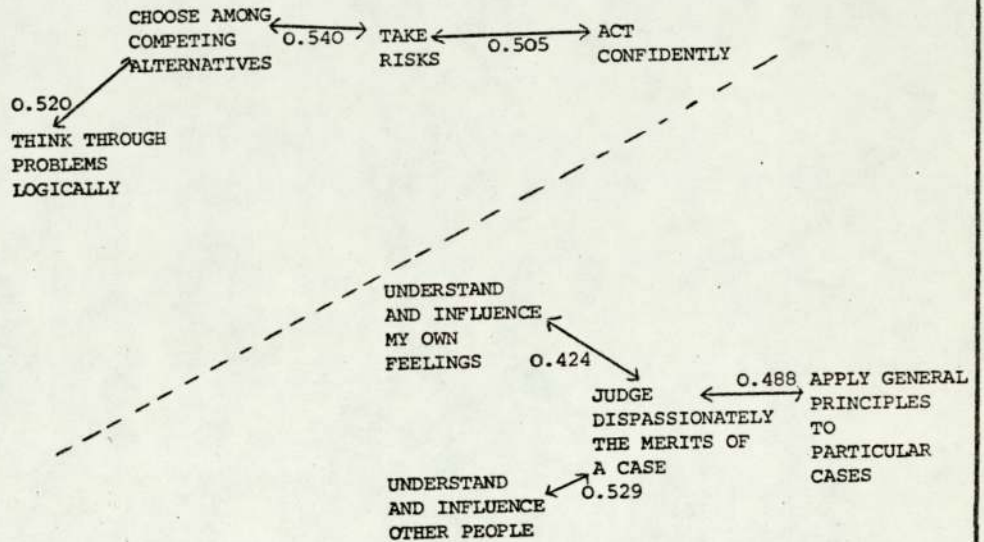
Time Period 2

LEARNING ITEMS

TAKE RISK 0.427

CHOOSE AMONG COMPETING ALTERNATIVES ←0.461→ JUDGE DISPASSIONATELY THE MERITS OF A CASE 0.441

0.431   0.402   0.408   UNDERSTAND AND INFLUENCE MY OWN FEELINGS

APPLY GENERAL PRINCIPLES TO PARTICULAR CASES   THINK THROUGH PROBLEMS LOGICALLY   UNDERSTAND AND INFLUENCE OTHERS

0.359

ACT CONFIDENTLY
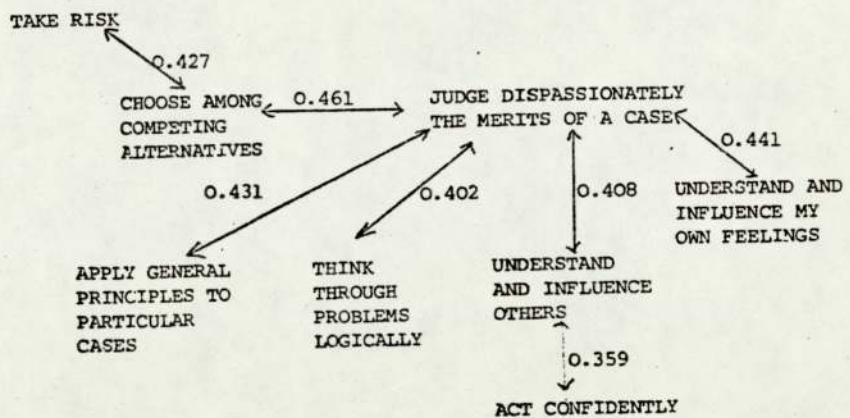
Appendix 6.4 continued

Time Period 3

LEARNING ITEMS

UNDERSTAND AND INFLUENCE OTHERS ← 0.465 → UNDERSTAND AND INFLUENCE MY OWN FEELINGS

- - - - - - - - - - - - - - - - -

JUDGE DISPASSIONATELY THE MERITS OF A CASE ←0.414→ CHOOSE AMONG COMPETING ALTERNATIVES ←0.458→ TAKE RISKS ←0.438→ ACT CONFIDENTLY

- - - - - - - - - - - - - - - - -

THINK THROUGH PROBLEMS LOGICALLY ← 0.447 → APPLY GENERAL PRINCIPLES TO PARTICULAR CASES

Time Period 5

LEARNING ITEMS

TAKE RISK ← 0.436

APPLY GENERAL PRINCIPLES TO PARTICULAR CASES ←0.498→ UNDERSTAND AND INFLUENCE OTHER PEOPLE

0.455

THINK THROUGH PROBLEMS LOGICALLY

CHOOSE AMONG COMPETING ALTERNATIVES ← 0.442

ACT CONFIDENTLY

0.492

JUDGE DISPASSIONATELY THE MERITS OF A CASE

UNDERSTAND AND INFLUENCE MY OWN FEELINGS ←0.480→

Time Period 6

LEARNING ITEMS

APPLY GENERAL
PRINCIPLES TO
PARTICULAR CASES

0.447

THINK THROUGH
PROBLEMS LOGICALLY

CHOOSE ← 0.573 → JUDGE DISPASSIONATELY
AMONG   THE MERITS OF A CASE
COMPETING
ALTERNATIVES

0.505   0.557

ACT
CONFIDENTLY

0.549

TAKE
RISKS

0.546

0.487

UNDERSTAND AND
INFLUENCE MY OWN
FEELINGS

UNDERSTAND
AND INFLUENCE
OTHER PEOPLE
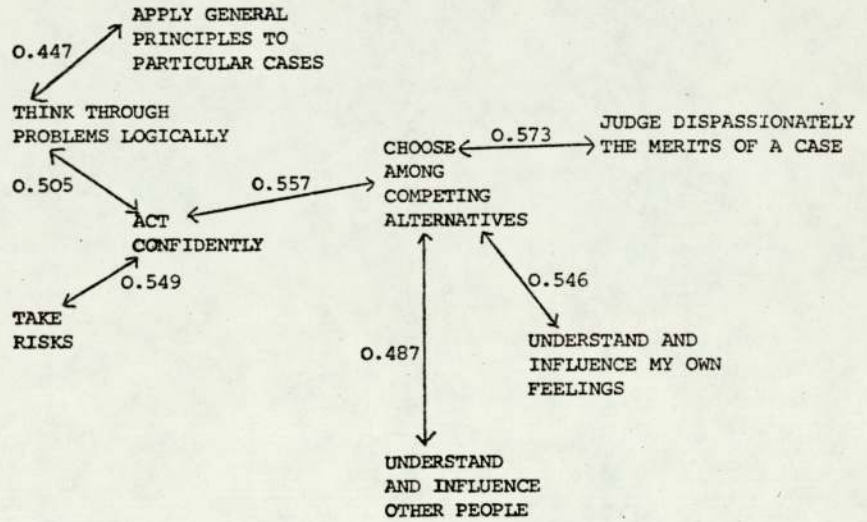
APPENDIX 7.1

APPENDIX 7.1 Comparing % responses on career history items between managers with high scores on learning ability in early, middle, late career.

Career History Items	Managers with high scores on learning in period 1 or 2 (%) Periods						Managers with high scores on learning in period 3 or 4 (%) Periods						Managers with high scores on learning in period 5 or 6 (%) Periods					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
I was working outside the UK.	43.9	49.1	45.6	28.1	17.5	15.8	34.4	37.6	48.0	36.0	19.2	17.6	32.1	31.3	38.4	34.8	33.0	28.6
I was heading a function	26.3	47.4	49.1	49.1	47.4	40.4	18.4	28.8	48.8	43.2	44.0	34.4	22.3	27.7	46.4	50.0	61.6	50.9
I was heading a line dept.	19.3	40.4	40.4	40.4	28.1	24.6	14.4	32.8	36.8	41.6	24.8	20.8	17.0	23.2	27.7	40.2	36.6	32.1
I moved within a country.	42.1	36.8	21.1	22.8	14.0	8.8	34.4	34.4	34.4	25.6	18.4	4.8	33.0	33.0	31.3	25.0	29.5	10.7
I moved to another country.	31.6	36.8	31.6	19.3	3.5	8.8	21.6	28.0	31.2	21.6	9.6	8.6	17.9	21.4	28.6	23.2	16.1	11.6
I moved to a more responsible job.	61.4	80.7	70.2	61.4	31.6	28.1	55.2	80.0	80.0	70.4	44.0	25.6	42.9	70.5	75.0	80.4	69.6	43.8
I met someone who influenced my career	42.1	33.3	26.3	21.1	14.0	12.3	24.0	42.4	38.4	24.0	8.0	4.8	23.2	31.3	30.4	24.1	16.1	11.6
I attended useful training	40.4	52.6	38.6	33.3	19.3	12.3	44.0	48.0	40.8	33.6	14.4	4.8	40.2	45.5	34.8	36.6	24.1	19.8
I had a major domestic change.	43.9	28.1	24.6	10.5	5.3	5.3	26.4	32.8	24.8	12.8	3.2	2.4	18.8	25.9	24.1	15.2	8.9	7.1
I moved to a different occupation - function	50.9	47.1	47.4	36.8	24.6	12.3	42.4	51.2	52.0	40.8	28.0	15.2	31.3	45.5	41.1	42.9	41.1	25.9
I had an unnerving experience	26.3	26.3	22.8	15.8	7.0	12.3	18.4	17.6	24.8	20.0	16.0	11.2	17.0	14.3	15.2	16.1	22.3	15.2
I was busy outside my work	35.1	35.1	38.6	28.1	22.8	24.6	23.2	23.2	30.4	29.6	20.0	18.4	24.1	27.7	28.6	29.5	32.1	30.4
Numbers	n= 57	n= 55	n= 49	n= 42	n= 36	n= 31	n= 125	n= 125	n= 125	n= 109	n= 86	n= 67	n= 112	n= 112	n= 112	n= 112	n= 112	n= 92

Appendix 8.1   Answers to specific questions raised by the General

Manager, Management Development

Does anyone agree training has helped them?

Training was generally considered to be more useful at the beginning of
a career, than at the end.   For General Managers, who had been working
for 30 or more years, 52% had found training useful in the first five
years at work.   By the time they had been working for 30 years only 3%
had had any useful training in a five year time span.   There is a
declining number in each five year period of General Managers who felt
they had attended training useful to their career.   Of course, from
the questionnaire data alone it is not possible to say whether this is
because training given has been unsuitable, or whether no training at
all has been given.   This may be ascertained from a study of training
records.

(The records of 31/36 of the General Managers with 30+time periods were
among those examined some time ago.   However these were probably
incomplete particularly for early periods.   The figures from those
records show that 9.68% of the 31 had training in the first period,
22.58% in the second, 25.81% in the third, 32.26% in the fourth, 22.58%
in the fifth and 3.23% in the sixth).

In the random sample only 27% of managers felt that training had been
helpful in their career development during their first 10 years at work.
During the third five year period this figure rose to 33% but by the 6th
five year period (25-30 years) only 11% felt they had attended helpful
training.

The overseas managers group showed a similar declining picture - 43%
felt they had received useful training in their first five years at work;
21% during the 25-30 years range.

When the first 15 years for all managers with fifteen years or more are
examined (the three groups above only considered managers with 30 years+
experience) 37% of managers agreed in the first five years, 40% in the
second five years and 37% in the third five years.

How important are outside interests?

For the General Manager group 20-25% of the managers were busy outside
work in the first 15 years.   This drops to around 18% in the 15-25 year
period, picking up later to 20%.   For the random sample there is a more
steady percentage of managers with outside interests, between 18% and 26%
at the extremes.   The overseas group show a very different pattern;
3% in the first five years have outside interests which keep them busy,
over 53% during the 25-30 year period.

Do people recognise the need to counsel their subordinates?

"People need to be instructed, advised or otherwise assisted", was important in each time period, but increasingly during the later years of a career.   Thus for the General Manager group 27% felt this was frequent in the first five years, and this rose to 77% in the 25-30 years period (the last five years).

This appeared to be even more the case for the random group - 43% in the first period rising to 89% in the sixth.

For the overseas group 21% endorsed the statement for the first five years and this rose to 89% in the 20-25 years period and 71% in the last period.

Mobility Generally to some yardstick :

GMs are compared with the other managers :- on, moving to a different country, different location in the same country, working outside the UK, moving to a different occupation or function.

For the GM group the number of managers working outside the UK was 33% in the first five years, dropping to 22% in the last five years.   This was higher than the random group whose figures fell from 25% to 8%. The overseas group however showed a very different pattern with 50% working overseas in the first five years to 97% (some had just returned home) in the sixth period.

A similar pattern occurred for moving between countries; 28% of GMs in the first five years moved to another country, falling to 11% in the last five years.   For the random group the figures were 25% in the first period rising to 65% in the third, dropping to 22% in the fifth and rising again to 40% in the sixth.

However when looking at moving to another locality in the same country, the GMs group moved more in the first two time periods (10 years) than did the other two groups.   There were two peaks for the GM group - period 2 (39%) and again in period 5 (30%).   The numbers of overseas and random managers who moved dropped throughout the time.

In every period a greater percentage of the General Manager group moved to another occupation or function than in the other two groups.   The random groups peak for moving was period 2 with 40% (47% of GMs moved in this period).   The overseas groups peak was period 3 with 44% (50% of GMs changed in this period).   The peak period for GMs is period 5 with 58% changing function or occupation in the 20-25 year period.

Thus if we take the General Manager group to be a success group in terms of level of management attained, we can say that there does not appear to be a high correlation between becoming a General Manager and working abroad or moving to another country.   The General Manager group does appear to have been more mobile within a country, particularly with the first 10 years.   The General Manager group appears to hold a greater number of people who have changed occupation or function in each time period. The questionnaire can reveal whether more GMs have had multi-functional careers than other managers have.

Looking at individual responses to the questionnaires, it can be seen
that 83% of the General Managers have changed function or occupation at
some time during their career.   16.6% have changed once, 16.6% twice,
19.5% three times, 2.4% four times, 8.3% five times and 19.5% six times.

For the overseas group 75% of managers had changed functions during their
career; 32.1% once, 7% twice, 7% three times, 14.3% four times, 3.5%
five times, 3.5% six times.

For the random group 82% said they had changed occupation or function
during their career.   27.7% had changed once, 23% twice, 18% three times,
6% four times, 2% five times, 4% six times.

Thus whilst the percentage of managers who change at some time during
their career is not significantly different between the groups; the GM
group has a higher percentage of managers who change several times.

An interesting observation is that comparing the job titles (which it
must be remembered is not exhaustive), the occupational/functional
changes which the GM group indicated tied in very well with these.   (One
change noted frequently was the change to 'general' management).   However
for the random group it frequently appeared that a change of occupation
or function corresponded to a change of job - e.g. works accountant to
chief accountant, planner to planning manager - or sometimes the job
title did not change.   Given this observation - it may be that GMs have
objectively changed function/occupation more than the random group, in a
more significant percentage than the data suggests.   This may suggest
something about the perceptions of these different groups of managers.

How many managers have been involved in policy making?

   a) In Technical areas

      The three groups show a slightly different pattern.   In the
      first three time periods the General Manager group show the
      higher percentages in increasing knowledge of technical policy
      making.   The peak is in periods 4-5 (53%).   The random and
      overseas group make a slower start; the overseas group rises
      until the sixth period (53%) making quite a leap between the
      periods 5 and 6.   The random group reaches a peak (61%) in
      period 5.

   b) In the Financial area

      There is a similar pattern in all three groups; an increase in
      the percentage who increased their knowledge in financial policy
      making for each time period.   In the sixth time period 47% of
      the random group, 68% of the overseas group and 58% of the GM
      group felt they had increased their knowledge in this period.
      (For the overseas group the jump from the 5th-6th time period
      was quite large 40% to 68%).

   c) In the Personnel area

      The overseas group and GM group reached a peak in period 5 (54%
      and 61% respectively).   The random group's highest percentage
      is in period 6 (40%).

d) For business as a whole

> This increased throughout the six time periods - the overseas
> group felt that 72% had increased their knowledge of this in
> the 6th time period, the General Manager group 80% and the
> random group, 48%.

Interrelatedness of technical, financial and human considerations

Throughout the first four time periods the GM group shows a higher
percentage increasing their knowledge in this; this group reaches a
peak in period 5 (64%) and is close in period 4 (61%).   The overseas
group peak in period 5 (61%).   The highest percentage for the random
group is 64% in period 6.

Business Environment

The pattern is an increase of knowledge from period 1 to 6 for all three
groups, the percentage increases being fairly similar between each period.
In the sixth time period the overseas and GM group reach 75%, the random
group 60%.

Take risks when necessary

Three different patterns are found; the GM group reaches a peak of 50%
in periods 4 and 5.   The overseas group shows a large increase from
period 3 to 4 (28% to 60%) - dropping to 50% in period 5, rising again
to 64% in period 6.   The random group rises steadily to 55% in period 6.

A correlation between career success and movement

In order to do this some criterion of success must be used.   The questionnaire
data does not provide this.   Previously the General Manager group was
compared with the other two groups; this could be taken as one study of
success.   It was intended that those who came to General Manager when they
were younger than average would be used as another example of success.
However, the managers who have not had 30+ years experience do not constitute
this group.   On examining the questionnaires it can be seen that some
GMs have been at that level for 10 years or more and it is not possible
from the data to sort out those who became GMs at a young age.   Therefore
this question can be examined but it would be necessary to choose a group
of people (who responded to the questionnaire) on some external criteria
of success - e.g. age on becoming a General Manager, secretary, appraisal/
assessment - and then compare this selected group with the others.

KP/WJT
December 1977

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