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ABSTRACT

Analysis and Synthesis of Managerial Jobs: Job Design

by

Mohammed Jamil Chaudri

The thesis reports research aimed at developing better ways of analysing managerial jobs in order subsequently to design them.

The main body of the thesis consists of 13 chapters split into four parts; in the Appendix are presented the questionnaires used in the studies and some further data bearing on the studies.

In Part 1 the author presents the reasons for his own interest in, and builds a case through literature evidence for the desirability of research in the area of managerial job design. The author proceeds to define the thesis research boundary and provides a brief introduction to the contents of the other 12 chapters.

Part 2 consists of 4 chapters, based on literature review, covering concepts of basic interest to the theory and practice of managerial job design. The four subject areas selectively dealt with are: Motivation (theories and models of man); the nature of the managerial job; organisational components; and theories of job design. Two approaches are taken with this material:

- (a) For the first three subject areas, the approach is inferential, i.e. given certain theoretical standpoints, where are the implications for managerial job design.
- (b) For the fourth subject area, theories of job design, the author offers a critical review.

Part 3 consists of 6 chapters. Four are reports of the studies conducted by the author and two consolidate the results of these studies with theoretical standpoints. In this part the author develops three standpoints on managerial job design and one on the connectivity of job design constructs.

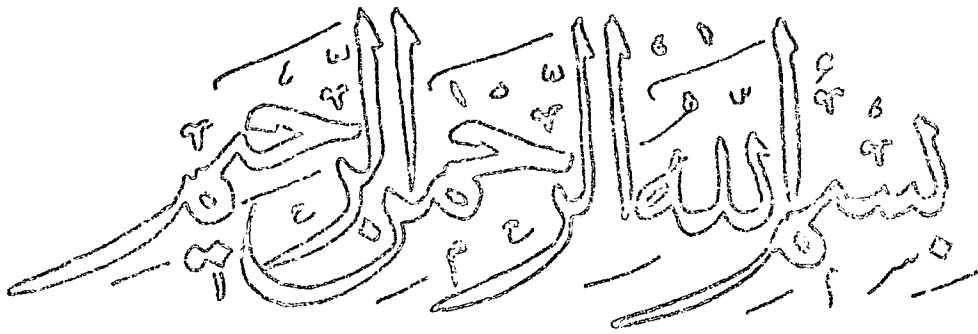
The three standpoints on managerial job design are:

1. The measures on the quality of the design of a job.

2. The open systems theory based required characteristics for the job design methodology.
3. The equilibrium loci of jobs.

The author shows how these three standpoints form the components of the wholistic theory of job design.

Part 4 consists of 2 chapters, the first of which reports a study on job holder acceptability of the derivatives of the author's wholistic theory of job design and the final chapter presents the author's review of the whole research effort.



In the name of God, Most Gracious, Most Merciful.

ANALYSIS AND SYNTHESIS OF MANAGERIAL JOBS:
JOB DESIGN

by

MOHAMMED JAMIL CHAUDRI, B.Sc., M.Sc.

Ph.D. Thesis, submitted in complete fulfilment of the requirements
at

Durham University Business School

April, 1982

Supervisor:

John L. J. Machin

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C O N T E N T SAnalysis and Synthesis of Managerial Jobs:
Job Design

			<u>Page No.</u>
Part I	Chapter 1	Scenario	1
Part II	Introduction		54
	Chapter 2	Determinants of Behaviour and Correlation of Experience in Job	56
	Chapter 3	Nature and Description of the Managerial Job	161
	Chapter 4	Organisational Components and Concepts	268
	Chapter 5	Theories and Practice of Job Design	351
Part III	Introduction		458
	Chapter 6	Survey of organisational practices with respect to the design of managerial jobs	460
	Chapter 7	Survey of job modification and the performance of different types of organisation	567
	Chapter 8	Analysis and synthesis of jobs: methodo- logical and application considerations	669
	Chapter 9	Action research: testing the job design methodology (and gathering evidence for the contingent job design theory)	731
	Chapter 10	Managerial heuristics - a study of the linkage between job design primitives	767
	Chapter 11	Job balance: job design as an arbitrage process	853
Part IV	Introduction		887
	Chapter 12	Managerial reaction to job design implementation propositions	888
	Chapter 13	Finale: Research perspectives	901
Appendices			
Bibliography			

Part I.

Chapter 1

CHAPTER 1

SCENARIO

Introduction

The purpose of this chapter is to set the scenarior - provide a background to, and state the development and progression, of the work reported in the body of the thesis. This chapter has been written from a developmental perspective and presents the material under the following headings:

- Section 1 - The researcher's choice of topic
- Section 2 - Evidence for the need to research the topic
- Section 3 - Potential benefits from research in this area
- Section 4 - Research boundaries
- Section 5 - The research process and methodologies
- Section 6 - The structure and logic of the thesis:
study organisation and contents

1.1. The researcher's choice of topic

The author, having worked in European industry, aspired to:

1. Develop his career
2. Read for the doctoral degree for self-fulfilment

He decided that the above two aims might be jointly pursued through reading for the doctoral degree at a Business School. Having made up his mind he corresponded with a number of business schools to determine the most fruitful and potentially most personally satisfying topics for research. This correspondence led the author to select the process of managerial job design. To the author the concept was appealing and the novelty of the concept excited him, not the least because he wanted to design his own career.

That the initial source of excitement and appeal lay in the author's visualisation of his own career and development has been stated; but then there were other possibilities that could have led to the same end results, so why did he choose to spend a prime period of his life on this particular project? The factors influencing choice included not only the experience-at-work that the author had undergone in the course of employment, but also living in general (i.e. having non-work related intercourse with friends, relatives, etc.) - through which the author had formed some very personal views on jobs. The author, therefore, regarded the emerging opportunity as a chance of being able to relate his evolved but very personal perspectives to the body of literature on the topic and on subjects related to the topic. So it was the relating back of the novel concept - Managerial Job Design - to his personal experience that propelled the author to accept the challenge of inquiry into the subject.

The aforementioned experience-at-work appertained to the author's employment for nearly seven years in a specialist function, where he came in contact with a large number of people having different functions and specialisms, from within as well as outwith his own department.

His interest in career development, coupled with his reading of the organisational mechanism made it appear to him that advancement to senior positions could involve a move to some function other than his own specialism; not that a move within the function was excluded but simply that career advancement can take either form.

Given the above background, the author had made informal and discreet exploration of the content and context of other jobs. This inquiry made him realise the diversity of content and context as well as the diffuse nature of jobs. The evidence adduced a lack of coherence and consistency - oftentimes two or more people having the same job title discussed their jobs as if these were completely different. The question raised in the author's mind was what the key factors were which gave rise to such different perceptions of ostensibly the same managerial job. Another aspect amounting to a conundrum was that even when people described their jobs similarly, often their satisfaction in their job was differently experienced and expressed. Such observations had made the author very receptive to the idea of exploring, "What jobs are all about".

The author's discussion, within his employing organisation, with those whom he held to be closely linked to his career development, on his developing and emerging interest to research in the field of Managerial Job Design also elicited a very positive response. They indicated their interest and acceptance by agreeing to a secondment agreement by which the author undertook the research on full-time residential basis at the university while continuing to draw reduced salary.

The volume and intensity of research activity in the area of Job Design, which the author discovered from his correspondence with the universities led him to believe that the topic, being new, had extensive scope for original work. That work undertaken would be of practical utility initially stemmed from the author's own experience but found reinforcement in discussion with the employing organisation as well as discussion with academics immediately prior to embarking on the research programme.

The research reported in this thesis, then, embodies the results of the author's endeavours, over more than 4 years, to improve his understanding of the nature of jobs and in the process develop concepts which could be fruitfully employed by others in real job situations. It is a report of the theories developed, the system tested, the action-research undertaken and the studies completed during the period of research.

1.2. The newness of the concept of Job Design

The concept of Job Design has received a good deal of attention over the last few years partly because it is a relatively recent topic of study as evidenced in the claim by Davis (1976):

"It has been 20 years since I originated the term and the concept of Job Design".

However, it would be wrong to assume that the subject area was completely ignored by either industry or academia prior to 1956. It will become apparent from the critical analysis presented in Chapters 2-6 (which traces the theoretical developments in related subject areas) that aspects of the design of managerial jobs have received a good deal of industrial and academic attention from the start of concentrated industrial activity.

Since 1956 the subject area has been receiving increasing attention and the construct, because new, has riveted the attention of many. What is it that makes it so important? The reasons for the importance lie in societal and industrial changes that have taken place in the recent past, are continuing to take place presently, and those that are expected to take place in the foreseeable future. These changes are discussed in the following section.

1.2.1. Changing societal paradigm

In this section the author presents some of the many social and technological changes that have taken place and are continuing to affect the environment in which managerial jobs are performed.

Changes in awareness

Since the beginning of this century there has been a great expansion in education in most countries of the world. To take the U.K. as an example, Figure 1.1 shows:

1. The number of universities in England (bar-chart) as indicated by data issued by the Association of Commonwealth Universities Yearbook (1974).
2. The population of England (line-chart) as indicated by the Annual Abstract of Statistics (1974).

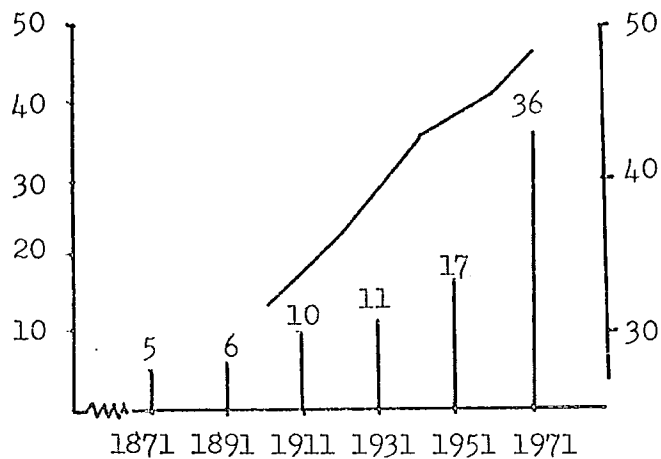


Figure 1: U.K. Universities

Taking note of the fact that the absolute number of universities is only a surrogate variable to the number of students and a second order of surrogate variable to the number of graduates, the point being attempted should still be clear: the level of education has improved and is continuing to improve. Den Hartog (1976) gives similar trends for Holland. In their ten-year study of more than 11,000 American executives Swinyard and Bond (1980) found the general educational attainment to be rising. Allowing for the fact that the country now needs different and higher levels of training

than in the past it still may happen that the job which previously would have been given to a (grammar) school-leaver is now often offered to a graduate. At the same time the minimum school leaving age has been raised and now stands at 16 years. The utility of education lies, inter alia, in the usable potential skills that are developed and in the habit of inquiry that is inculcated whereby skills and knowledge of the requisite types can be learned with ease. Education also imparts increased awareness of one's own self, and an increased ability to compare and contrast one's own lot with that of others with whom one works and interacts socially.

Within the context of rising awareness the role of improved communication must be considered. Increased awareness that improved communication offers raises opportunities to "see" the life styles of others. This, of course, induces desires for higher order material needs in some and a desire for a more tranquil life style in others. The particular desire aroused is irrelevant to the argument which is focused on the need for change aroused by increased individual awareness. Birchall (1975) traces this new awareness as the root cause of refusal by people to continue performing 'Mickey Mouse' jobs. The term Mickey Mouse refers to ill designed jobs - jobs that are found to be unfulfilling by those required to hold them.

The effects of this increased awareness are seen both in changing social demands and in a changed willingness to make demands. It could be that some of these demands were always there; the effect of change certainly is that those making these demands are now more vocal and willing to take action in support of their demands. Three interests high on the demands list of this new milieu, according to Harrison (1972), are:-

1. Security against economic, political or psychological deprivation.
2. Opportunities to voluntarily commit one's effort to goals that are personally meaningful.
3. The pursuit of one's own growth and development, even where this may conflict with the immediate needs of the organisation.

The implications of the above demands for the organisation are potentially profound; organisations may internalise these social demands either directly or as a consequence of government regulation. A brief discussion on these routes to internalisation the author regards as necessary.

Government legislation, in so far as it regulates organisational behaviour, could be legitimately surmised from Kraus (1980), is enacted when there is a large, reasoned body of opinion holding views which might not be upheld or honoured by some, perhaps maverick, organisations. Kotter and Schlesinger (1979) remark that increasingly managers are having to deal with government regulations. An example of the form legislation may take and one with impact on the design of jobs is the U.K. legislation on employment protection. Herzberg (1968) writes:

"If you have someone on a job, use him. If you can't use him on the job, get rid of him either via automation or by selection of someone with lesser ability. If you can't use him and you can't get rid of him, you will have a motivational problem".

The initial problem and a possible solution are presented. Government legislation has put paid to arbitrary dismissals, a category into which would fall dismissals arising from low morale or motivation.

Daniel and Stilgoe (1978) in their survey of the impact of employment protection legislation report that organisational views on this set of legislation seem to be undergoing reappraisal. Although initially, by and large, organisations seemed to regard these laws as having essentially negative effects, experience with working under these laws has made the organisation change their mind. To demonstrate this changing viewpoint Daniel and Stilgoe give the following quotes as typifying the situation:

While once the prevalent view was: "Law protects poor performance".

The current view is reflected in:-

"Management has been required to think more about the human side of their business".

"It forces management to manage systematically. It inhibits the worst excesses of personal eccentricity. But it has meant that you tend to retain the sub-marginal performance especially where job descriptions are unclear as in the case of salesmen and so on".

In other words, managers now have to do their jobs more thoroughly than before. The last quote is very interesting indeed. The link between unclear job description and categorisation of resulting performance as sub-marginal. Job protection acts do not prevent fair dismissals; but they do demand a clear articulation of what is not being done. Lack of clarity in a job description is merely one of the many manifestations of bad job design practices. This is only one example of legislation. Health & Welfare regulations equally affect jobs. Regulations, then, is the trigger for greater effort at Job Design: analysis followed, where necessary, by synthesis.

Direct Internalisation is indicated by, for example, the article by Ford (1973) who working as a personnel director admits that, "White-collar workers want to barter less of their life for bread", and is attempting to execute better designed jobs. Increased concern

for the quality of work life; demand for career planning programmes and improved work climate is reported by observers of the scene, such as Burack and Gutteridge (1978). The concept of human resource accountancy has many industrial advocates and practitioners (see Watson (1978), Mills (1979), Sinclair (1978)). Call for vesting of pensions, by individuals, is meeting increasing acceptance by firms (see Rosen and Jerdee (1977B)).

The above listing is a short account of concepts through which individuals are challenging what were entrenched organisational prerogatives. The old traditions are being questioned and the more innovative organisations are responding to their need in the environment. But as new ideas develop in scattered locations, there is a need to consolidate them. Further, the emerging situation calls for the analysis of existing jobs and the re-synthesis of those found wanting.

1.2.2. Shifting of Age Balance

Another societal phenomenon is the gradual increase in life expectancy due to advances in medical knowledge and surgery as well as improved availability of medical and para-medical services. The centroid of age distribution of the population is shifting towards the higher age groups. Given that most countries have general, as well as specific to profession, mandatory retirement ages, the ratio of retired to active people, in a given population, say that of Great Britain, is increasing. One way to tackle this problem, according to Rosen and Jerdee (1977B), is the reconsideration of mandatory retirement itself. The solution, in their words, might be:-

".... more emphasis on part-time work and flexible working hours, and gradual or planned retirement for older people. The idea that careers should end at a fixed chronological age is long overdue for "retirement"".

But retention of older people itself is a Job Design problem. Capacities decline with age, according to Marbach (1968) who was involved in a project set up by the Organisation for European Economic Co-operation specifically on "Employment of Older Workers". In his report, Marbach after underlining the importance of individual differences, and the fact that the physiological or psychological age may not correlate with the chronological age, goes on to say that physical dexterity is impaired; the process of decision and choice slows down; memory is affected, especially short-term memory; learning capacity is degraded. On the positive side there is wisdom and experience gained from the process of living.

A possible alternative would be an attempt to raise the productivity of those below the mandatory retirement age, so as to support those above the retirement limits. This course of action would, of course, be dependent on willingness of those for whom intensification of work is being suggested; the ingenuity that can be brought to bear to the process of design and finally the capacity to put in the extra energy required by such a solution. The possibility is there; the plausibility being conditional, will have to be worked out. The acceptance of the alternative would imply greater effort at Job Design: insightful analysis to find wastage and spare energy followed by re-synthesis.

At the same time as the individual-awareness changes take place, changes in technology of production as well as changes in the products themselves, necessitate adjustment in, and to, the workplace. To a measure, and as stated above, increased awareness is brought about by improved technology, e.g. telephone system, television, travel - items which are all relatively cheaper now than heretofore. But adjustment to, and in, the new technology has its own very impelling argument and reasons, and these are discussed briefly in the section to follow.

1.2.3. The technological argument

Over the last 40 years, there have been many changes on the industrial scene. Some of the older industries have all but vanished while some others have declined. Nothing has remained static, whether industries as a unit have not been affected, functions within them have. Even functions that have not materially changed in their goals have been permeated by innovative technologies. Accountancy has not changed in its aims and purpose, for example, yet one can perceive the changes in the theory (e.g. time value), methods (e.g. discounted cash flows) and techniques (e.g. for data-handling) used within this function. When whole industries and particular functions are undergoing rapid change it makes sense to try to meet these changes by attempting to ensure that jobs are regularly re-designed so as to facilitate change rather than wait for the change process to force belated adjustment.

Not only have old industries declined and vanished but new ones have risen. Often the accommodation and adjustment required of human beings by these new industries is different from those of the past or present.

These changes on the technological scene require a constant re-think on the design of jobs. It behoves those responsible for designing jobs to analyse and where necessary re-synthesise the jobs.

The new technology which demands change and constant watchfulness also provides facilities which can help organisations to meet the challenge of constant adjustment. One such facilitative technology is computers, in their application to information processing.

1.2.4. Opportunities in Information Processing

Information gathering, storage and manipulation has greatly benefited from the advent of computers. Information that would have

proved burdensome in gathering, let alone manipulation, can now be gathered, maintained and systematically reviewed at very little cost. The silicon chip revolution, then, presents a potential for collecting and, once collected, modifying, information that previously would have been for the purpose of Job Design a financially onerous undertaking, given that Job Design is a non-direct-production activity.

Computer based Job Design Systems could therefore be potentially advantageous for gathering information to be used in the analysis of jobs for most purposes including that of re-synthesis for those demanding of it. In the course of research the author defined the requirements for such a system (reported in Chapter 8).

In the foregoing three sections, discussion was directed at elucidating the changing environment which both necessitates greater effort at, and provides improved facilities for, Job Design. Focus on change might have detracted attention from the process of giving design to jobs. If a job were badly designed because due considerations are not given to the process and variables of design, then environmental and technological changes do not enter the picture. The change scenario simply points to the fact that even jobs well designed at one point in time may not be considered well designed at another point in time. It is imperative that the job be well designed from the outset, and this observation needs no additional qualification.

The value of a technique is no more than the gains it brings to those who use it. It becomes important, therefore, to ascertain the extant situation with respect to the design of jobs. If current designs are found lacking then the potential usefulness of a technique to remedy this situation becomes obvious.

1.2.5. Evidence for the need to research the topic

Up to this point Job Design has been treated undifferentiatedly with respect to the hierarchical context of jobs, i.e. whether manual, clerical or managerial. Section 1.4 on Research Boundaries presents a fuller discussion on the nature of jobs regarded as managerial for this thesis. The statement is necessary for the evidence is limited to jobs regarded as managerial by the author.

The most recent publication bearing evidence on profession-wide state of Job Design is the Finniston (1979) Report. This report castigates the utilisation of engineering personnel in no uncertain terms. Paragraph 3.33 deals with under-utilisation. Paragraph 3.34 presents two arguments: firstly, economic-based case for greater utilisation; secondly, an inferential case of what might come to pass were the current under-utilisation practices not checked.

Another piece of profession-wide evidence on ill-utilisation, comes from Stanic and Pym (1968). The title of this monograph is illustrative of the conclusion: "Brains Down the Drain - The Misuse of Highly-qualified Manpower". The report deals with chemists in industry.

Both the above reports discuss, at length, the propagation effect whereby mismatch at one level of the hierarchy produces mismatches at other levels.

Odiorne (1974) writes about the activity trap which individuals can fall into. Odiorne's thesis is that often activity is undertaken for its own sake, rather than being purposive towards objectives. He reiterates the words Drucker uses in the phrase:

"Doing things right becomes more important than doing the right things".

Support for this viewpoint comes from Blau's (1974) description of bureaucratisation as a process by which energy is diverted from providing goods and services to the creation and implementation of new rules and procedures.

Excessive controls means that energy of individuals is bottled up. According to Broad (1976):

"A wealth of untapped imagination, ideas, restless ingenuity and resourcefulness in every company is not being encouraged or liberated".

In a similar vein, Miles (1966) on the basis of data from "several thousand managers" concludes that in most organisations lamenting scarcity and limitedness of talent and abilities:

"The individual is seldom challenged to develop, or allowed to use, his full capacities".

He hypothesises that these under-utilised people are involved in "make-work" and "stretch-work". This lends empirical support to the testimonials on misutilisation of the kind so incisively and yet humourously portrayed by Parkinson (1957/71) of that law.

Jenkins (1979) commenting on the frequent topic of conversation among executives - labour shortages - writes:

"Overmanning and hoarding of skilled labour were clearly the cause of problems (i.e. problems of labour shortage).... Even in areas of high unemployment, industry fails to attract the people it wants; and from employers comes the persistent refrain that their abilities to produce is constrained by shortages of skills".

So while organisations throttle the expiration of their human energy what happens? Rice (1969) suggests that:

1. "If an enterprise fails to provide outlets for the unused capacities, they are likely to interfere with task performances."
2. "But when an individual takes a specific role not all his aptitudes are likely to be used, and his performance in any specific role is likely to be reduced by the amount of 'energy' he devotes to other aptitudes and to other "

In other words, if the job demands are below the job holder's capacities, he might not even put into the job the energy it requires!

Another point of view is that executives spend their time ineffectively. Luijk (1963) from an observational study on how executives spend their time concluded that:

".... out of the 1,000 hours observed and analysed, fully 320 hours were unable to stand up to close scrutiny".

and, later:

"32 per cent of the time was justly criticised".

Carlson (1951), as if explaining the above ineffectiveness relates it to insufficient use of assistants. Heller, according to Stewart (1976) relates this wastage to under-estimation of the capacity of subordinates to do their own job. And what is the result of this under-estimation? Burgoyne's (1975) perspective on managerial stress bears consideration. His viewpoint can be rhetorically put as

"Why is it that we talk of blue collar blues and executive stress?"

and his remarks that perhaps managers are taking on too much for themselves while denuding the jobs of subordinates may have some validity. Could the process of taking on too much be attributed

to the amorphous nature of jobs. The lack of defined boundaries permits those in senior positions slowly to erode the jobs of those subordinate to them. Taking on of the subordinates' jobs implies the interplay of authority which is power due to position occupation. Shetty (1978) lists different sources of power. Could individuals using other power bases not intrude into the jobs of their colleagues or even super-ordinates? Walton, Dutton and Cafferty (1969) found undefined boundaries to lead to either things undone or conflict, where the determinants of conflict were: (1) Ambiguity, (2) barriers to communications and (3) inequality in (a) work load and (b) rewards. The concept of soft boundaries is important and will be discussed at length in Chapter 3.

Cooper and Marshall (1978), studying stress, found the organisation to induce stress in a large number of people. They also found the effects of stress, beyond an individual's capacity for coping, to be reduction of effective working capacity. Wright (1975) points out that:

"For a bright person to be underemployed is almost the most stressful thing that can happen. It is extremely frustrating and disaffecting".

The story is long. In part 2 of the thesis the author will give more of such evidence and relate it to the different topics developed therein. It is worth examining what ensues from the state of affairs described above.

On the authority of Peter Blythe, Greenwood and Greenwood (1979) state:

".... authoritative medical opinion is that U.S. and Britain estimates that 70% of all patients currently being treated by doctors in general practice are suffering from conditions which have their origin in unresolved stress".

Pitt (1977) points out that high flyers with nothing to fly on, i.e. occupying positions that no longer fulfil them, eventually leave the organisation. Further, he points out that as the young and talented leave, those of mediocre and inferior ability remain to climb up the hierarchy. Support for this argument is provided by Barthol (1978) who suggests that if an organisation is split into two, one portion may be found to be doing the actual work while the other, labelled the Placebo, may only be involved in "stretch work" and "make work" that was discussed earlier.

1.3. Potential Benefits from Research in Job Design

In this section the author attempts to give an expose on the potential benefits that might accrue from designing jobs. However, prior to that it is necessary to state what the process of designing jobs involves and this in turn necessitates an understanding of the concept of job itself, in the way it has been and will be used by the author in this thesis.

1.3.1. The Job

For the purpose of this thesis, a job is a contract between an individual and an organisation, for mutual benefits. The particular organisation in mind is that described by Child (1972B) as the 'work organisation', and the job contract is therefore a work contract over a sustained period of time. There are many definitions of job and the differences stem primarily from the different interpretations and implementations that can be given to the contract (see Brown (1971), Newman and Rowbottom (1966/73)). In the main body of the thesis more will be said and discussed, in context, on the nature of this contract and concepts related to it; but for the moment, suffice it to say that what was written in Section 1.2 on the changing social paradigm had a bearing on the job-holders' interpretations of the terms of this contract. Figure 1.2 below is a diagrammatic representation of the author's views on the nature of this contract.

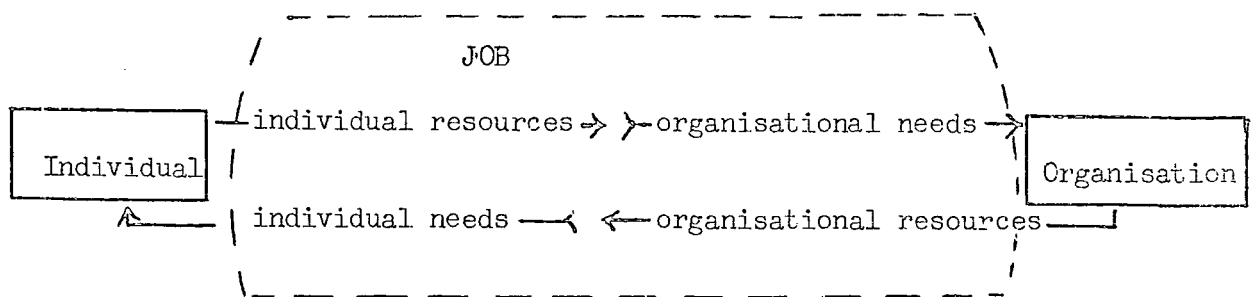


Figure 1.2: The Job

The flow shown by the upper arrows indicates that the individual possesses some resources which go towards meeting the needs of the organisation and the lower arrows are indicative of the fact that organisational resources go towards fulfilling the needs of the individual. The diagrammatic representation implies that the organisation and individual are both sources and sinks of resources: Organisational Resources are shunted into the job to meet the individual's needs - Job satisfaction (or dissatisfaction) being induced by this need fulfilment; individual resources are guided to fulfil organisational needs - Performance satisfactoriness (or dissatisfactoriness) being the result of the degree to which organisational needs are being met.

From the above, as a process, job is essentially a swap or trading i.e. transactional process; as a concept, a job is an interface between an individual and his employing organisation.

The contextual definition of job facilitates and leads to discussion on Job Design. In the following section, the author discusses a number of aspects of Job Design but does not attempt a definition of the term until later in the thesis (see Chapter 5).

1.3.2. Job Design

The subject area of Job Design deals, inter alia, with the individual/organisation interface. Specifically, in job design, attention is focussed on the job with the objective of investigating/evaluating this fit and where necessary taking corrective action towards improvement. Lawler (1976) refers to Job Design as the attempt to achieve "person-environment fit". The environment he refers to means the organisation in the above (author's) exposition. Lupton (1976) in reference to Job Design says the 'problem' tackled is "How to design for best fit", where, of course, the obvious and unsaid part is "between the individual and the organisation".

The author wishes to draw an analogy from engineering science to the subject of Job Design. In the realm of mechanical engineering, friction is recognised for its necessity and its nuisance. The simple act of walking would not be possible but for the assistance of friction. On the other hand, friction is found to be debilitating to machinery performance because of the wear and tear and heat removal problems. Tribology is defined by Moore (1975) as:

"The science and practice of friction, lubrication and wear applied to engineering surfaces in relative motion".

By focussing on the aspect of interacting surfaces in tribology the author sees the analogy:

"Job Design is to organisational science what tribology is to mechanical science"

In the mechanical sciences the study of friction leads to arrival at friction values close to planned (high or low), for unplanned friction results in dysfunctional effects: either lack of propulsion or heat and wear. While on the topic of friction, one important concept worth remarking and noting is traction. When friction is desirable it is often referred to as traction. While the underlying phenomenon is the same, when found undesirable it is referred to as friction and when desirable as traction.

In work organisational systems Job Design serves a similar function. Jobs are given design which provides propulsion but avoids excessive friction which is dysfunctional. The author regards the parameters of friction at the individual/organisation interface as satisfaction (for the job holder) and satisfactoriness (for the organisation). These two constructs - satisfaction and satisfactoriness - are, then, the measures of the state of "frictionness" from two perspectives.

Note the difference:

In mechanical science there are two surfaces and one value for friction.
In Job Design there are many surfaces and at least two values for friction.

Satisfaction and satisfactoriness are both constructs which can be measured on an ordinal scale, e.g. high, medium and low degrees of satisfaction. These could also be measured on a dichotomous scale, e.g. Yes to satisfaction, or no to satisfaction (see Nie et al(1970), Siegal (1956), for measurability of constructs). Figure 1.3 below presents an abstraction of the material in the preceding paragraph. The text following the figure attempts to provide the link to the mechanical analogy.

		Satisfactoriness for organisation	
		frictionless	friction
Satisfaction for individual	frictionless	Good	DF
	friction	DF	DF

Figure 1.3: Mechanical Analogy for Job Design

Note: DF = Design Failure.

In the mechanical analogy, if the purpose of design were to prevent slipping, then it is immaterial whether surface A slips over surface B, or vice versa; the design is a failure if slip occurs. Similarly, design of jobs will be considered of low acceptability if from either perspective it is considered "friction-ful".

The final aim of designing jobs would, then, be the adjustment of friction to values acceptable to both the parties subject to the job contract. In practice, many things may prevent the reaching of this 'final' desired state; in most situations some degree of departure from the theoretical final desired state is inevitable. The things preventing the arrival at the theoretically desired state are many: technological considerations, economic considerations, psychological considerations, to name only a few. To the author, in view of the theories on Job Design that will be presented in Chapters 5, 6 and 11, the two considerations having a bearing on compromise, from the theoretical ideal Job Design, are:

- (1) Judgemental viewpoint. Satisfaction is a psychological construct measuring a state of the mind. Given that most of us are idiosyncratically different from each other, in one or more of our tastes, likes and dislikes, it is bound to be the case that two or more individuals beholding the same reality may react differently. This is individual difference on preference. Another aspect of individual difference deals with differential loading on a set of predetermined cues by two or more people observing the same phenomenon, (Hoffman (1968)). Figure 1.4 is an adaptation of the diagram from Blevins (1974) of the Lens Model.

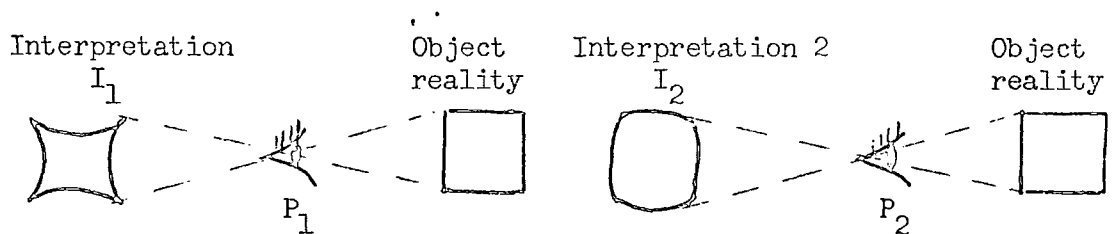


Figure 1.4: Lens Model

From the diagram of Figure 1.4, persons P_1 and P_2 , beholding the same objective reality are coming to different conclusions.

In Job Design (which eventually is re-design as will be argued in Chapter 8), the analysis consists of finding the causes of design degradation; but as there are two parties involved in this evaluation they may hold different points of view as to the things that should be adjusted, as well as the ways adjustments can be made. Culbert and McDonough (1977) discuss this topic at length.

(2) Incremental cost of improvement

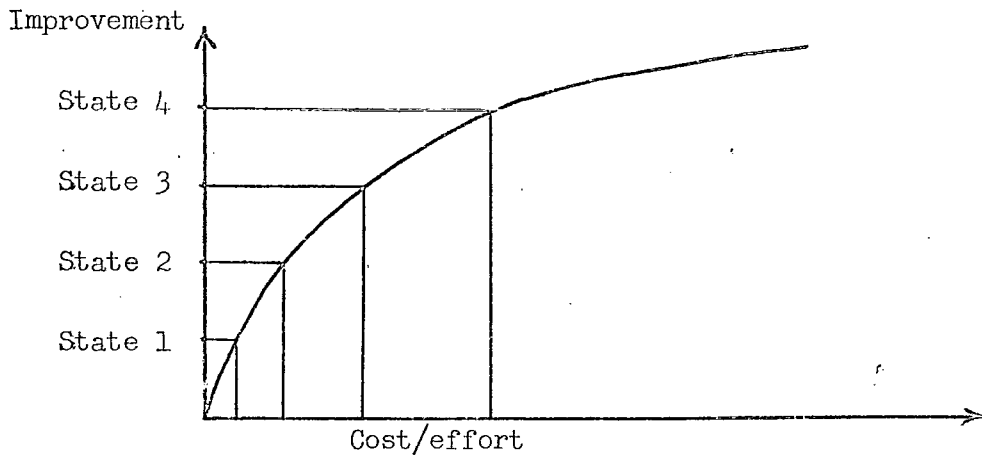


Figure 1.5: Improvements generated by unit cost/effort

Figure 1.5 depicts the normally accepted relationship between improvement and cost (or effort). The figure shows that the cost of improvement from state 1 to state 2 requires a certain number of units of cost, the same degree of improvement from state 3 to state 4 entails a much greater cost. This is the benefit-cost analysis of improvement. The application of this to Job Re-design would imply that were a job found to be 10 units design deficient, the removal of the first 5 units of deficiency

would entail a cost, say x units of effort (or money); the next x units of effort will generate less than 5 units of improvement. As the cost associated with improving the design increases, the point may be reached where the process of improvement is judged to be unjustified.

1.3.3. The Spirit of Job Design: the different approaches

Having discussed both jobs and Job Design, a position is reached where a meaningful, although of necessity brief, discussion on how Job Design affects the jobs can be held. The focus of discussion here is the approaches to Job Design which give the process its impetus.

The construct 'satisfaction' deals with individual experiences at work. 'Satisfactoriness' pertains to, and is a measure of, an individual's contribution to organisation purpose - organisational effectiveness. Friction at the individual/organisation interface represents the interaction between the individual's experience at work and organisational effectiveness. Researchers, starting from these source meanings have developed the job design theme into different paradigms. The author discerns two distinct approaches to forming a paradigm - one macro and one micro.

The Macro level approach: the theoretical standpoint

Buchanan (1979) has compiled the most comprehensive review, to date, of the theories of, and the underlying theories related to, job design. He starts his work with a rhetorical question: "What should the human experience of work be like?" Indeed, what should this experience be, what has it been, and what is it? Entry into Job Design through this conceptualisation could be referred to as the "Quality of Life" school. The adherents of this school trace the human experience at work and find that, since the beginning of industrialisation, especially since the beginning of extensive mechanisation, the experience has been of mindless and soul

destroying monotony; generating a feeling of helplessness and deprivation (Winter (1920), Beynon (1973/75)). The proponents of this line of thinking look at job design as a method of humanising the work. This tradition is pursued in the report to the Secretary of Health, Education and Welfare (1973), entitled "Work in America" and "Quality of Working Life" edited by Davis and Cherns (1975).

Closely allied to the "Quality of Life" school is the "Democratisation of Work" school. The western European tradition seems to favour this approach (see Mills, Ted (1978)). Two of the chief activists in this area, Emery and Thorsrud (1976), define this approach as experiments in:

"alternative organisation forms and their impacts upon employee participation".

Herbst (1976), inter alia, compares the different forms and formations of organisations and reports on a work democratisation project. Machin also belongs to this school as is evidenced from his caricature of a traditional (hierarchical) organisation, in Machin and Wilson (1979):

".... take employing organisation where it is apparent that for most employees the role of legislator, executive and judge generally rests in a single person, namely their boss! For most employees their boss sets the boundaries of operation, authority, responsibility, accountability and resource availability; and it is then the boss who agrees objectives with subordinates (or tells them what to do) and then, incredibly, it is the boss who judges performance and decides on rewards and punishments".

The author believes Machin to belong to the democratisation of work school, for in the above quoted article Machin presents an alternative to the caricatured beast.

The reasons given for undertaking job design and the gains accrued where job design has been attempted are often of the conceptual variety:

- To give 'meaning' to work
- To improve labour relations
- To increase variety (stimuli) in work
- To improve communication
- To remove frustration
- To improve team spirit
- To elicit higher motivation
- To build democratic institutions

The Micro Approach: The application

Under this approach the author groups those works that report immediate gains for the organisation or the individual. Whereas the macro approach deals philosophically with Galbraithian dimensions of life, the micro level deals with the application of Job Design i.e. it shows the practical nature of improvements that can be implemented. The items listed at the end of the foregoing section may be regarded as the aims of job design; or as the demands of the new social milieu. The author now poses one fundamental question: how are demands articulated? Earlier it was pointed out that the new social milieu is willing to reinforce the assertion of its demands by taking action. The demands may be articulated through the action taken. Job Design is then directed at arresting the actions. The gains reported and attributed to successful job design are those that pertain to arresting negative behaviour patterns.

Van Beck (1974) reports lowering of absenteeism as a consequence of improved Job Design. Tuggle (1969) reports reduction of staff complaints by 80%. Wild (1975) and Strauss (1955) both report increased productivity without reduction in quality. The Report to the Secretary of Health, Education and Welfare (1973) indicates

improved employee attitude. Swart (1973) reports reduced staff turnover. Lawler, Hackman and Kaufman (1973) report reduction in training time. Huse and Beer (1971) report improved inventory control leading to reduction in material shortages. Pelissier (1965) reports increase in employee promotion prospects. Enhanced job status is reported by Novara (1973). Ruehl (1974) reports reduction of machine downtime. Birchall (1975) in a survey on effects of Job Design found reduction in wastage and reduced machine maintenance costs.

In fact the reports on work design come from many sources, and this led Buchanan (1979) to surmise that:

"Interest in Job Design is not a local phenomenon, but has achieved international recognition".

One thing noted by the author during his review of the literature was the infrequent reportage, not total absence but just low occurrence, of the effect of Job Design on earnings. This might be explained partly by the fact that often even Job Design consultants whose theoretical standpoint may be of the macro kind when attempting to find client organisations are often reduced to "selling" the approach to management which insists on doing things that generate profit. This is clearly admitted and indicated by some; Whitsett (1971) (also reproduced in Buchanan (1979)) writes:

".... I do not find that job satisfaction, improved job attitude, happiness or for that matter, mental health saleable quantities in and of themselves. As a consultant, I have found it difficult, if not impossible, except in rare instances, to sell job satisfaction or mental health; so, I sell human resource utilisation".

Further (as will be fully documented in Chapter 5 which contains a review of Job Design Theories) some theoretical standpoints stipulate 'no increase in salary'. However, there appears to be a shift in paradigm and it is being increasingly recognised that accrued benefits should be shared between the individual and organisation as indicated by the inclusion of self-esteem, economic wellbeing and security as intended results of Job Design, by Walton (1979). Clegg (1979) reports on increased salary for some workers. Monczka and Reif (1973) also refer to improved fringe benefits, which the author takes to mean monetary benefits although other interpretations are possible. Earlier, Walker (1950) discussing the implementation of a job enlargement plan wrote:

"The worker received from the plan an increase in personal satisfaction in the job, plus higher wages".

As salaries could be regarded as an important ingredient of jobs, both for the employer and the employee, according to Cockman (1975), then low reportage remarked on now will be discussed in the main body of the thesis.

1.3.4. The Interpretations of the phrase "Job Design"

Having stated what job design means to the author, a brief note on the phrase is necessary. The phrase Job Design can have two possible interpretations:

1. The measurements on the shape
2. The process of designing.

The process of measurement takes the job as a given, and involves the evaluation on the shape, looking on it from above as shown in Figure 1.6. The individual components are not material. The focus is on experience-in-job.

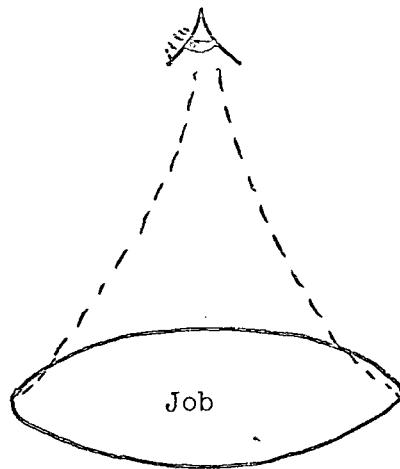


Figure 1.6

The process of designing, on the other hand, requires manipulation of the job content. The manipulation of the content does not, per se, imply that the content be described in a specific way. In Chapter 3 the author presents a large number of methods, devised by researchers or practitioners to serve as useful abstractions of the managerial job. The author wanted to investigate the possibility of adopting one or the other of these abstractions as a standard item in his methodology. Chapter 9 reports the study in which the standardisation potential was tested.

1.4. Research Boundaries

There are four key words in the thesis title: Analysis, Synthesis, Job and Design. It seems appropriate at this point to define and explain these words. The Oxford Dictionary (1960/1971) defines "Analysis" as a noun and explains it as a process of "Resolution into simple elements"; "Analysis" as a verb is explained as "Examine minutely the constituents of; (chemical, physical), ascertain the elements of (a compound), find, show the essence of". Analysis, then, is a process of breaking up a whole. However, the assumption is that some predetermined purpose exists for undertaking the breaking process; the purpose at the most rudimentary level would be a simple description of what was obtained or observed.

The word "Synthesis" is defined as a noun, and explained as, "Combination, composition, pulling together (opposite of analysis), building up of separate elements especially of conceptions or propositions or facts, into a connected whole, especially a theory or system". Synthesis is, then, a constructive, building or modifying process.

Although the process of analysis may not always be undertaken with the purpose of synthesis, the process of synthesis is always preceded by analysis; though such analysis may not have been done formally or indeed for the purpose of synthesis.

"Job" is defined in the dictionary as a noun and explained as, "Piece of work, especially one done for hire or profit, employment, post". In organisation theory the implied contractual nature of jobs is well recognised, for example, Newman and Rowbottom (198/73) say:

".... the basic contract in the employment situation is of pay and other rewards in return for 'work on demand'".

In Job Design literature, other modified definitions of the concept have been operationally adopted. For example, Davis (1955) suggests that to him Job means:

"The total of the tasks assigned to an individual, which may be as small as one task composed of one element of an operation or as large as all the tasks composed of all the operation required to complete one or more processes".

That the Davis definition is tilted is evidenced from the fact that it only covers the concept from one side - the purpose of the job for the individual is totally ignored. The word job as used in the thesis title will cover all aspects of the job including remuneration, and therefore will be more akin to the dictionary definition. That some other researchers adopt a definition similar to the author's is evident from Loche's (1976A) statement:

"A job is not an entity but a complete inter-relationship of tasks, roles, responsibilities, interactions, incentives and rewards".

The context of jobs being discussed is the "Work Organisation" which is a subset of the genre organisation. Child (1972B) defines the work organisation as:

"... those within which work is carried out on a regular basis by paid employees, and which have been deliberately established for explicit purposes. The category includes organisation with formal objectives as diverse as business enterprise, hospitals, educational institutions, government departments and the administrative offices of trade unions".

The word "Design" can be either a noun or a verb. As a noun it indicates a "construction or a plot". As a verb it indicates "The process of planning with purpose and intent". Associated with design as a process, there must be a set of constructs which are used to guide

the process. The process takes the form of loading the constructs in a predetermined way to achieve an overall condition. This final condition is thus the design (the noun) manifested by the artifacted object.

The word "managerial" used in the thesis title serves as a delimiter, indicating the author's focus on a certain subset of jobs; its use serves primarily to exclude only programmable jobs - the so-called operator level and clerical (white collar) jobs.

The concept "manager" defies definition to the extent that even the BIM report by Melrose-Woodman (1978) starts off with the admission of the term's defiance to definition. The operational definitions of the term adopted by the author would, besides including any position holders having one or more people reporting to them, include, also, within the managerial class, those position holders who, while currently having no immediate subordinates are being specifically trained to hold such positions. Further, the author has taken to be within the managerial ambit individual position holders who Drucker (1974) has described as:

".... the knowledge worker who puts to work what he has learned in systematic education, that is concepts, ideas and theories rather than the man who puts to work manual skills or muscle".

And such position holders in the words of Schein (1978) may be:

"individual contributors who are not motivated towards climbing the organisational ladder".

The application of the above criteria leads to the description of a managerial position holder as: "A person whose job is partially or wholly unprogrammable and requires judgement for it to be performed successfully". In this conceptually difficult area, some of the studies where managerial respondents were required, the following definition was used:

"A managerial position holder is one whom other managerial position holders, within his employing organisation, will recognise as such".

It is relatively difficult to encapsulate more than three years of full-time research activity in a single short title. The author selected this title to highlight three major points:

- A. Managerial Job Design should be a positive process based on theory-related propositions which have had empirical validation.
- B. Synthesis is only pro-actively possible with specialised systems and detailed personal and task information which itself is generated by
- C. Analysis based on theory related propositions.

5. The Research Process and Methodologies

The research reported in this thesis can be conceptually split into the following two stages:

Stage 1 - Exploratory analysis

The author started off with complete openness to ideas. The hallmark of this stage was, and only with hindsight is this comment possible, the conceptual telescoping effect. From the background of ideational panorama, the author began to focus on concepts and links between concepts. The focussing, of course, had the effect of making the literature search more directed and structured. Even at this stage the search for the resolution of some conceptual conundrums led to the acquisition of empirical evidence.

Stage 2 - Purposive Synthesis

In this stage the author began to fit the pieces of what to him was like an intellectual jigsaw puzzle, into place by conducting purposive investigations not only to collect data/information but more and more tending towards application of learning and validation of conceptualisation.

The purpose of this section is to outline the course of research through these two stages.

5.1. Exploratory Analysis

At the outset, the researcher set himself the target of reviewing the literature on managerial job design. This, of course, necessitated reading into motivation theory as well as theories of organisational design and behaviour. This phase was, naturally, very exciting but was also enervating. From Job Design literature the author deduced that at a minimum two theories were required: a substantive theory and a mechanical theory. The necessity for the substantive theory arises

from the requirement to measure the Quality of the Design of a Job. The mechanical (or locomotive) theory would then be required to enable the designing process, i.e. in contriving the arrival at a design having the required attributes. Most of the literature studied does not observe this clear and important distinction and some, as a result, is confusing. The author, however, found that existing theory could be separated and mapped onto the proposed theoretical schema.

A critical determinant of the research documented in this thesis was the author's discovery - while reviewing the Job Design literature - that there was a total lack of reportage on Managerial Job Design. The query raised in the author's mind was whether managerial jobs were so well designed that they required no design effort, no study effort. This conjecture was belied by the author's own experience. But own experience is no grounds for assumptions! The lack of reference to managerial jobs in the job design literature heartened the author, for here was his opportunity! That the job design theories would stem from theories of motivation seemed transparently obvious to the researcher, yet it was difficult to establish the existing connection (if any) between the two. Concepts relating to this missing link were developed by the author in this stage; but had to wait for development and field research until Stage 2.

During Stage 1 the author also identified the almost total lack of a coherent and directed methodology for job design.

It was during this stage of the research that it was decided to focus attention on managerial jobs. This focus entailed expanding the literature search into the nature of managerial jobs.

Figure 1.7 illustrates the author's developing and evolving thinking at this stage. The titles within the enclosures indicate the emerging

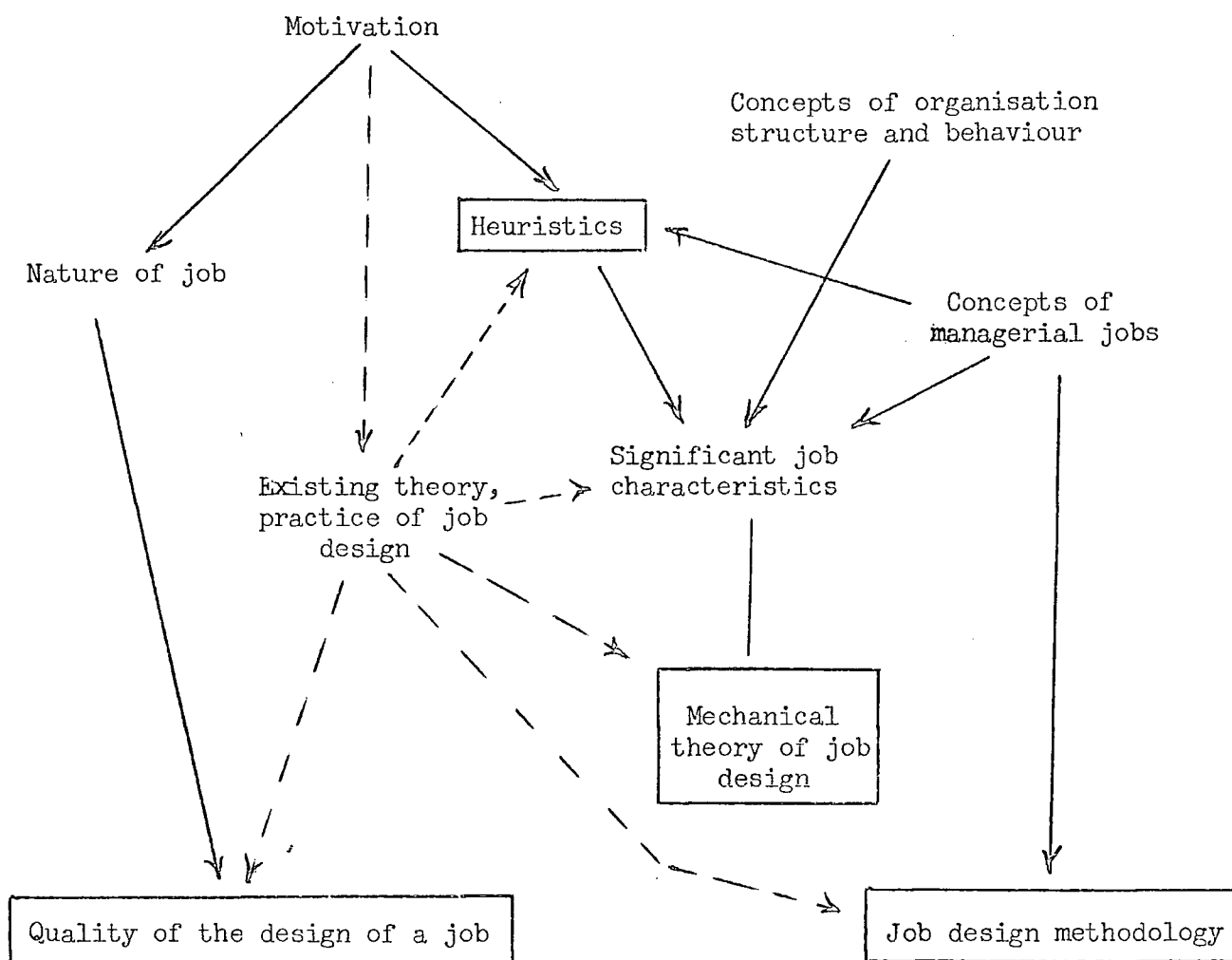


Figure 1.7: Development of Research Strategy, Stage 1

questions which the author thought could only be resolved with empirical data. The key question, of course, was, "How do organisations attempt to achieve the individual/organisation interface?!" In response to this imperative a survey of Managerial Job Design practices was conducted. This survey not only helped define the measures on the quality of the design of a job but also drew out incremental and insightful information that was later used when directing effort on the subject of job design methodology and the mechanical theory of job design.

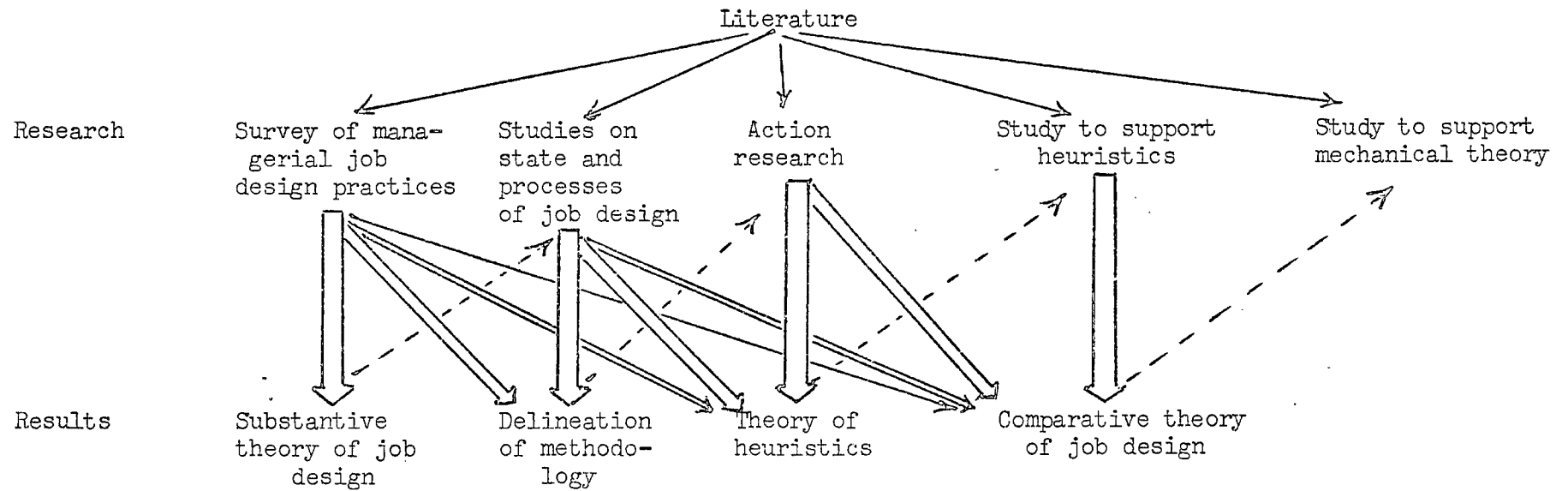


Figure 1.8: Overview of Research Conduct

Note: The width of the arrow indicates the support given by a particular study to the results. The dotted lines indicate the iterative nature of the studies.

While reading on the nature of managerial jobs, circumstantial evidence, some of which has been presented in Section 1.2, was gathered on the state of "the managerial job". It was thought by the author desirable to find out the situation extant. Further, the author felt impelled to test out the quality of design of a job constructs delineated in the survey. Equally, the survey had produced data which, insightful as it was, was nonetheless not sufficient for defining a Job Design Methodology. The insight gained was used to build more precise questions, the responses to which were needed for delineating the characteristics of the Job Design Methodology. For all the reasons enumerated above, and a host of minor ones, two complementary studies were conducted. As a consequence of these complementary studies the author:

1. Could conclude that a Managerial Job Design would be positively beneficial for practice.
2. Was in a position to determine the salient characteristics for a job design methodology.

In summary, by the end of the first stage of the research the author had achieved a balanced, insightful understanding of Managerial Jobs and Theories of Job Design; was in a position firstly to define the characteristics that a Job Design Methodology should possess and, secondly, to search for existing methodologies that might, with modifications if necessary, be usable; he had a feeling that knowledge gained would greatly help in developing a mechanical theory of Job Design. He was also somewhat daunted at the work ahead.

5.2. Purposive Synthesis

The characteristics for the job design methodology were defined. The author's meeting with Dr. David Buchanan at a conference had presented the author with an opportunity to discuss with him the

problem of units of analysis in Job Design. Buchanan's views on this problem of units are discussed in Chapter 12 of his book which was subsequently published (Buchanan (1979)). This discussion was germane to the author's subsequent postulation that managerial Job Design Methodology needs three units: the unit of measurement, the unit of process and the unit of interchange. Of necessity, these will be defined, described, and discussed in the body of the thesis. The delineation of the process characteristics led to the adoption of an existing methodology for testing.

An action research study was conducted with this methodology, the substantive theory of Job Design, and a 'portable' mechanical theory of Job Design. The use of the adjective 'portable' for the mechanical theory follows from the fact that at this stage the author considered his conceptualisation as being subject to revision or at least in need of action-research confirmation. The purposes of this action-research were:-

1. To test the managerial Job Design Methodology.
2. To develop concepts on heuristics.
3. To test the existing conceptualisations on the mechanical theory.

The author has earlier mentioned that the connection between theories of motivation and Job Design seemed tenuous. The author, on the basis of his developing views on motivation, conducted a study using Herzberg et al's (1959) constructs on motivation. The results of this study builds on the work of Herzberg and presents a new perspective on managerial motivation. The author's conclusion that changing an individual's motivation is a learning/teaching process - an evolutionary process - may appear discouraging; but his conjecture that performance could be acquired through interest aroused by

capturing the individual's heuristics and planned meshing of goals (of the individual with those of the organisation) may stand up to the rigour of further testing.

Finally, the author collected and distilled all the material gathered and built up a Mechanical Theory of Job Design. This is a theory based on the concepts of arbitrage and equity. The method adopted to ascertain whether there was supportive evidence for this theory was as follows. Given the author's claim that the proposed theory is a wholistic theory, actual validation of the theory can only take place in application - action-research - using a large number of job design experiments. Lacking both the time and the resources to adopt this method it was decided to adopt a 'synthetic' validation procedure. In essence, the method of synthesis validation involves asking managerial job-holders to indicate their attitude towards the propositions deduced from the theory - the quality of the design of a job, the mechanical theory of job design and job design methodology. Note that the last mentioned three theoretical standpoints together constitute the wholistic theory. The theoretical standpoint of heuristic (see Diagram 1.7) is the intermediary link to the derivation of the mechanical theory - without it, no direct link to motivation theory would obtain.

Figure 1.8 depicts an overview of the total conduct of research. The overall research design could be described as a 'cascade' process. At each step that raw data was generated, it provided support for immediate need as well as for the subsequent steps. Whereas the first set of raw data from the survey could be regarded as purely of 'seeding' value, and the last study as a purely validational undertaking, all the other studies were conducted for both testing and generating information.

An Overview on Methodologies

Over the whole research a number of different methodologies were used; the major determinant of the choice in methodology being its appropriateness, for the purpose at hand. The objective of this subsection is to comment on the methodological framework employed in a particular study and to comment on the use of different methodologies within the same study.

Before the commentary on individual methodologies, some comments on choice of study participants might be useful. As the author was attempting to develop a wholistic theory of managerial job design, so in all the investigations undertaken:

1. The participants were, per force of purpose, managerial job holders.
2. As far as possible, different participants were recruited.

Figure 1.8 indicates the "carry-over" from investigation to investigation. In the author's opinion, the use of the same set of participants would have negated the concept of "wholeness" - propositions deduced from such empirical data would have run the risk of being too specifically source dependent and therefore potentially lacking general applicability. The use of different participants for each study adds credibility to the claim of wholeness; moreover, methodologically such design enabled the researcher to check at every step whether the deductions he was reaching could be formulated with respect to one set of participants and hold validity with respect to another set.

3. While overall participant heterogeneity, as discussed in 2 above, was called for, in two investigations marked B

and C in Figure 1.8, the necessary research design involved participant closeness with respect to certain characteristics: (a) In study C, the obvious need was that the individual job holders be job linked; (b) In investigation B, part of the purpose was in depth study of organisational practices and the consequences of these practices - the research design called for the use of a small number of organisations, i.e. the positions to be researched had to be organisationally linked.

Four methodologies were employed:

1. The questionnaires
2. The interviews
3. The job audit
4. Observations by the researcher.

As the job audit methodology is new familiarity will not be assumed; this methodology is fully defined in Chapter 9, which reports the action research on which it was used but a brief description of it will be given during the discussions on it in this sub-section.

The Questionnaire Methodology

This methodology was adopted wherever the research design called for the involvement of a large number of participants. In fact, the only investigation which did not use this methodology was the action research study, called C in Figure 1.8. This methodology was used for (references to investigation are pointers to Figure 1.8):-

1. Gathering data in order to arrive at propositions - investigation A.
2. Finding support for deduced proposition - investigation E.
3. Both (1) and (2) - investigation B and D.

Further, in all investigations where gathering of incremental knowledge/information was part of the purpose, some open questions were formulated and additionally space was provided for the participants to add any information on topics to which no question was posed but which were seen as situationally important to the participant. The only investigation in which open questions or open spaces were not provided was the questionnaire used in the heuristics study, (Chapter 10).

The Interview Methodology

This methodology was used in investigations B and C, i.e. in situations where in-depth exploration was necessary. In investigation B it was adopted and applied not to the whole participant population but to:

- a small fraction thereof, randomly chosen
- particular cases which the author could not interpret.

(More about this aspect in the study report in Chapter 7).

In investigation C, the methodology was used for leading to, and arriving at, diagnosis - attempt at clinical diagnosis without recourse to some form of interviewing is unimaginable.

Job Audit Methodology

This methodology involves participants stating:

1. What they think others (the role set) expect of them, and
2. What they expect from others (the role set).

The methodology is defined at length in Chapter 9, which reports on the Action Research study where this particular methodology was used. The way it was used by the author, it worked, i.e. served purpose, in two ways:

1. The methodology enabled managerial position holders to explore the nature and boundaries of their own jobs.

2. By virtue of, firstly, the fact that these "expectation" statements were written as much for the author's benefit as for their (the participants') own, and, secondly, the author's presence at the ensuing dyadic discussions, the author was able to:

- (a) see the evolving boundaries as the participants explored
- (b) form a reasonable opinion of the totality of each participant's job.

The Observational Methodology

The observational methodology was used by the author in the action research study (reported in Chapter 9) to see how individual job holders translated the job audit statements into operations. In fact, the observation period coincided with the interviewing. The observations helped the author to better formulate the interview questions to draw out the individual's experience-in-job. Experience-in-job was the basis of diagnosis on design weaknesses. Figure 1.9 is a diagrammatic representation of the role of observations.

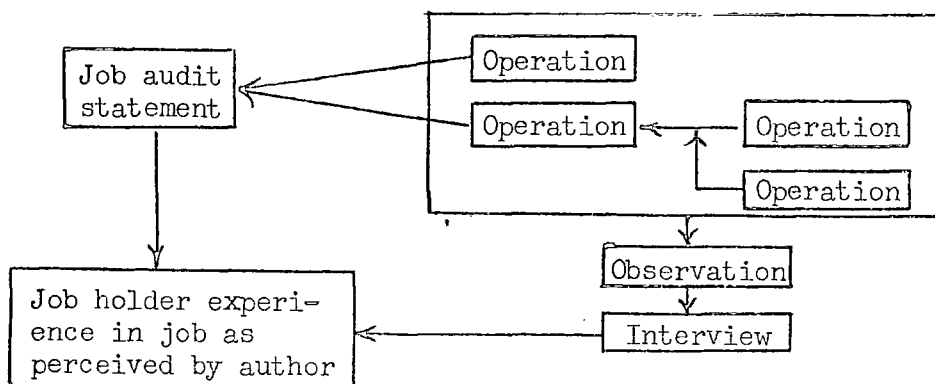


Figure 1.9: Schematic representation of the role of observation

The Structure and Logic of the Thesis: Study Organisation and Contents

The material presented in the thesis is split into four parts. This is the only chapter in Part 1; Parts 2, 3 and 4 have 4, 6 and 2 chapters, respectively.

In part 2, is presented the reported theoretical standpoints and practice in the fields the author thinks directly relevant to his own work. This part lays the theoretical foundations and supplies the contextual background to the work undertaken by the author himself. The fieldwork undertaken by the author is reported in Parts 3 and 4. Part 4 reports on the synthetic validation of some of the propositions of the wholistic theory of Job Design as well as the conclusion on the whole research undertaking.

In this section is discussed the underlying logic of the presentation of the material in the thesis body. It is to be understood that, given the basic unity of the topic, the order of the material is bound to be somewhat contrived and artificial, but there is nothing to be gained in this instance for arguing whether the chicken or the egg came first. In the face of inter-relatedness of the material, while discussing a construct it might be that reference is made to material not yet presented but which is to follow; to the extent that the author was able to use "reference-backs," this method was preferred, thereby reducing "reference-forwards," but where this was unavoidable it had to be regrettably accepted by the author. This caveat applies equally to the organisation of chapters as well as to the material within each chapter. In the text to follow an explanation of the logical basis of thesis organisation is presented.

Chapter 2: Determinants of Behaviour and Correlates of Experience

There has been interest in motivation since antiquity. Theories

of motivation that enhanced the author's understanding are discussed. The choice of material presented is based on the way the author discerned links between the theories of motivation and the practice of job design. The author's critique always stems from the Job Design perspective. The author, differentiating between needs and motives found certain theoretical unrelatedness in some existing conceptualisation. Pursuing this line of inquiry the author reformulates the concept of needs in terms of the product and the operation - the product being the individual's needs, the fulfilment of which is being sought while the operational needs are those which arise as a consequence of the individual pursuing plans to achieve the product needs. This was the starting point of the theoretical conceptualisation of the work that was later (in Chapter 10) developed into the theory of heuristics. The accountancy model of rational behaviour was developed. The model explains, inter alia, the learning need as the individual's attempt to operationalise his heuristics. Propositions regarding potential utilisation are built.

Sources of satisfaction and dissatisfaction are discussed. Experience of stress, both as an adverse concomitant of work and as a surrogate measure for level of excitement in the work is also discussed. A brief discussion on cross cultural differences within and between societies is also presented.

Chapter 3: Nature and Descriptions of the Managerial Job

This chapter presents a review of the literature on the development of knowledge on the nature of managerial jobs. Researchers adopting many different methodologies (e.g. observation, subject narrative, questionnaires, diaries, radio recording, etc.) for gathering data have attempted to provide different frameworks for analysis. There is a vast amount of literature available in this area, of which some is prescriptive and some empirically supported. Whilst both have helped in gaining a better understanding of the managerial function, they proved not to be directly operationable for Job Design. However, indirectly this literature is of great help; without a reasonable understanding of the functions of management as background information, it

would be practically impossible either to attempt building theory of managerial Job Design or to apply a given theory to a practical job design situation.

Also discussed within this chapter are some organisational events and processes which either give shape to, or are themselves affected by the shape of, jobs. Whether these events and processes ante or post-cede the design of a job these, in some way, determine the organisational and individual experience-in-job.

Chapter 4: Organisation Components and Concepts

Earlier, in Section 1.4 on Research Boundaries, it was stated that this research deals with jobs in 'work' organisation. The author develops the ecological analogy in abstracting from literature some of the ideas he found useful in his understanding of the job design paradigm. The possible relationships of these constructs to the job design paradigm is commented on and discussed. Included in the discussion are concepts like: Status of organisation, uncertainty in the environment, goals, authority, job mobility, executive style, work schedules, treatment of women, surrogates of organisational health and, lastly, but not least, concepts of effectiveness and efficiency. The purpose of job design being the contrivance of a 'friction-free' individual/organisation interface, the Brodie-Bennett framework for viewing effectiveness is utilised to provide the integration. Efficiency, of course, comes in with the process of Job Design.

Chapter 5: Job Design Theories - A Review and Evaluation

It has been earlier remarked in Section 1.5 that the author chose to concentrate on managerial jobs because he did not find in literature mention of the application of job design theories to managerial jobs; nor did he find any theory specifically developed for managerial jobs. The author, while reading this theory, and application attempted to evaluate the theory in terms of its operationality at the level of managerial jobs. Given the nature

of managerial jobs, i.e. ill-defined boundaries and soft outputs, etc. the author was led to the conclusion that existing theoretical standpoints did not lend themselves to application at managerial level.

Further, the author discerned two orientations to job design: the ergonomist and the growth models. Whereas the ergonomists' approach attempts to overcome design failures which prevent job holders from doing the assigned task, the growth models concentrate on finding out what the individual is capable of and arranging the task to suit his aspirations.

Note on Chapter 2.5 - Logic

Major strands in literature which the author has found to have a bearing on job design have been presented. Not all the literature read by the author has been referenced; some of the reference will be recalled to support material, arguments, and themes developed by the author in Part 3 of the thesis; some of the important references have purposely been withheld here, because the author wanted to use the force of these arguments to underpin his own work presented in Chapter 6 onwards.

Chapter 6: Survey of Managerial Job Design Practices

This chapter is a report on the survey conducted to find out:

1. How organisations attempt to arrive at the individual/organisation interface fit.
2. What main considerations are involved in the evaluation of the interface fit.

This survey resulted in the author's hypothesis that organisations attempt the interface fit through the process of recruitment/assignment rather than job design. As the process of assignment is based on criteria of evaluating the man for the job, which is held

to be invariant, the failure of match reported in Section 1.3 becomes understandable -- the old adage of square pegs in round holes!

From the enumeration of considerations that survey participants claimed go into evaluating the interface fit, the author saw three distinct themes which could be conceptualised as a set of orthogonal dimensions for evaluating the design of jobs. The deductive process led to theory of the Measures on the Quality of the Design of a Job.

Chapter 7: Job Modification Studies

Literature had indicated that organisations attempt to meet some of the changes in the environment through internal modifications. These, and changing conditions within the organisation like retirement, power politics, etc., carry the potential to modify jobs. As Job (Re-) Design is also a job modification, albeit directed modification, process, the author endeavours firstly to explain various ways in which jobs are modified and, secondly, argues for measurement of the quality of the design of a job, for all the jobs that might be affected.

The chapter reports a study and a complementary study, conducted to find out:

1. The techniques by which jobs are modified, i.e. the modification process itself.
2. The effect of these modifications on the quality of design of a job.

In the study, use was made of the measures on the quality of the job developed in Chapter 6.

Chapter 8: Operating Characteristics for a Job Design Methodology

This chapter reports the author's effort at delineating and describing the features that a job design system should possess.

It takes the author's finding from the survey on job design practices, and the author's finding on the processes of job modifications, stemming from the complementary studies, to deduce the requisite features; the arguments are supported from literature, and reference backs are made to the practice of job design reported in Chapter 5 - to compare the methodologies used in other job design studies on the defined characteristics. The search for methodology resulted in adaptation of an existing methodology, which its developer and some users have employed in their investigations on managerial jobs - non job design applications.

Chapter 9: Action-Research

This chapter reports a study undertaken to design the jobs of a group of 4 senior managerial level personnel. The purpose of the study was to test the chosen methodology for its relevance in designing jobs; to identify the characteristics of the individual/organisation interface that these job holders thought needed adjustment; to help the author gain an insight so as to evaluate the 'portable' mechanical theory of job design. A subsidiary intention was to attempt to classify the agreed statements describing the job on any of the classification schemas presented in Chapter 3. As stated in Chapter 3, classification of the nature of managerial work is not the problem in Job Design, but having descriptions of job, as well as experience-in-job are the necessary tasks. Success at using one or more classificatory schemas would have placed the author in a position to recommend their use as part of the methodology; failure to classify could only provoke the researcher to question their applicability.

Chapter 10: Heuristics of Job Adjustment

Literature on motivation and Job Design, theory and practice, had left the author with a feeling that there was something missing. The

chapter is a report on a study conducted by the author, starting with Herzbergian constructs on motivation, and which led him to a motivation standpoint which has been labelled the Theory of Heuristics. The study finds support for Herzberg's basic data but the conclusions reached are at variance with those of Herzberg. The theory built, although it regards motivation is univariate, makes possible a re-interpretation of Herzberg's work through its link with the two strands discussed by the author in the Job Design literature reported in Chapter 5 - the Ergonomist model and the growth model of Job Design.

Chapter 11: Job Design as an Arbitrage based on Equity - A Mechanical Theory of Job Design

In this chapter the author builds the theory of Job Design which shows the facets of job which need adjustment in cases where the measures on the design of a job indicate low acceptability of existing design. The theory is posited in terms of equilibrium to be aimed at. The theoretical position taken by the author does not, of itself, suggest whether effort at redesign will result in greater performance or greater satisfaction. The results of the Heuristics Theory, however, prompt the author to suggest that provided the individual has certain aspirations, the incorporation of these into the design of the job should result in liberation of energy which could be used both for the fulfilment of the individual and organisational goals - thereby improving the fit at the individual/organisation interface.

Chapter 12: The Synthetic Validation of the Wholistic Theory

This chapter reports the study undertaken to establish the 'practicality' of the various theoretical standpoints which the research had led the author to adopt. Deductions from the theoretical standpoints were posited as propositions for the study participants to indicate the relative importance, if any, they attached to them.

The participants were then asked to indicate whether they had adapted a job designer or job incumbent attitude. From literature reported differences in individual preferences it was posited that the adopted scoring would be different and predictable from the demographic differences in respondents. An explanation is presented for these differences.

Chapter 13: Conclusion

This brief chapter reviews the research as a totality and makes suggestions on further work.

Part II

PART 2

This part of the thesis contains the following four chapters:-

- Chapter 2 - Determinants of Behaviour and Correlates of Experience
- Chapter 3 - Nature of Managerial Job and Organisational Practices Impinging on the Design of a Job
- Chapter 4 - Concepts of Organisation
- Chapter 5 - Job Design and the Concepts of Efficiency and Effectiveness

The author's purpose in this part of the thesis is to summarise and analyse job design related material from literature. It is designed to lay the groundwork, as it were, in preparation for the author's own studies and theoretical contributions. The organisation of the material is designed to present a continuous flow of theoretical development - it is certainly not the chronological order in which the author studied the subject. Having introduced the concept of thought flow the author will be the first to recognise that another individual presenting the same material might well have chosen a different order for the material.

The purpose of this part is specifically two-fold:

1. For a reader versed in Job Design, and interested in reading about Managerial Job Design, the focus may lie in knowing the author's conceptualisations of the relevant material in literature and the queries raised when trying to integrate this material which prompted him to conduct the studies and reach the deductions reported in Part 3.
2. For the reader uninitiated in Job Design and specifically in Managerial Job Design, this part of the thesis may serve as an introduction to the topics seen by the author as central to Job Design and at the same time lay the groundwork for the purposive

studies and deductions reported in Part 3.

In the above two paragraphs the two key expressions are "relevant material" and "central topics". The relevance and centrality of the material is illustrated diagrammatically in Figures 1.7 and 1.8 in the previous chapter.

Chapter 2

CHAPTER 2DETERMINANTS OF BEHAVIOUR AND CORRELATES
OF EXPERIENCE IN JOBIntroduction

The purpose of this chapter is to review the important themes in motivation literature and attempt to draw conclusions relevant to Managerial Job Design. An analytic framework is adopted for reviewing the theoretical standpoints of motivation and this is followed by the application of an inferential framework to the models of behaviour. Finally, a new model of purposive behaviour is presented. The headings of the thirteen sections, indicative of the material contained therein, are:

- Section 2.1 - Motivation and its Relationship to Job Design
- Section 2.2 - Organisation of Material in Chapter 2
- Section 2.3 - Correlates Determining Motivated Behaviour
- Section 2.4 - Motivation - Nature of Theories
- Section 2.5 - Motivation - Substantial Theories
- Section 2.6 - Motivation - Mechanical Theories
- Section 2.7 - Models of (the behaviour of) Man
- Section 2.8 - The Derived Model of Directed Behaviour
- Section 2.9 - Sources, Determinants and Correlates of Satisfaction
- Section 2.10 - Experience of Satisfaction
- Section 2.11 - Job Satisfaction in the Context of Life Satisfaction
- Section 2.12 - Stress
- Section 2.13 - Cross Cultural Differences

2.1. Motivation and its Relation to Job Design

The purpose of Job Design has been posited by the author as the theory and practice of achieving a fit at the individual/organisation interface. It involves measurement of the quality of design and where the quality of the design is found deficient, redesigning the job so as to improve the quality of the design. The implied reason and purpose of job design is to enhance the experience in, and of, work, both for the individual and the organisation. This experience is linked to how well or badly the organisation and the individual view the performance of the job contract.

In Chapter 1, when introducing the concept of job contract, it was stated that the individual contributes to the organisation and that the organisation contributes to the individual. The study of the contract, then, is the study of the variety of wants and degrees of fulfilment of these wants for the individual and the organisation, the two parties to the contract.

This chapter deals with the subject of Job Design from the individual standpoint. Chapter 4 deals with the organisational aspects of Job Design.

According to Reitz (1977), an individual's performance and behaviour can be depicted as:

"An individual's performance is a function of the interaction between his abilities and his motivation".

"An individual's behaviour is a function of his personality and environment".

The link between motivation and behaviour is implied in the definition of the concept "motivation". A formal definition of the concept proposed by Berelson and Steiner (1964) is:

"A motive is an inner state that energises, activates, or moves (hence motivation) and that directs or channels behaviour towards goals".

2.2. Organisation of Material in this Chapter

Kotter and Lawrence (1974) in their study of mayoral behaviour found that there existed no general purpose model of mayoral behaviour. The strategy they adopted in coming to grips with the situation appealed to the author, who found himself faced with a similar situation with respect to motivation. To support this contention the author presents the following quotation from Luthans (1977):

"Today virtually all people - lay people and scholars - have their own definition of motivation".

The Kotter and Lawrence framework could be defined as describing and analysing each available model and then formulating a new model that incorporates salient elements from models analysed. A modified version of this scheme has been adopted by the author.

From the definitions presented in Section 2.1, a scheme for analysis was devised; the diagram of Figure 2.1 illustrates the scheme.

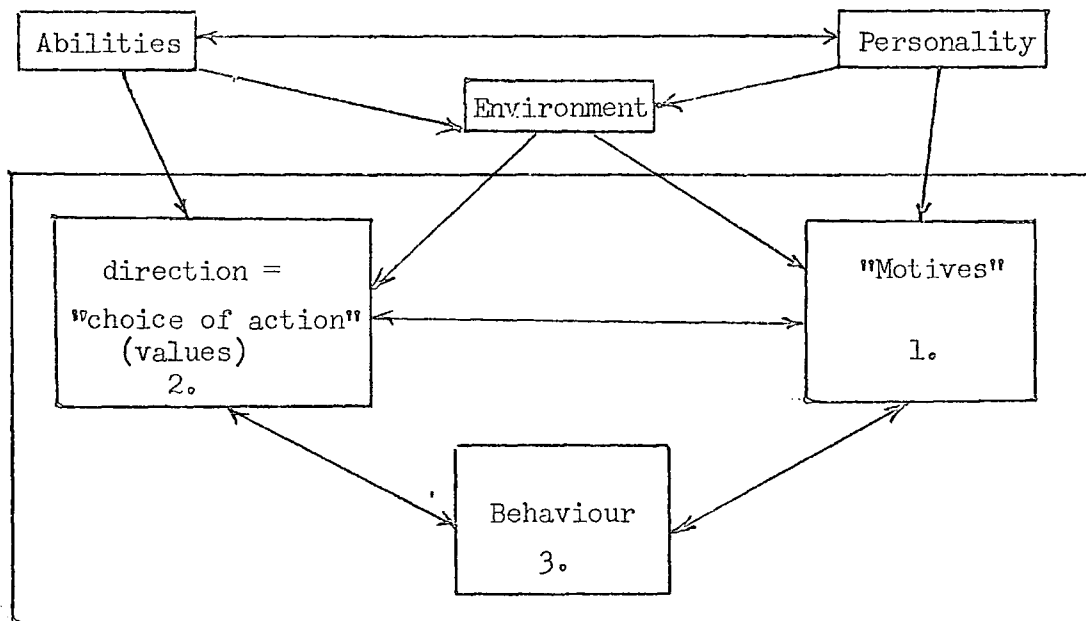


Figure 2.1: Schemata for analysis of motivational standpoints

When the various theories or models are discussed, it will be seen that these do not all possess each of the three elements: motives, choice of action and action. While some theory formulation at less than all three levels is extendable, through inference and deduction, other is not extendable.

2.3. Correlated Determinants of Motivated Behaviour

In the proposed scheme for analysis of motivation three items are given outside the area enclosing the motivational concepts. The environment is the work environment, i.e. the organisation, which will be discussed in Chapter 4. The other two items, abilities and personality, are the focus of this section.

2.3.1. Personality

It is now generally accepted that human behaviour is a complex phenomenon and cannot be explicated by focusing on a single facet of personality (see Maslow (1943)). The facets of human personality are often referred to as traits. Guilford (1959) posited seven "modalities of traits", indicating that the direction from which the personality is viewed determines the traits that are observable. Figure 2.2a depicts Guilford's modalities, based on items of pre-disposition type.

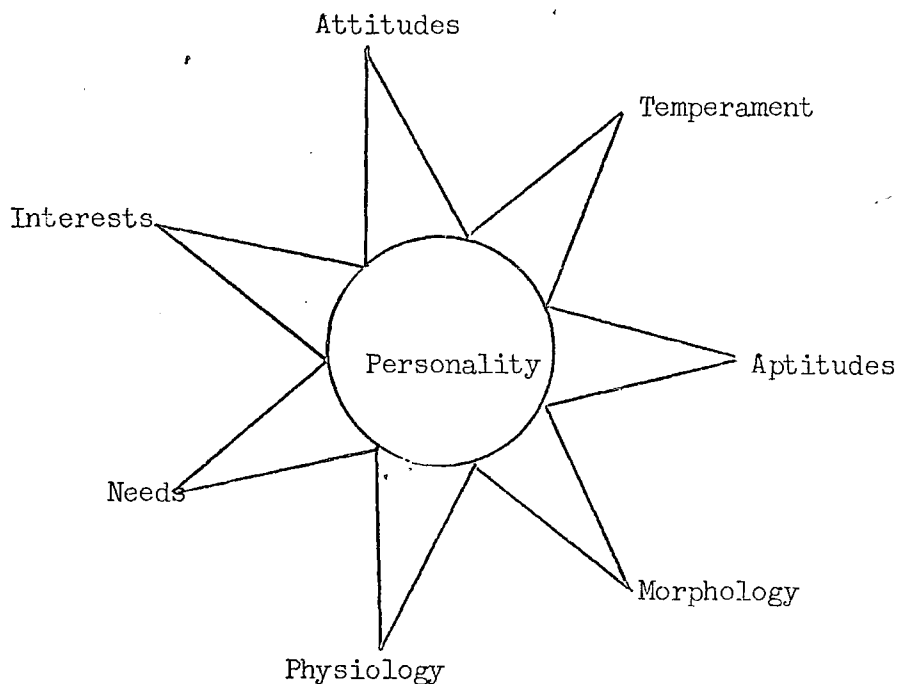


Figure 2.2a: "Modalities of Traits"; adopted for Guilford (1959)

Porter and Ghiselli (1957) and Porter (1961) present an interesting thesis on personality as it relates to an individual's fit in the hierarchy. That found that a certain personality type - "dynamic brain" - creative thinking concerned with ideas on new areas to venture, new things to do or even new ways of doing old things, i.e. action orientation, to be associated with top management. Middle management people on the other hand perceive themselves in the backbone role of the organisation - they lend stability to the organisation.

The question that the above research results give rise to is:

"What happens when a person with a disposition fitting him for a certain level is in fact operating at some other level?"

A derived corollary from the above would be whether an ideas man can work in a position requiring "according to the book" behaviour. (The text in quotes is Porter and Ghiselli's term for middle management behaviour).

Chapple (1949), investigating personality requirements for various jobs, conducted experiments, using his own invented chronograph, in which he could discriminate between personality requirements for groups of jobs - data collected on chronographs - and performance effectiveness on the job - data from company records. These studies led him to conclude:

"The fact that significant differences in personality requirements occurred between different jobs as well as the fact of the agreement of company ratings and the results of the interaction chronograph emphasise the importance of proper placement. A person who might be the poorest in a particular job classification might possess the personality qualifications for success in different ones and such questions are even more important when it comes to the question of promotion".

Chapple's results linking personality fit and performance effectiveness are important for Job Design. By contriving improved fit between personality and job, evidence suggests, performance can be enhanced.

Levinson (1980) classifies behaviour on a complex of 20 dimensions of personality. These could be taken as primitives onto which behavioural requirements of jobs could be profiled and the individual could be analysed

on his potential. Such a process of seeking to match job candidates to jobs, properly organised, could help in achieving improved fit at the individual/organisation interface.

However, the area of personality fit is a difficult one, for many reasons; by way of explanation for which an example from Bordin (1943) will be given. Bordin reporting from personal clinical experience mentions the case of a pre-medical student completing a Vocational Interest Blank which showed a "welfare" pattern instead of the expected scientific one. When questioned by Bordin, the student told the researcher that he had describes his ideals of a doctor, and once again described the welfare type. At this, Bordin asked the subject to describe what the doctors in fact were like. The subject responded by describing the "typically scientific pattern and an almost complete elimination of the 'welfare'".

The above example shows stereotyping may hinder the achievement of personality fit.

2.3.2. Abilities (= Resources)

One way of viewing ability, and the author will refer to it as the traditional way, is to regard ability as parametric construct of the type measuring aptitude as developed by Thorndike and Hagan (1959), or the general aptitude test battery developed by Shartle and Dvorak (1962), (for both of these see Super and Bohn (1971)). However, analysis of abilities, as pointed out by Fleishman (1967), can be conducted at many different levels. Fleishman suggests that some abilities can be regarded as more basic than others. The more basic abilities being those that are prerequisite for others. To clarify this, an example from Fleishman is presented:

".... the fact that spatial visualisation has been found related to performance on such diverse tasks as areal navigation, blue-print reading, and dentistry makes this ability somehow more basic".

The difference between ability and skill is also well brought out by

Fleishman, and the particular variants of these, adopted for this thesis, are:

Ability refers to a more general trait of the individual which has been inferred from certain response consistencies (e.g. correlation) on certain kinds of tasks. These are fairly enduring traits which in the adult are difficult to change.

Skill refers to the level of proficiency on a specific task or limited group of tasks.

The implication of adopting the above definition is that whereas ability resides in the individual and has to be discerned, skill having to do with proficiency is directly measurable - from, say, observation.

In this section, then, by ability will be meant a more generalised construct, which would be indicative of items the individual regards as his personal possessed resource, as well as those others would regard the individual's "strong points". Often these are termed skills; these are what differentiate out successful performance and performance that is not so successful. In the words of Morgan (1971):

"Some people are better than others at certain things either in terms of what they are (their intelligence, aptitudes, personality, interests, attitudes), or what they know, or of what they do (skills). In the case of dealing with people, we will postulate that some individuals are more successful than others because they are more skilled, that is they either do certain things that others do not, or they do them better. Some of the differences are almost certainly due to aptitude and personality factors. However, skills can be developed, whereas aptitudes and personality are relatively stable in the adult and not very susceptible to modification".

The above text from Morgan also brings out the difference between the concepts of personality and skills - whereas the former is static the latter are dynamic, relatively speaking in each case.

"Performance appraisal" will be discussed in Chapter 3, where the author will present arguments for the disuse of personality-trait based appraisals. It is important here, where the discussion is concerned with personality and abilities, to stress the difference between the two constructs, as is evident from Morgan's text presented here.

Some of the skills enumerated by Morgan are:

- ability to perceive - sensitivity
- ability to diagnose
- ability to manifest behaviour requisite to the situation

The above listed items are "psychological" or "interpersonal" skills.

Managerial jobs (as will be demonstrated in Chapter 3) are high on interpersonal intercourse and therefore the above-mentioned skills carry great importance. Sayles (1964) regards ability to improvise as a skill.

Morrison (1977) regards ability to 'politic' as a skill.

It is important to point out that since these skills can only be discerned from behaviour, at least one situation that calls for these behaviours must be an "alive" element of the job. To give an example, consider Mr. X, a fresh graduate, being appointed Industrial Relations Officer. That Industrial Relations Officers are often called upon to participate in negotiation is well established (among others Dempsey (1974)). Further, there is evidence in literature to indicate that negotiation is a behavioural skill (see Kennedy, Benson and McMilan (1980), Strauss (1978)). However, if in a given period of time, say six months after his appointment, Mr. X is not called upon to participate in negotiating sessions, it is extremely unlikely that it could be discerned whether he has this skill or not.

Thus far, the discussion has been concerned mostly with inter-personal skills but is not intended to under-rate the importance of technical skills. However, both in practice and in the relevant literature, the tendency has been to devote effort to the technical skills, possibly to the detriment of our understanding and practice (see Sayles (1964)), of the process of work.

2.3.3. Implication of Abilities and Motivation on Job Design

Skills and abilities are a person's resources instrumental in enabling him to fulfil his wants. Muno (1980) reports that surveys conducted by the consulting firm of MGIRC found that:

"... employees wanted their skills to be 'used' well in their present jobs and they expected to be trained (in and out of the company) in new skills to enhance their future careers".

Later on in this chapter will be discussed "the innate" human need to learn. This latter need is related to the need for cortical stimulation and/or psychological growth. The way Muno refers to this need has not received as much emphasis in job design literature as it deserves; therefore, attention is drawn to its importance.

The Human Resource Accounting School places stress on the ability usage and development, but from the organisational perspective. Swart (1973) sourcing his argument on Anthony, of Harvard Business School, writes that for some organisations their principal resource is not the capital but rather the skills of the professionals whom the firm has hired, trained, organised and motivated. The implication is that the resource should be utilised.

However Sinclair (1978) points out that most organisations evaluate their performance not from the human ability utilisation perspective but in terms of profit, where the most commonly used criteria are Return-on-Investment or Residual Income. His indignation at this state of affairs is reflected in:

"A distortion is built into the base when companies expense rather than capitalise their investment in human capital".

The implicit understanding in a job contract pertains to, on the one hand, the willingness to contribute and, on the other hand, the nature of the job being such as to utilise and build upon these skills and abilities. This discussion may be more clearly conducted with reference to Figure 1.2, which for ease of reference has been reproduced in this chapter as Figure 2.2b.

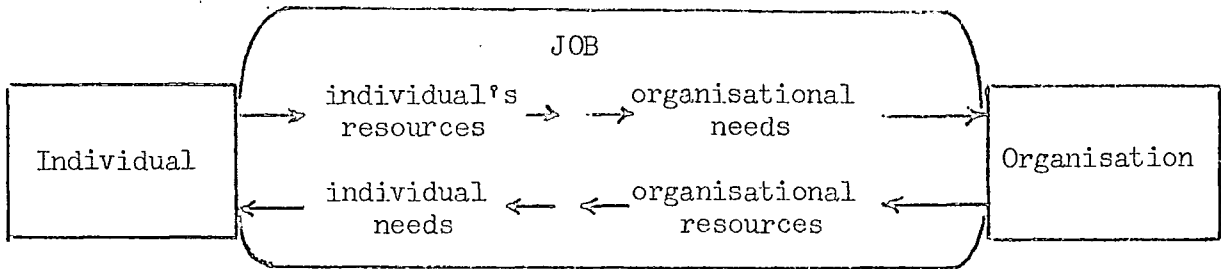


Figure 2.2b. Job Contract

The three important considerations pertaining to the design of jobs concerned with the resources an individual possesses (his skills, abilities and his potential) are:

1. Level and range of currently possessed resources.
2. Individual's wish to contribute from his skills and abilities, or to use his potential to modify his current level or range of skills and abilities.
3. Demands in the job for his current skills and abilities and opportunities in the job for modifying the level or range of skills and abilities, so as to permit future adjustments to the job situation.

Figure 2.3 is a diagrammatic representation of a way of analysing the current design of a job with respect to the possession of resources, the individual's wish regarding possessed resources, and opportunities regarding resources - the above-listed three considerations. In the diagram Figure 2.3 and in the analysis that follows it, the three conditions are treated dichotomously, i.e. the variables are regarded as having only two values, high and low. This gives rise to eight job design outcomes which are indicated in the figure through the attached numbers.

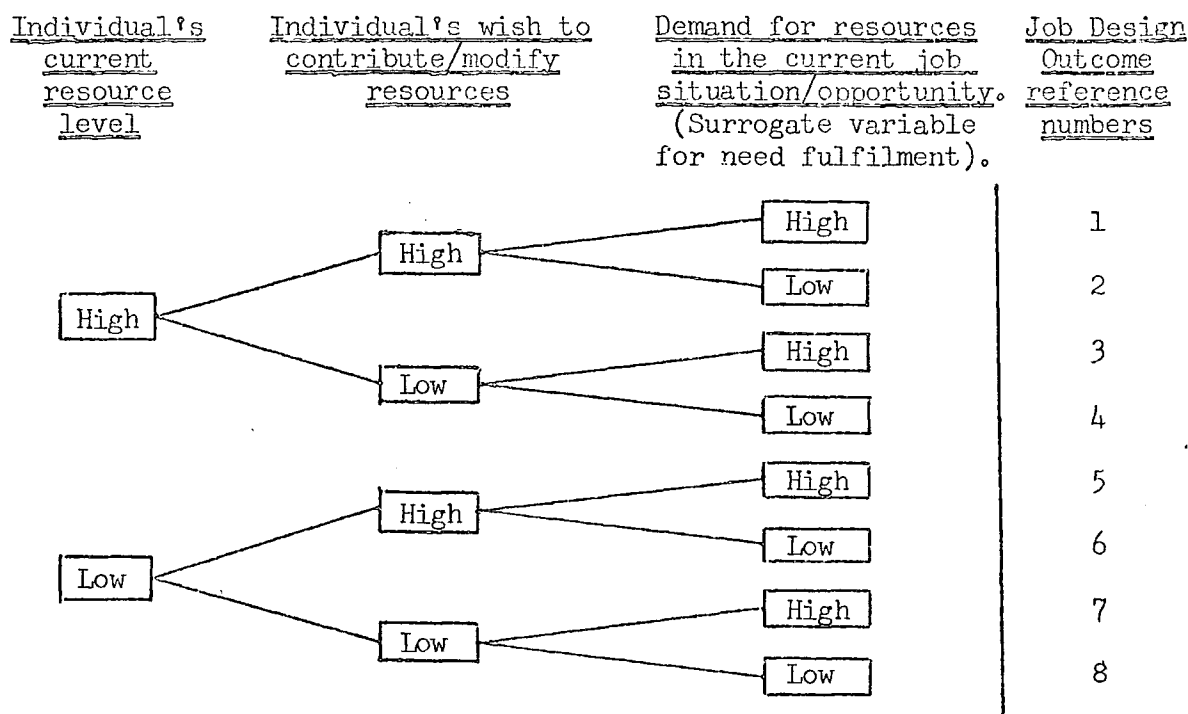


Figure 2.3. Analysis of Job and Individual Situation with respect to Possessed Resources (= abilities, skills and potential)

These Job Design outcomes are now discussed.

Outcomes 1 and 8 where the three parameters have values synchronously high or low, are, from a Job Design viewpoint, correctly adjusted.

Outcome 2 could be a case of under-utilisation of resources, which can have two interpretations: the skills and abilities already possessed are not being used or the potential to learn is being disregarded.

Outcome 3 could be a case of over-utilisation. The concordance between the possessed resource level and the demand of the job might hold in this situation; but the wish to contribute is at odds. The absence of this wish to contribute could be a motivational problem.

Outcome 4 is a situation where the wish to contribute and the demands of the job being in concordance, the job fit may be satisfactory but because the individual possesses high levels of resources, the satisfactoriness of the job fit may be apparent rather than real. It could be the case that in succeeding job situations, over time, the individual has been discouraged so much that he now wishes to contribute less than he is able to. The current satisfactoriness of the job fit would then spring from some form of

coping mechanism. Of course, a related issue having a bearing on the situation may be that in the meantime the individual has found himself extra-organisational demands for his unused abilities and skills - and thence the apparent fit. The above case could be a case of chronic demotivation; it could also be that the fit might be true - and in this case it would be the case of competing motives propelling the individual to contribute less than possessed resource to the job situation being analysed. What is required in this case is a checking mechanism to ascertain whether resources potentially available to the organisation are in fact being under-utilised, due to displacement of motivation.

Outcome 5 could be problematic from a performance point of view. As the current level of possessed resources is low, it would be legitimate to surmise (or certainly hope!) that the job holder is in a personal expansion/growth situation. The kind of adjustment would depend on the nature of work involved. If the nature of the work is critical, then the adjustment necessary may be to the jobs of those whose responsibility it is to ensure acceptability of performance.

Outcome 6 shows a situation where the individual's aspirations may be thwarted. If the person possesses the potential but the currently possessed abilities and skills are low, then provision of opportunities to learn and thence contribute more may be the solution to achieving a better job fit.

Outcome 7 is clearly a situation where adjustment to the design of the job may involve downgrading the demands on abilities unless, of course, the individual can be motivated to an extent where reclassification to outcome class 5 or 6 is possible.

2.3.4. How Knowledge of Abilities can help in Job Design

Edney (1979) reports on an innovative way of creating job mobility through:-

1. Building a profile of the various skills necessary in a job.
2. Building a data bank of the skills possessed by individuals within the organisation.

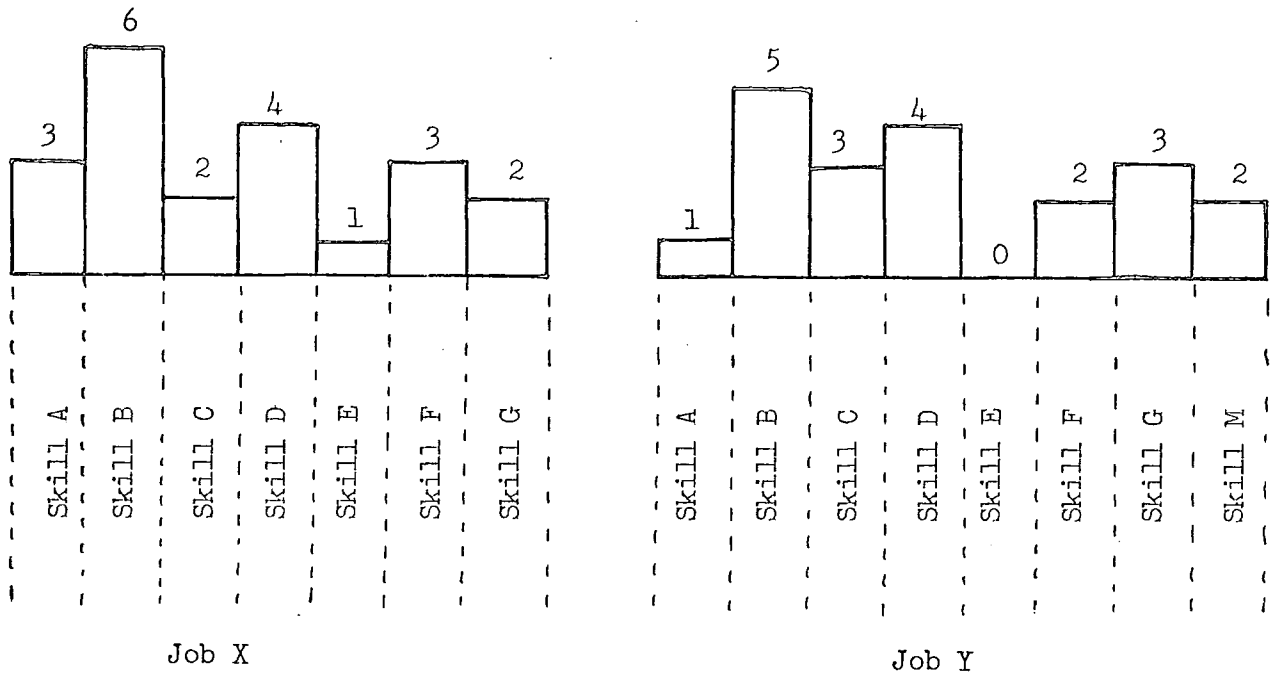


Figure 2.4: Skill-demands distribution of Jobs X and Y

Note the height of the histogram indicates the intensity of the particular skill required in the job.

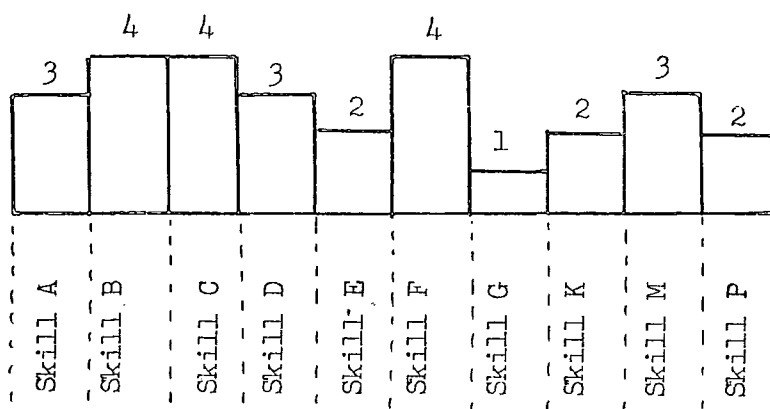


Figure 2.5: Skills possessed by Person

Note the heights of the categories indicate the intensity of the skills possessed.

Edney reports how different jobs may be contrasted in terms of the skills required in their performance. The method may best be explained through illustration. Figure 2.4 shows the needed skills profile of two jobs, X and Y. Figure 2.5 shows the skills possessed by a hypothetical person.

Thus analysis of Figures 2.4 and 2.5 indicate that, if the person is occupying position X, there is:

(i) a potential of gain in skills:

skill B (2 units), skill D (1 unit) and skill G (1 unit);
Total = 4 units

(ii) an under-utilisation of skills:

skill C (2 units), skill E (1 unit), skill F (1 unit),
skill K (2 units), skill M (3 units), skill P (2 units);
Total = 11 units

Were the person occupying position Y, the job match would entail:

potential of skill gain:

skill B (1 unit), skill D (1 unit), skill G (2 units);
Total = 4 units

under-utilisation of skills:

skill A (2 units), skill C (1 unit), skill E (2 units),
skill F (2 units), skill K (2 units), skill M (1 unit)
and skill P (2 units); Total = 12 units

The analysis so far has not differentiated between the skills in terms of the values the individual would place on them, i.e. which ones are more highly valued by him. Edney's suggested method of analysis could be usefully employed in contriving an ability-fit in the design of a job.

Skill Transferability across Jobs

What has been suggested under the foregoing sub-heading is based on the most recent research findings. In literature there is no consensus as to the transferability of skills. While Koontz and O'Donnell (1964) suggest that managerial skill, as opposed to technical skills, are transferable, from Dale (1960) it could be concluded that as there has been so little transfer from one major sphere of management to another, the question as to whether skills are transferable should be regarded as open. The method

of skill analysis presented earlier could be invaluable for answering this question especially with respect to the degree of skill overlap requirements for successful transfers.

The importance of the ability requirements for sets of jobs is also strongly stressed by Dunham (1977).

Burgoyne and Stewart (1976) compiled a list of 10 "Managerial skills and attributes", which could act as a starting point, ab initio, for operationalising a scheme akin to the one suggested by Edney. The ten skills are:

1. Command of basic facts with respect to situations.
2. Relevant professional understanding.
3. Continuing sensitivity to events.
4. Analytic, problem solving, decision/judgement-making skills.
5. Social skills and abilities.
6. Emotional resilience.
7. Inclination to respond purposefully to events.
8. Creativity.
9. Mental agility.
10. Balanced learning habits and skills.

Items in the above list are conceptually linked with selection criteria which are discussed in Chapter 3.

Forbes and Barrett (1978) conducted a study to test the hypothesis that:

"individual abilities are major determinants of both performance and satisfaction and that the nature of the relationship depends on the level of task demands relative to individual abilities".

The two researchers set up conditions of low and high job demands on incumbent ability. The hypothesis received support in the low demands conditions, where those with greater task-related ability were less satisfied.

The absence of any discernable relationship between ability and satisfaction in the high ability demands group led them to hypothesise:

"Perhaps this relevance of an ability to task performance is not the only determinant of its relevance with respect to satisfaction. Perhaps the nature of the ability is more important".

The emphasis is due to the author and not Forbes and Barrett.

The above, then, indicates that the relationship between satisfaction and ability-required-in-job may be a function of the individual assigning different values to the abilities.

Support for the contention that lack of opportunity to use individual abilities within the job can lead to disenchantment with the job, comes from Bowman (1977). On the authority of Dunnett and his associates, Bowman writes that entrants to the organisation have high hopes of using their abilities in the new job, but suffer severe frustrations when their expectations are not met.

The above conceptualised analytic framework for skills required in jobs could help overcome the limitations of the 'nominal' types of classification which according to Morgan (1973) do not lend themselves to man-job matching. (For nominal classification see CODAT dictionary prepared by the Department of Employment, and also the Dictionary of Occupational Titles, prepared by the U.S. Manpower Administration).

Skill Updating for Jobs

Morrison (1977) borrowing from Hall, suggests that organisations should provide for updating of technical, political, interpersonal, etc. skills, so as to inject career adaptability within the job contract. As new products and materials come out, and as the environment changes, individuals who join an organisation with a certain set of valued skills might find their skills undergoing obsolescence. The suggestion by Morrison, therefore, makes sense. The analytic framework for skill analysis, therefore, provides a good starting point towards implementing a skill-updating programme.

2.4. Motivation - Nature of Theories

From a Job Design standpoint the interest in motivation lies in ascertaining whether an understanding of human behaviour offers some ability (however limited) to predict behaviour. The presentation (and from the author's viewpoint the understanding) of this material is inordinately difficult, for as Campbell and Pritchard (1976) point out:

".... the various theories and models actually conflict at every point".

and, again:

"Motivation theories are not theories in any rigorous sense, and it is difficult to derive directly competing hypotheses that can't be transformed into identical predictions by some parametric manipulation which is not prohibited by the antecedent model".

The kind of evidence presented above, and Luthan's opinion that everybody has their own definition of motivation, presented earlier, compelled the author to adopt the strategy of Kotter and Lawrence. As it is not possible to present individual theories and models and from this presentation derive propositions regarding Job Design, the author will firstly present several theories and models found in literature and then, secondly, attempt to integrate these into a new framework. This framework will then act as a baseline from which, as a third step, some propositions regarding Job Design could be deduced. These propositions led to the development of the study which is reported in Chapter 10.

Earlier, Campbell et al. (1970) suggested a two-way classification schema for the categorisation of theoretical standpoints found in literature on motivation: the substantive theories, and the mechanical theories; an appended class was the miscellaneous group into which were consigned standpoints that could not be categorised into the two main classes.

In the substantive class fall themes that attempt to respond to the question:

"What causes people to act/move/behave?"

In the mechanical class fall theories that allegedly, answer the question:

'How are decisions made regarding behaviour?'

That there is value in keeping the above-mentioned strands separate is borne out by Elbing (1978) when he wrote:

"Since all theories do not give equal emphasis to these two aspects of motivation, let us begin by considering the two approaches separately".

although Elbing himself did not use the words substantive and mechanical - the labels he used being "inner" and "outer" motivation for the two strands respectively.

The difficulty with mechanical theories of motivation, and more so with these than with the substantive theories, is that the theorists attempt to specify specific constructs, but invariably go on to derive behaviour arising as the consequence of the use of the constructs. This conflation renders it extremely difficult to abstract the theory from the example (see Campbell et al (1970)). But the separation of the theory, the abstraction of it, is a necessary task for the understanding and therefore meaningful operationalisation of it, for any purpose - in the case of this thesis, Job Design.

The importance of the substantive theories of motivation to Job Design is indicated by Herzberg's (1968) paper where the concept of a "generator" is discussed. In the foreword to this paper, the editor wrote:

"Kita - the externally imposed attempt by management to install a generator in the employee has been demonstrated to be a failure"

Herzberg himself mentions the "generator" twice in the paper. Firstly,

"I can charge a man's battery and then recharge it, and recharge it again. But it is only when he has his own generator that we can talk about motivation. He then needs no external stimulation. He wants to do it".

Secondly, before presenting his own theory, he poses the question:

"How do you install a generator in an employee?"

Substantive theories, then, deal with this generator, because they respond to the question:

'What causes people to move/act/behave?'

"An explanation of behaviour", according to Campbell and Pritchard (1976), "virtually requires some parameter representing the force that makes it go". A knowledge of these energising forces is necessary to understand individual behaviour, and this knowledge would be of help in the process of Job Design by defining the personal elements which should be integrated into the design of jobs.

2.5. Motivation - Substantive Theories

In this section are discussed two fundamental strands of motivation:

- The theory of needs
- The theory of dialectic tension

Both the theories were intensely researched into and the author attempts to arrive at the later formulations through a brief discussion of the more recent past.

2.5.1. Theories of Needs

Murray (1938) compiled a list of 12 viscerogenic and 28 psychological needs. The viscerogenic needs are those connected with the physiological needs of the body; these have to do with the maintenance, preservation and perpetuation of the species (see Lindgern (1959), and Hilgard, Atkinson and Atkinson (1971/53)). Murray's lists of psychological needs, as reformulated by Hilgard et al (1971), grouped in associated concepts classification are:

Group A - Needs associated chiefly with inanimate objects

1. Acquisition. 2. Conservation. 3. Orderliness.
4. Retention. 5. Construction.

Group B - Needs expressing ambition, will power, desire for accomplishment and prestige.

6. Superiority. 7. Achievement. 8. Recognition.
9. Exhibition. 10. Inviolacy. 11. Inferiority avoidance.
12. Defensiveness. 13. Counteraction.

Group C - Needs having to do with human power exerted, resented or yielded to.

14. Dominance. 15. Deference. 16. Similance.
17. Autonomy. 18. Contrariness.

Group D - Needs having to do with injuring others or oneself

19. Aggression. 20. Abasement. 21. Blame avoidance.

Group E - Needs having to do with affection between people

22. Affiliation. 23. Rejection. 24. Nurturance.
25. Succorance.

Group F - Additionally socially relevant needs.

26. Play. 27. Cognisance. 28. Exposition.

The above list, however, is not widely accepted (as are for example

botanical or chemical taxonomies). This non-acceptance, according to Hilgard et al (1971):

".... owes in part to a lack of clarity in the list regarding the status of different "needs" - the failure to specify, for example, whether "contrariness" is really in itself a goal to be served or merely an instrumental strategy to serve other needs, such as the need for recognition".

It was the above quoted remarks differentiating between goal needs and operational needs which partly prompted the study reported in Chapter 10. Maslow (1943, 1954) presented a new formulation of the needs theory, in terms of an hierarchy based on prepotency of drives set up by the needs. The formulated hierarchy is:

- The basic needs
- The higher order needs which in their order of prepotency are:
 - the safety needs
 - the love needs
 - the esteem needs
 - the self actualisation needs

Maslow's (1954) reformulation of the Theory of Needs has a substantive theoretical standpoint. In this publication Maslow postulates a parallel hierarchy, labelled the cognitive, as opposed to the above-mentioned hierarchy which is rubricised the conative. Further, in this reformulation Maslow recognises the potential existence of an aesthetic hierarchy.

Although it is recognised that:

"Cognitive impulse is subjectively satisfying and yields end-experience",

Maslow suggests that "we should guard ourselves against the too easy tendency to separate these desires from the basic needs", i.e. the conative hierarchy is the basic one and the other(s) supplement this basic one.

Before moving away from Maslow it is instructive to look at Job Design implications which stem from statements of the theory as noted by Maslow

himself. Maslow states:

"The higher the need the less imperative it is for sheer survival, the longer gratification can be postponed, and the easier it is for the need to disappear permanently". (page 147)

The implication for Job Design of the above proposition is that if the self actualising need of an individual is thwarted over a sustained period of time, it might disappear altogether. People denied work in which they could experience achievement may lose the urge to experience achievement.

Later Maslow writes:

"Higher needs require better outside conditions to make them possible. Better environmental conditions (familial, economic, political, educational) are all more necessary" (page 148).

Note that the emphases are due to the author and not Maslow.

In the job situation the "environmental conditions" could include company policies regarding wages, amount of control over work, the attitude and relationship with colleagues and boss.

The next reformulation of the needs theory was attempted by Alderfer (1969). This formulation posits three basic needs labelled: existence needs, relatedness needs and growth needs. However, although this theory is no more tractable than Maslow's theory for, as pointed out by Campbell and Pritchard (1976), "The definition of growth needs is as slippery as ever", the explicit statement of growth rather than the seductive and beguiling, all-encompassing and yet unoperational notion of self actualisation, is replaced by an operational concept, which in the words of Campbell and Pritchard (1976) could be related to, "a fairly fundamental change in individual capabilities".

2.5.1. The Theory of Needs in Perspective

The theory of needs is essentially a deficiency model of behaviour (Leavitt (1974)). A need is a state of emptiness, a state of void. Leavitt perceives that:

"If one views motivation as arising exclusively out of deficiency, then one begins to think about ways of creating deficiencies for others in order to motivate them. "Let's make him unsatisfied by making him hungry, then he'll work!"".

Another related difficulty with too rigid an interpretation of human behaviour in exclusively need theory framework is that: disorderly habits, according to Leavitt, are likely to be interpreted as arising from a need for disorderliness from within a person. That this might be incorrect is suggested by Maslow (1943) himself when he writes:

"Motivation theory is not synonymous with behaviour theory. The motivations are only one class of determinants of behaviour".

and the futility of interpreting as implied above is obvious from Elbing (1978) when he writes:

"Defining behaviour in terms of 'innate traits' is not an aid to understanding a problem, nor does it constitute diagnosis".

Further, Maslow (1954) perhaps himself recognising the deficiency of the "deficiency model" questions its applicability to the self actualising man. He writes:

"It seems probable that we must construct a profoundly different psychology of motivation for self actualising people, e.g. expression motivation or growth motivation rather than deficiency motivation

Perhaps the concept of motivation should apply only to non self-actualisers. Our subjects no longer strive in the ordinary sense, but rather develop. They attempt to grow to perfection and to develop more and more fully in their own style. The motivation of ordinary men is a striving for the basic need gratification that they lack. But self actualising people in fact lack none of these gratifications; and yet they have impulses".

The emphases are the author's and not due to Maslow. The important thing that emerges from Maslow's quotation above is that since the self-actualising man no longer lacks gratification, a search for some other theoretical standpoint is necessary to understand what energises his behaviour. Leavitt (1978) conceptualises the deficiency model to operate as shown in Figure 2.6.

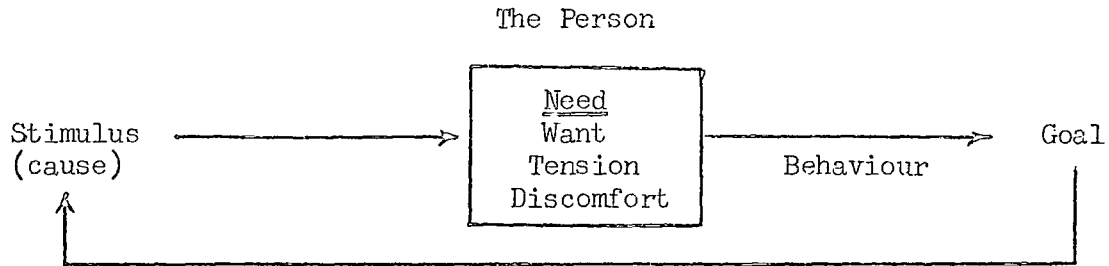


Figure 2.6. Deficiency Needs Model of Behaviour

The deficiency model assumes the search for satisfaction of needs to be the driving force of human behaviour.

Lewin's (1951) work is seminal to the understanding of the 'needs propelled' model of behaviour. He suggested that:

1. Needs create a state of tension which the person attempts to relieve through actions which seem appropriate to him.
2. The individual having varied valences (or attractiveness) for different activities, the particular type of behaviour manifest will be determined not only by needs but also by its attractiveness.

The second of the above points is a subject matter of process theories of motivation, and will be dealt with, after the discussion on the other class of determinants of behaviour, in Section 2.5.1.

2.5.2. Dialectic Tension

Landy (1978) writes:

"While needs are innate, values are assumed to be learned. It is these values that determine the individual's actual choices and emotional reactions".

Thus it is apparent that the manifest action or behaviour is precipitated not only through the need created tensions but is also prompted by the dialectic tensions which have their origin in the interaction between the individual's state of mind, at any particular moment in time, and the environment.

The work to be discussed here is related to the cognitive theory concerning individual perceptions. From the system theory perspective the

dialectic tension springs from the individual's "weltanschauung", a concept which denotes the way a person or individual sees himself in relation to the outside world (see Thomas, Alan (1974)). A supposition of the weltanschauung viewpoint, then, is that there exists within the individual a need to relate himself to his surroundings and that he does this through a system of values. As the words "needs" and "value" have been used in the same sentence, it would be appropriate to show the distinction between them. Locke (1976) has drawn the definition so well that a passage from his text will be utilised for the purpose:

".... A value "is that which one acts to gain and/or keep" (Rand, 1964, p.15). It is that which one regards as conducive to one's welfare. A value is what a person consciously or subconsciously desires, wants, or seeks to attain. Thus while needs are "objective" in that they exist regardless of what the person wants, values are "subjective" in the sense that they are "in consciousness" (that is, they are standards in the person's conscious or subconscious mind). While needs are innate (inborn), values are acquired (learned). Thus while all men have some basic needs, men can (and do) differ in what they value. While his needs confront man with the requirements of action, his values determine his actual choice and emotional reaction".

Earlier, in the presentation of Maslow's work a cognitive hierarchy was alluded to. Rand (1966) and Locke (1976) suggest that an individual's values could be ranked as to importance, and therefore form an hierarchy; by implication attributes of content and intensity are attached to each value. However, up to now no taxonomy of values has been compiled.

Values such as the protestant work ethic have been researched by Blood (1969), Blood and Hulin (1967), Wanous (1974) as a propellant of individual action, as well as correlates of satisfaction.

Starting his chapter on 'Attitudes, Beliefs and Values', Leavitt (1978/58) gives it the subheading, 'Motherhood, Old Glory and Civil Rights'. A person's belief in war as a method of conflict resolution is more likely to be based on his value system than on his need system. The element of choice that is the intrinsic part of a value might be exercised by the individual to opt for his country going to war, or it might be exercised

in favour of peace. Values, as indicated above, are sustained over time which suggests that values might be defended by individuals, e.g. if an individual holds views of national superiority and that supposed superiority is challenged then dialectic tension will result. The resolution of this tension may propel the individual to volunteer for enlistment if the emerging emergency calls for a national effort. On the other hand, if the individual believes in some philosophy of equality of man, he may judge the situation on merits of rights of the two adversaries.

2.5.3. Concluding remarks on section

Substantive theories, then, attempt to explain that which launches individuals into action. The need theories could be classified as having to do with the nature of man and the dialectic tension theories could be regarded as being allied to the nurture perspective. The trigger mechanisms for human action in terms of the theories presented are:

1. Tension created by need arousal.
2. Dialectic tension aroused by either the actual violation, or the fear of violation, of values.

Tension reduction would then be the suggested behaviour. This would be the final objective. Further, since the tensions are not aroused in consecutive or linear ways, but often overlap and compete for attention for upholding and fulfilment, the author now wishes to discuss theoretical standpoints which throw light on the way resolution of choice immediately prior to action occurs.

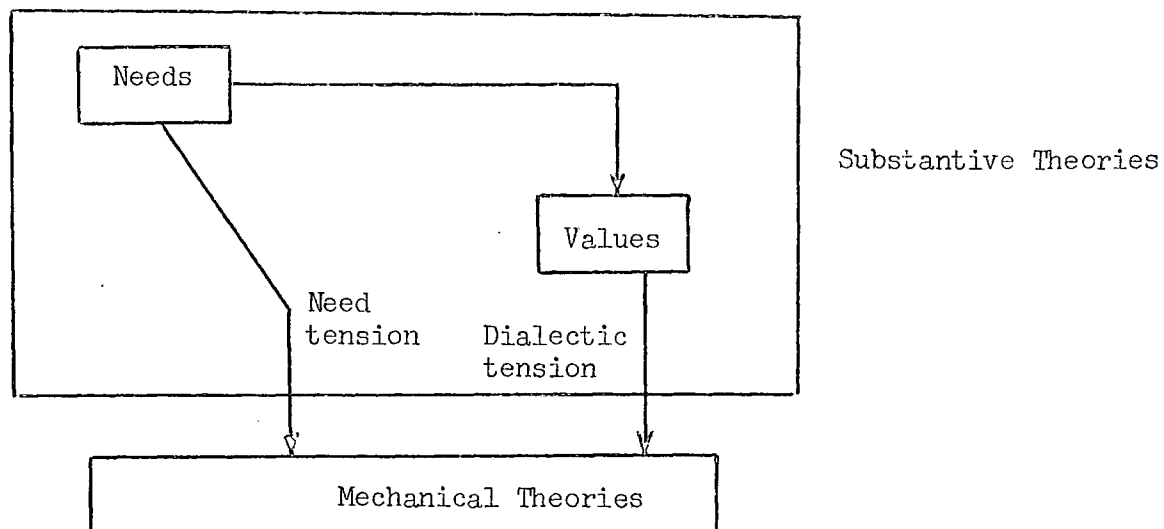


Figure 2.7. The link between substantive and mechanical theories

Figure 2.7 juxtaposes the theoretical standpoints of substantive and mechanical theories together with the relationship between the two substantive arguments. The positioning of the two substantive threads as depicted in the diagram finds support from Locke (1976):

"The ultimate biological function of man's values is to direct his actions and choices so as to satisfy his needs".

2.6. The Mechanical (Process or Locomotion) Theories of Motivation

As stated earlier, this class of theory attempts to explain how decisions regarding choice within competing needs and values, are made. Campbell et al (1970) opine that one could adopt three major theoretical positions concerning the motivational process. However, Campbell and Pritchard (1976) link two of these theories, positing one to be the development of the other. In this section, then, will be presented critical elements of two theories, in their most recent formulation.

While one theory explains behavioural patterns, however aroused, to be directed at optimising rewards or outcome (= satisfaction of final needs, instrumental needs, maintenance and acquisition of values)-to-effort ratio, the other theory attempts to explain how notions of what is optimum may be imaged by (formed within the mind of) the individual. These two theories are now presented.

2.6.1. Expectancy Theory

Vroom (1964) building on the works of Lewin (1951), Tolman (1932) (see Campbell and Pritchard (1976)) formulated his process theory of motivation. Vroom suggests that in situations of:

- (a) choice among goals/outcomes
- (b) choice among effort levels within tasks

the force exerted on a person to act is a function of three variables, namely:

1. Valency, which is the perceived positive or negative value ascribed to the outcomes of action.
2. Instrumentality, which is the degree to which the outcome of effort facilitates the desired rewards.
3. Expectancy, which deals with the belief that a particular act will be followed by a particular outcome.

This basic formulation was modified first by Graen (1967) and then by Porter and Lawler (1968). Figure 2.8 is a schematic representation of the expectancy based theory of optimising behaviour. The figure is adopted from Campbell et al (1970). Essentially the theory states:

"Effort expended will be proportional to the expected ensuing satisfactions derived, which are chosen so as to optimise effort expenditure".

Note that the theory does not include statements on how the individual forms or should form opinions or visions on total amounts of energy required for the task leading to desired outcome, i.e. the terms of reference for the formation of especially the expectancies but also of valencies and instrumentalities are starkly missing. This is provided in the next theory to be discussed.

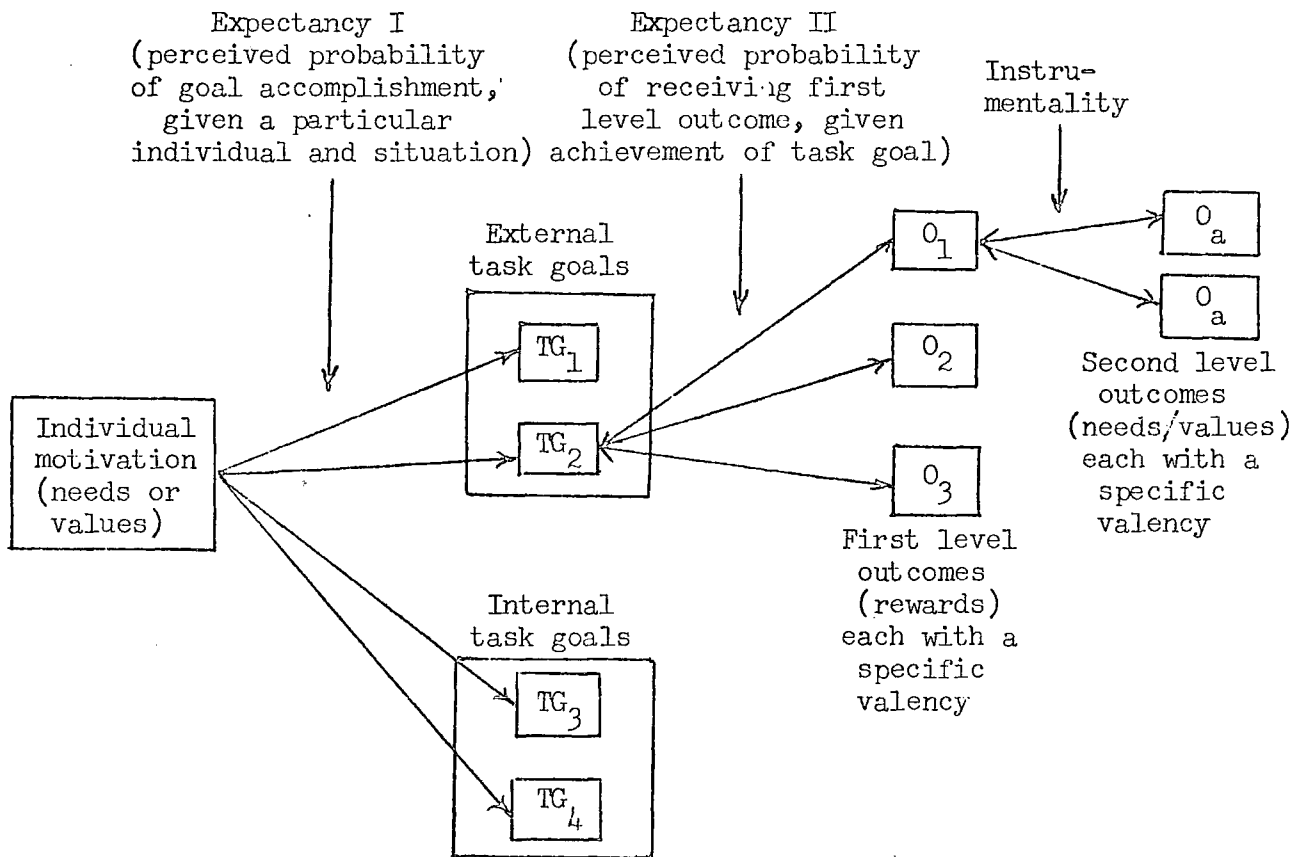


Figure 2.8: Expectancy theory of optimising behaviour

2.6.2. The Comparison Theory

This theory owes its origin to Festinger ((1954), (1959)). The theory in its Festingerian formulation as well as subsequent reformulations, as those due to Adams (1965), and Weich (1965), is often posited using the equity concept. However, in its abstract form, this is not a requirement per se. The mechanical or process part of the abstract formulation deals with how the individual resolves the dialectic tension.

There is no doubt that some of the valency attached to an outcome, the instrumentality between the incentive and the reward and, finally, the probabilities associated with the expectancies are the result of one's own experience; nonetheless, it has been empirically established (by Opsahl and Dunnette (1966), Andrew (1967), Lawler (1968A), Pritchard, Dunnette and Jorgensen (1977), Jaques (1979) and Festinger ((1954), (1957)) himself that an individual's notions regarding these variables are formed through the process of comparison with other individuals.

In its abstract form the theory could, then, be stated as:

Individuals arrive at values of expectancies and instrumentalities, and (although to a lesser extent) attach valencies to outcomes through a process of comparison based on

1. Evaluation of their own past experience and current situation.
2. Consideration of how others face the same reality and operationalise effort ?.

To summarise, the process theories indicate that individuals choose targets for the expenditure of effort so as to optimise, probablistically, the achievement of desired results. Within competing end-results individuals choose those which are more tenable. Concepts of optimisation and ideas on tenability are partly formed through the process of comparison.

Summaries on the Theories of Motivation

Figure 2.9 presents the author's framework for integrating the three concepts: Substantive Theories, Mechanical Theories and Models of Behaviour.

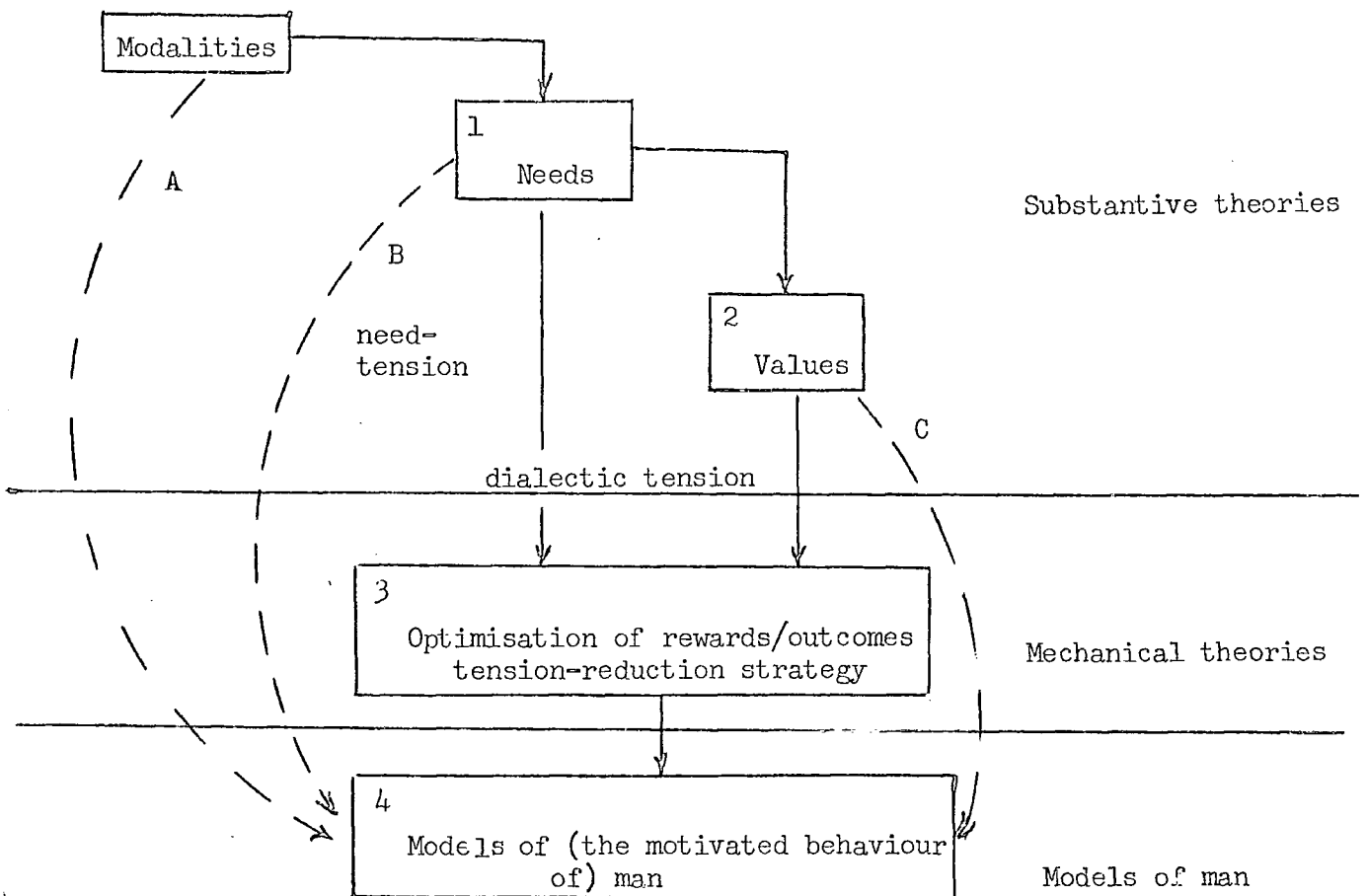


Figure 2.9: From modalities to behaviour - through motives, and resolution of motives

Theories on motivation vary in their ability to predict motivation; most consist of 3 parts. These three parts are: what energises, how choice is exercised and, lastly, what the ensuing behaviour is. As no theory can, on its own, predict behaviour, the author, following Campbell et al (1970) attempted to analyse the theories or classify theories on these three components.

Before moving onto the models of man, a caveat might be in order. Locke's (1975) criticism of the expectancy theory, but one which could be equally applied to the comparison one, stems partly from the theoretical difference between conscious and subconscious motivation as well as behaviour arising out of habits and impulses, as indicated by the dotted arrows C and B for the unconscious motivation and A for the habitual behaviour.

2.7. Models of (the Behaviour of) Man

The theories of motivation, both substantive and mechanical, have been presented in their abstractions. In this section some of the models of behaviour will be discussed in terms of these theories. There are two kinds of models of behaviour: the prescriptive and the empirical; or stated another way, how an individual is supposed to behave and the way he does behave.

Models are built as follows:

Given that:

(a) certain need(s) or value(s) exist, or

(b) an individual is in certain circumstances

he should/does manifest certain behaviour.

Knowledge of what propels individuals into action, how they go about behaving in order to reduce the tensions created, are the base into which the Job Design theories would have to be embedded. The requisiteness of this is well illustrated by the following quote from Hall (1976):

"The rationale, simply put, is that the individual primarily concerned with and motivated by safety and security needs will neither value the same incentives nor employ the same behaviour to attain objectives as will the individual essentially motivated by an ego-states needs. While the former is striving to avoid dissatisfaction, the latter is seeking to attain satisfaction".

Job Design theory takes the view that if the model of behaviour is taken to be describable in terms of all pervasive tendency to seek safety then one particular mould of designs would be sufficient but if the assumption is that the behaviour is describable in terms of more complex patterns, like ego-states in the above text, then more complex designs would have to be contrived.

Some of the models relevant to the discussion on Job Design will now be presented and discussed from the viewpoint of their implication for managerial Job Design.

2.7.1. Man the Hedonist

Coffer and Appley (1964) trace the model's origin to the Greeks, which

makes it one of the oldest models of motivated behaviour. It is verbalised at the level of an aphorism, by Luthans (1977), as:

"A person seeks out comfort and pleasure and avoids discomfort and pain".

The model, at least in its above stated form, appears to be based solely on substantive theory; harm (or pain) avoidance and seeking of pleasure (play, sentience, etc.) are substantive components in the Hall and Lindzey (1957) formulation of Murray's theory of needs (see Campbell and Pritchard (1976)). So it is a need driven model.

In organisational behaviour, the operational derivatives of this model are reward and punishment (or where the tension for reward is great, the lack of rewards themselves may be considered punishment). Notwithstanding the fact that rewards and punishment have the potential of being administered by the subject to himself, the real potential use of the reward and punishment concept lies in the valued outcome that the person receives through intermediation of another, but as a consequence of his own actions and behaviour.

The job being an individual/organisation interface, the model will be briefly discussed in the Job Design context. Figure 2.10 depicts on a Cartesian axis 'pain' and 'pleasure' for the individual and the organisation. Following Devlin's (1961) compiled synonyms andonyms, 'pain' has been taken to mean the opposite of 'pleasure'.

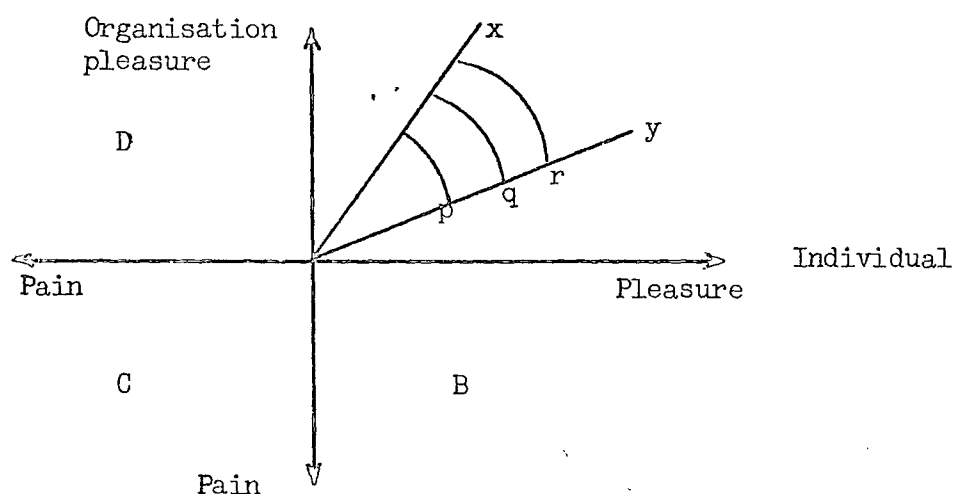


Figure 2.10: Analysis of job design as the Hedonist construct

The foremost question for Job Design is "Which of the four quadrants, A, B, C and D, would be most appropriate for the design of jobs?" Once this decision is reached, there are two further questions which are conceptually linked, and have to do with the region of acceptability of the design of jobs within a given quadrant.

The first question deals with the relative degree of pleasure that could be provided to one side and be acceptable to the other side. Lines x and y, in the figure, depict this concept, and the question, in terms of the figure, would be at what angles, relative to the axis should the limiting lines be drawn?

The second question deals with the absolute degree of pleasure that should be aimed at in designing jobs. This is indicated by lines p, q, and r in the diagram in Figure 2.10.

Note should be taken of the following:

- (i) When jobs are redesigned, the region of Job Design acceptability may remain invariant. Points doublets a and a'' and b and b'' show the position of two jobs before and after job redesign in Figure 2.11.

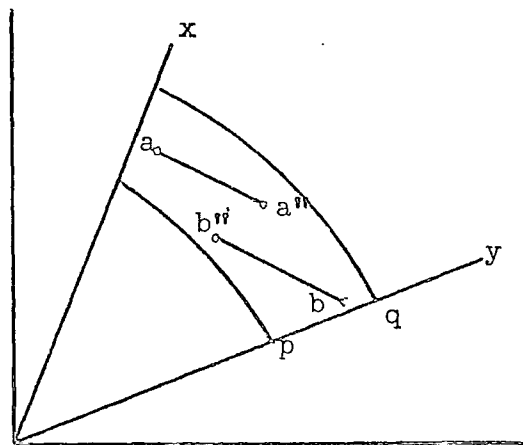
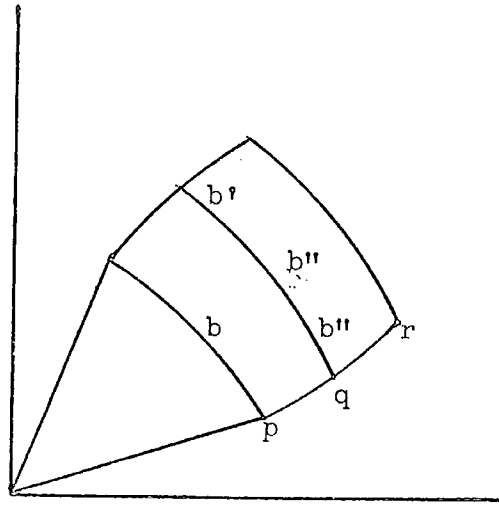
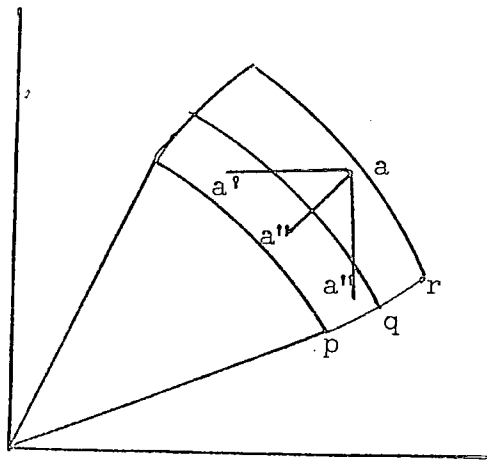


Figure 2.11: Within region job designs



(a)



(b)

Figure 2.12: Job redesign in new region of acceptability

(ii) When jobs are redesigned to comply with changes in acceptable regions for Job Design, the following two situations can arise:

(a) With reference to Figure 2.12(a), a job whose previous design characteristics could be depicted by point b may move to any new position, three of which are indicated by b', b'' and b'''.

(b) With reference to Figure 2.12(b), three jobs whose previous design characteristics could be depicted by point a', a'' and a''', could all be modified in such a way that the design characteristics of the redesigned job could be depicted by point a.

2.7.2. Man the Optimiser

This is essentially a process model; the process theories of motivation are based on optimising behaviour. But to discuss what behaviour patterns would be optimal is to know what the desired targets are, and just as importantly, to know the resources and recourses open to the individual. Argyris (1973) discussing interactional modes of 'man and the formal organisation' , writes of the individual:

"Individuals are themselves complex organisations. They produce the energy for an organisation if there is some gain for them. The gain the individuals seek can be understood by understanding their needs".

The necessary conditions in order to evaluate the pattern of behaviour, then, are to know the needs and values which energise the individual's behaviour - the valency attached to the social, moral, ethical, environmental, political; as well as to the needs for safety, socialisation, competence, etc. It also demands the knowledge of time constraints (not the real ones but those perceived by the individual) and horizons for the achievement of goals. Note that choosing and achievement of goals is labelled effectiveness.

The implications for Job Design of this model of behaviour chosen are profound: as the job is an interface between the individual and the organisation, the most basic question, to the author, appears to concern itself with:

"Whose goals should the design of the job endeavour to facilitate - those of the organisation or those of the individual?"

For the two sets of goals may be irreconcilable according to Engels (1844) (see Warr (1976)) and Ebling (1967); and yet Warr (1976) is encouraging, for in his opinion it may be possible, although with difficulty, to reconcile them and seek joint fulfilment through job redesign.

McGregor (1960) while discussing his theories X and Y (where theory X implies tight external controls and theory Y relies heavily upon self control and self direction) suggests that the inter-twining of goals would lead to enhanced motivated behaviour.

The important point to emerge from the above presentation, however, has not to do with the maintenance of the job contract but rather its termination if the recognised goals cannot be given integrated form (see Festinger (1958)).

Where goal integration can be achieved, it could be said that a situation of mutual interdependence has been created. The term used to define permanent union between organisms each of which depends for its existence on the other is symbiosis (see Desmond Morris (1967)); so where individual/organisation mutual interdependence can be contrived, it could be termed a symbiotic relationship. In instances where mutuality is not possible, the residual relationship must be one where one side is either more "powerful" or more "dependent" than the other. The method of Transactional Analysis develops the concepts of dyadic relationships on a three state universe. The states, in transactional analysis are parent, adult and child (see Bowen and Nath (1975)). Relating transactional analysis to the individual/organisation relationship suggests that where mutual interdependency (adult-adult relationship) is violated the relationship

would degenerate to parent-child or adult-child dependency. In practical life the accepted norm is that the parent knows best and the child is expected to do what the parent guides. The implication for Job Design of this state of affairs is that whichever party gets the parent's role would expect the other party to accept its judgement. In the example to follow, the organisation has the ascendancy; cases in which the ascendancy is reversed may also occur. Jay (1967) quotes the following statement:

"If you work for Procter and Gamble for ten years, you wonder if you can afford to leave".

Elaborating on the quote (which incidentally Jay attributes to Packard, the author of 'Pyramid Climbers'), Jay writes:

"The fear of losing the pension becomes ever stronger as time passes, as the after life gets nearer the fewer years of this one have to be endured".

The expected job behaviour arising from the above situation would be one where the job holder would do practically anything to hold on to the position. In such a situation of servitude, the concept of job design, in the manner in which this author has attempted to build it, is meaningless - the necessary concept then would be, at best, something akin to labour exploitation and at worst a handbook for slave drivers.

But even this notion, that driven slaves may effect higher yields, is outdated. Blau and Schoenherr (1971) state that wage slavery begets better performance than pure slavery and that:

"The efforts of men can be controlled still far more efficiently than through wages alone, by mobilising their professional commitment to the work they do best and like to do most and by putting their highly motivated energies and skills at the disposal of organisations".

So, instead of subjecting the job contract to a relationship of dependence it behoves the parties to the contract to base it on symbiosis - mutual attraction rather than a bind.

To create a situation of integrated goals requires the job holder to know what he should accomplish in the various time-spans - immediate,

medium and long term - in terms of the quality of the product, the quantity of the product; and in order to optimise he should have a degree of freedom to innovate and use discretion; his understanding of the purpose to which the products of his work are put may help him to use his innovation and skills to optimise further. In order for the job to facilitate his own goal optimisation the job situation should supply the job holder with knowledge of opportunities open to him and where necessary prepare him for the achievement of personal objectives/aspirations which may currently be out of his ken. The notification of changes with respect to the fulfilment of personal goals would be desirable. This would enable him to reformulate his personal goals, if necessary.

Routes to the achievement of individual goals is an interesting topic at this point. If the model predicted optimising behaviour obtains, consider the following case presented by Haire (1964):

"Suppose two individuals are promotion oriented, and are nearly equal in merit except that the one slightly poorer has considerably more seniority. If the individual given promotion is the one with greater service (and poorer performance) what happens?"

According to Haire, the Law of Effect would suggest that over time performance may suffer for the following reason: individuals may decide to take the option of the "longest tenure" to get promotions; merit has been shown to count less than seniority. Individual's heuristics, i.e. his strategy, for goal achievement may be formed in terms of tenure. The author surmises that the emerging behaviour patterns may be orientated towards self survival and away from performance excellence.

Heuristics motivated behaviour has one important aspect to which Lewin (1936) draws attention. If individuals meet failure, then some may get turned off from the goal. An explanation for this could be also derived from Thorndyke's Law of Effect. Unreciprocated heuristic motivated behaviour, according to Lewin, can lead to cessation of activity entirely. The implication for job design is to find out what the individually really

wants and to a measure ensure, probabilistically, its presence in the job.

2.7.3. The Rational Economic Man

This is a need based, normative view of job behaviour. The model directly recognises only the instrumental needs for money and security of tenure. This is essentially a deprivation model. McGregor (1960) lucidly deals with the deduction for job design and assumptions regarding behaviour arising from this model, when he presents his theory X. Since the money is something the individual receives through the mediation of the boss, the model then posits man to be looking for rewards which are external to the work (but still within the job). Jobs designed under the assumptions of this model are often fragmented (Birchall (1975)), with 'labour utilisation' as the main criterion for design. The organisation decides on the designs of jobs and the individual is simply put in any position the organisation believes best (see Taylor, F. W. (1964/1971)).

As if by way of throwback, since the only legitimate goal recognition pertains to money and security, all individual grievances are translated into money and security as is evidenced by the following quotation from Beynon (1975) where an individual is describing his views of jobs:

"There's just firms and there's work. We come here for a living. That's why we work. That's what a trade union is for really isn't it? Without a trade union you wouldn't get a living hardly. You get a strong trade union organisation and you'll get all the rest".

An interpretation of the studies by Goldthorpe et al (1968) could be the individual acceptance of this model. Goldthorpe and his co-authors were led to the conclusion that individuals regarded their money and security above all other needs and had entered into a psychological contract where they were prepared to stand most inconvenience at work for higher than average earnings. And they were only dissatisfied when the organisation could not keep up their side of the bargain - wages at above the national level for the level of skill required. An alternate and equally plausible explanation could be that Goldthorp's subjects experienced the 'one-up-manship'

pleasure of status bestowed by comparative higher earnings. The acceptance of the alternative hypothesis would take the explanation to be in terms not of this model of behaviour but that of the 'Man the Achiever' which is discussed in the next sub-section, 2.7.4.

The implication for Job Design of this model of behaviour would be the construction and implementation of salary and benefits system that have overall acceptance. Any task could be given to any person but as the person may be psychologically indisposed towards the particular task assigned, tight control over his work would be necessary. To make the benefits correspond with performance, some method of salary akin to 'piece rate' wages may have to be devised.

Some modicum of job security would have to be provided but if the organisation operates in an environment where the demands for its services, or products, fluctuate, then some method of hiring and firing like 'last-in-first-out' may have to be institutionalised, but here again there might be some problems of the kind brought to notice by Handy (1980) where a laid-off worker from a tyre manufacturer makes the following statement:

"If tyres don't sell any more, management ought to find something for us to make that will sell".

Handy by his following statement appears to accept this as an organisational responsibility:

"If, after all, management has always regarded its physical assets as capital in search of an outlet, why not its human assets as well?"

The implication for Job Design then is that it should provide for the retraining of personnel, assuming the organisational purpose is to provide employment.

2.7.4. Man the Achiever

From Murray's list of needs one of the most intensely researched is the achievement motive (see Luthans (1977)). This model of behaviour assumes individuals wish to engage in activity which (see Gellerman (1963)):

1. Meets some standards of achievement set by the individuals themselves.
2. Permits them to compete successfully with others.

Atkins (1958) suggests that achievers typically seek out challenging jobs; prefer to assume personal responsibility; prefer situations where they receive clear feedback on task performance.

Although implications for Job Design of the model of man are many, only some will be discussed. The individual, being competitive in nature, would seek out situations where his current abilities, those that he regarded as the most developed, were used the most. Individuals would also tend to attempt to increase their abilities so as to be able to compete more strongly with others in the future.

In order to be able to assume personal responsibility they could flourish the most under participative goal setting; this would give them the opportunity to set their own targets for achievement (see Lathams, Mitchell and Dossett (1978)). In job situations the feedback on performance must be seen by the job holders to be accurate, objective and timely. In order to achieve the requisite performance, goal characteristics must be well formulated, otherwise the job holder will not be able to estimate the degree of risk involved, and they by their nature are 'moderate risk takers', (Atkins 1958)).

As a degree of competition will be assumed by individuals with this orientation, it might be necessary for Job Design to ensure that they possess all the organisational resources that might be needed for target achievement, and this includes authority.

The achieving model of behaviour would also suggest satisfaction at mastery over, and moulding of, the environment as a purpose of certain human activity (see Argyris (1962)). It follows, from the acceptance of the above proposition, that the extent to which the job serves the individual as a resource-source to facilitate his endeavours at moulding his home/

social environment is the extent to which he will value the job for its instrumentality. Salary and hierarchical status might therefore be important even for the achieving man, because these by serving as a resource facilitate the other achievements.

2.7.5. The Social Man

Empirical evidence for this model of behaviour comes from two disparate sources. The first source is Mayo (1933/1946), who reports on the work initially undertaken by Western Electric at their Hawthorne factory, starting in the late 1920's of their own accord, but later with the participation of the Harvard Business School. The account of the experiments is of no concern here (some aspects are covered in Chapter 5), but the outcome - conclusion - is.

To Roethlisbager and Dickson (1939) the results of the Hawthorne studies indicated that an opportunity to socialise within the job environment was an important predictor variable of performance.

The alternative source of evidence for this model of behaviour is the research on need for affiliation (Schachta (1959)), need for affection (see Luthans (1977)). This line of research also supports the hypothesis that man is socially orientated and seeks interaction possibilities which are non-work related.

Another research perspective having a bearing on this model of man is the study of interaction between managerial style and subordinate performance. Of the many researchers who have contributed to this, the author found the following particularly interesting: Shartle (1949), White and Lippitt (1953), and Adizes (1976). This research perspective mainly supports the contention that supportive styles of management are conducive to high productivity.

Even here the results are by no means unequivocal. Should one conclude that high productivity is due to a considerate supervisory style or that a high productivity elicits considerate style? The point is that

were a comparative study of two groups conducted and further were it manifestly the case that one group whose boss evidenced a considerate behaviour, produced better than the other group, whose boss evidently had an inconsiderate style - it would not be possible, from these observations, to conclude as to whether considerate style led to improved performance or the other way round. After all, inferentially it is difficult to visualise anything but considerate supervisory behaviour, rather than an inconsiderate one, being the outcome ensuing from higher productivity. Similarly, it is easier to understand inconsiderate behaviour when the productivity is low. And testing of the above stated hypothesis is difficult even in longitudinal studies for, as noted by Salaman (1977), even when a leader with a particular style of operation leaves the organisation, the consequences of his leadership remain and serve to produce manager-subordinate relationships and personal attitudes similar to those previously encouraged and personified.

The implication for job design of this model is that, allowing for the personal differences factors, the interpersonal climate is an important variable in Job Design (Wright (1975)). Birchall (1975) goes even further in stressing the importance of the social needs in stating the situation as follows:

"If one adopts a model of man as self-actualising which is based on the work of Maslow, McGregor and Herzberg, a managerial style will be used in which the individual's social needs will be considered at the same time as attempts are being made to make the work intrinsically more challenging and meaningful".

The importance of the above quotation from Birchall is that it links the theoretical standpoints of motivation theory to social needs.

2.7.6. The Harmonious Man

Festinger's Theory of Comparison leads directly to, and is oftentimes stated in terms of, a model of behaviour. The model of behaviour predicted and stipulated is one that leads to internal harmony by removing the "cognitive dissonance".

The variant of this model with relevance to managerial job design goes under the title of Equity Theory and is discussed by Adams (1965), Wick (1965) and Jaques (1956). The operational derivatives of behaviour posited by the model are:

1. Internal harmony - man trying to bring a balance between his needs and his personal resources (= abilities which can be utilised for his need fulfilment).
2. External harmony - man attempts to create a balance between his own and some comparative person's inputs and outputs. The comparison can be:
 - (a) straightforward on items like: choice in work content; hours of work; flexible time; travelling involved, etc.
 - (b) on the basis of ratios of the kind: inputs/outputs. where the numerators, in the above ratios, may be of the sort income, recognition, opportunities, etc. and the denominators may be of the kind effort, quality of work, quantity of work; in fact the comparison possibilities are endless.

The implications for Job Design of this model are as many as it is conceivable for an individual to form comparisons of the above kind; so only a few will be discussed and presented.

Salary and remuneration packages for employees at the same level doing essentially the same job, would have to be the same; those individuals who currently do not have abilities to win valued rewards might wish to be given opportunities to bring them to a level where the valued rewards would be justified; work loads for teams of people may have to be adjusted so that individuals are not allocated jobs (work content) which are undesirable while others get pieces of work considered more desirable. Quantitative aspects of jobs would also be important from a comparison viewpoint - two, or more, jobs should, all other things being equal, be adjusted so that one

job is not quantitatively overloaded/underloaded with respect to the other.

Foremost, the process of comparison demands that the individual job holder making these comparisons should be able to exercise some influence to alter the work situation in a positive rather than in a negative way. The necessity and meaning of this could be explained through an example. Suppose the individual job holder finds that for the same specific outputs as that of a "comparison" person he receives lower rewards. The situation could be modified in the following ways:

- (i) Reduce his own outputs - a negative approach.
- (ii) Seek adjustment of rewards, through influence on those responsible for the granting of rewards - a positive approach.
- (iii) Neither of the above two, but a rationalisation which excludes the particular other person from future comparisons.

The suggestion that the individual exercises influences is based on the second of the above solutions, for while the first is obviously detrimental, the third would be so eventually - the individuals may soon run out of acceptable comparisons and become a "social isolate". According to Schein (1965), this increasing sense of being unrelated to others is "anomie" which leads to a feeling of meaninglessness.

Additionally, administrative and control procedures and systems would also require periodic evaluation for individuals having to adopt, participate in, or somehow regulate their own work in accordance with these procedures because these people might well appraise them from the viewpoint of the effort required to obtain current overall benefits to the organisation and specific benefits to themselves.

2.6.7. Man the Seeker of Power and Status

According to McClelland (1970) managers being primarily concerned with influencing have personalities with an inbuilt need for power. In fact he

writes:

".... leadership and power appear as two closely related concepts, and if we want to understand better effective leadership, we may begin by studying the power motive in thought and action".

A concept closely related to power is that of status. The closeness of the concepts is illustrated from Talcott Parsons' (see Luthans (1977)) enumeration of authority and power as one of the five sources of status. His other four sources of status (membership of family, personal qualities, achievement and skills, and possessions) could equally be regarded as sources of power. Given this viewpoint, although others have presented separate models for the Power and Status constructs, the author is deriving one model for these two concepts.

Jay (1967) quotes from Bertrand Russell the following text:

"In the modern world, and still more, so far as can be guessed, in the world of the near future, important achievement is and will be almost impossible to an individual if he cannot dominate some vast organisation".

It is to be expected, then, that achievement orientated individuals in particular and people in general will seek to enhance their own power and attempt to exercise influence. Dalton (1959), and others, have attempted to measure influence exercised, formally and informally, by different people and deduced that these two types of influence are often at variance. Dalton in fact raises a very perceptive question:

"If people were awarded posts because of specific fitness, why the disparity between their given and exercised influences?"

Implication for Job Design of this model of man would then be to attempt to ensure that individuals exercise power and influence constructively in accordance with their capacities and job demands. Job Design, operationally then, would seek to ensure that the organisation resources available to the individual are in accordance with the needs of the job. Mintzberg (1973) gives a very amusing case of the job title being an important source of managerial power and status; outside persons as well as persons from inside

the organisation may not give due regard to a person if they think he does not 'carry clout' - and often the only way to discern the amount of influence exercised is by reading the person's title. Jay's (1967) advice for Job Design would be to ensure that individuals and groups exercise influence in proportion to their importance, i.e. to the importance of their job; and again, according to Jay, this should be in accordance to the current situation rather than with reference to some historical benchmark.

A status based explanation for the so-called Hawthorne effect is provided by Bishop and Hill (1971) who opine that the individuals under observation may in fact perceive an increase in status and this reduces the anxiety.

Of course, influence can be exercised in a multitude of ways. Operationally, an individual should by application of this model to Job Design practices, be able to exercise influence over variables which affect his productivity. Appointment of role-set colleagues could be an area of direct relevance to the job holder. The definition of his own outputs in particular and the affairs of the larger unit of which he is a part may be another. This deduction would find support in Likert's (1969) vertical-and-horizontal linking-pin models.

2.7.8. The Self-Actualising Man

Maslow's concept, rather than his theoretical standpoint on the hierarchy of needs, of self actualisation leads directly to a model of behaviour which has been labelled as indicated in the sub-heading title above, by various authors, including Schein (1965) and Birchall (1975). Note should be made to the effect that earlier researchers had used the concept even prior to its popularisation by Maslow, who himself attributes its origination to Goldstein(1939). Although Maslow claims that it is used by him in a specific sense, any and all behavioural implications could be derived from the concept. McGregor (1960) is the man who popularised and invented an operational model for the self-actualising behaviour, through

his theory Y (as opposed to his earlier referenced theory X), which is based on the following assumptions:

1. People are not by nature unmindful or resistant to organisational needs; but their experience within an organisation can make them so.
2. The motivation to work, the potential for development, the capacity for assuming responsibility and the individual skills are all present in people. But for some unknown reason, mainly attributable to aeons of past learning which cannot be quickly unlearned, organisations do not give individuals the necessary chance. But all the same, it is the organisation's duty to do so.
3. Organisations should encourage individuals to fulfil their own goals by directing their effort through organisational objectives.

This last point indicates the importance of Job Design as a method of interlinking personal and organisational goals. Further implications for Job Design of this operational model, according to R. Miles (1975) are:

1. The organisation's basic task is to make use of its 'untapped' human resources.
2. The organisation must create an environment in which all members may contribute to the limit of their ability.
3. The organisation must encourage full participation on important matters, continually broadening subordinates' self-direction and control.

And the effect of following the above prescripts, again according to Miles, will be:

- improvement in work efficiency
- work satisfaction enhancement as a "by-product" of subordinates making full use of their resources.

2.7.9. The Complex Man

The models of man discussed so far, with the possible exception of the self actualising model, tend to be generalised simplifications. Over-generalisations slant any deductions made from the model-generated predictions. In fact these so-called models of man are prescriptive and normative statements; these are not parametric models which call for information on the specific individual on whose behaviour prediction is to be made. For example, the rational economic model assumes that money is the only substantive variable; further, it is assumed that everybody seeks the highest amount of money he can command. Both these assumptions may hold for some people, some of the time; but these are unlikely to hold in all circumstances, with respect to all people.

The concept of individual differences is now well established and covered in most standard text books (e.g. McCormick and Tiffin (1942/77)). Anne Roe (1956) in her treatise on the Psychology of Occupations discusses a vast array of reasons why people seek jobs. There are a great number of differences in people's expectations of jobs; moreover the same individual may look for different things in a job at different points in time, according to Bailyn (1977). Further, even when the motives and intents are the same, people devise, according to Miller et al (1960), different strategies, or heuristics, for goal accomplishment.

This complexity in human behaviour, both with respect to between-individuals and within-the-same-individual, prompted Schein (1965) and Bennis (1966) to posit a model of behaviour which has come to be known as the Complex Man Model. The acceptance of the complex model of man is both a threat and a treat. The threat comes from the exclusion of cook-book recipes. Dixon (1979) has written an amusing article about the search for instant motivation for dealing with man in organisational setting - strategies of the kind give him more money, treat him nicely, are valid no longer. The 'treat' lies in the art of management being restored to the manager.

Before attempting to derive Job Design implications from this model it is worth noting the complexity of this model. The complex man model is not of the positivistic tradition and mould as is the self actualising model of man. Nor does it take to existentialism, which on account of its delving with the tragic in life could, for the purpose at hand, be dubbed the anti-thesis of positivism. Further, all other models of man are based on purposive actions, whereas this model does not assume all behaviour to be purposive. Irrational, emotive, capricious and even unconscious behaviour can be explained in terms of this model.

All the other models were predictive - they simply assumed some characteristic behaviour. This model is essentially descriptive. The only assumption of the model is that human behaviour is complex and as such cannot be generalised. To be used predictively, with any degree of accuracy, the whole past history of the individual concerned would be required; and even then the predictive power may be low. (Kotter and Lawrence (1974) discuss the predictive power of behavioural models). Things have connectivity; goals and sub-goals are interlinked; when a person says he wants something it is not possible, from the model, to deduce whether it is his final goal or instrumental goal which facilitates some other goal. Since the individual's internal motives are varied, it becomes difficult to suggest any one way for securing his co-operation for work on a linear, or even a non-linear forecasting model, according to Burack and Miller (1978).

The most important inference for Job Design from this model is that no prescription can be made regarding the design that would find universal acceptance. Only a timely contingent approach to designing would do. The approach should facilitate the design process and be facilitative in modifying the design, so that changes in individual wishes and response to environmental demands can be fast. Cost, in money and effort, would need to be low, as the process may have to be repeatedly invoked.

Other inferences from this model could be that organisations, giving cognisance to the fact that individuals wish to draw different rewards from their jobs should incorporate different concepts of rewards, which are, as far as possible, unlinked to each other.

2.8. The Derived Model of Directed Behaviour

In the foregoing section have been presented nine models of man. These are not the only models available in literature; these nine certainly seem to be reported more often. From most generalised statements regarding human behaviour a model, even when not explicitly stated, can be derived because of its implicit presence in the generalisation. For example, in Medows's (1972) book, entitled "The Limits of Growth", dealing with the accelerated depletion of the world's resources, the implicit underlying theme could be integrated into the model: 'Man the Prodigal'.

Earlier, it was stated that some models of man are prescriptive. These models are essentially the public's preconceived ideas on the way occupiers of certain positions, roles or members of affiliation groups should behave. For example, a commissioned officer is expected to behave like an 'officer and a gentleman'; individuals within a community following the Christian faith are expected to behave in a 'Christian way'. Each role or affiliation connotes a certain behaviour; individuals not abiding with the expectations of behaviour cause raised eyebrows. Varga (1975) suggests that meaning of work can be different to people belonging to different affinity groups. Varga's analysis of the communist concept of work, as contrasted with the capitalist work ethic, indicates that the degree to which individuals are propelled by their affinity beliefs, may count for them sharing preference for different facets of work. Following the creation of the Islamic Republic in Iran, in the model of behaviour derived from principles of Islam, it is claimed by the Republic (see Imam (1980)) that the concept and meaning of work is different from that which obtained under the previous government.

The purpose of this section is to sum up the presentation on models. Figure 2.13 depicts the integrating framework for the models of the behaviour of man.

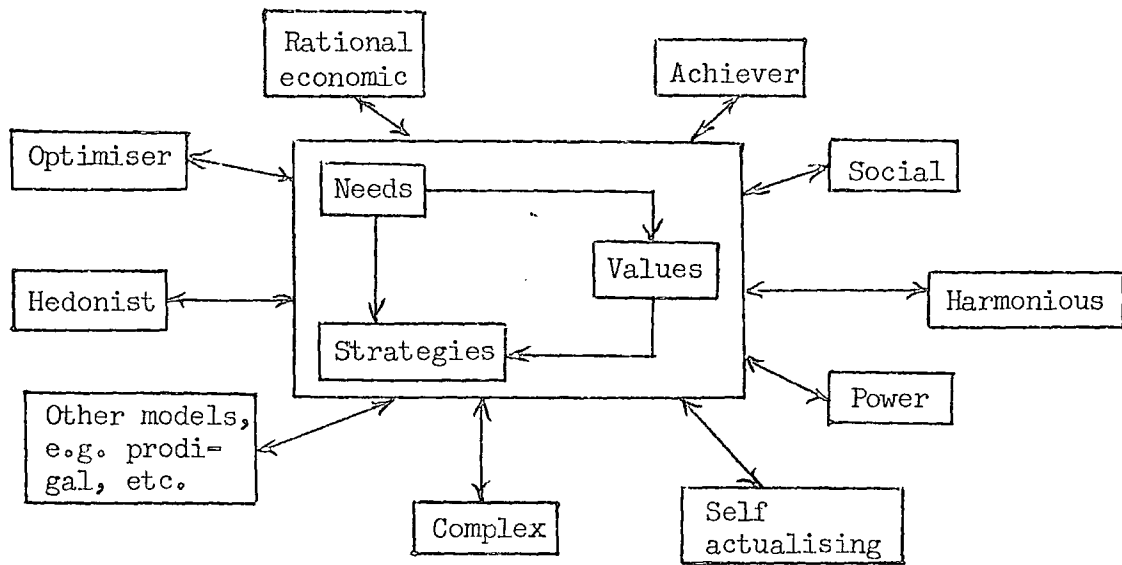


Figure 2.13: Integrating framework for behavioural models

The author-derived model of purposive behaviour could be labelled as 'Man the Accountant'. Figure 2.14 depicts a diagrammatic representation of this model.

Man has needs and he possesses resources (personality, abilities, contacts, money, etc.), which he uses to fulfil these needs. All theories of motivation and models of man assume the existence of some judgemental mechanism which recognises the stimuli, internal (for needs) and external.

An important aspect of the model is its implied recognition of needs as either the final desired product or as operational necessity for the achievement of other needs. For example, the model accepts that certain people may be power orientated and seek power for its own sake, while others may seek power so as to influence outcomes conducive to their own wellbeing, or that of others.

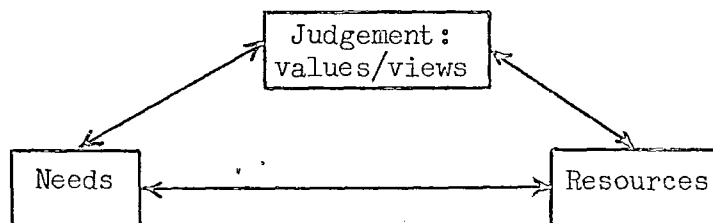


Figure 2.14. The accountancy model of purposive behaviour

The model does not deny or abrogate hedonic behaviour. Rather, hedonic, optimising and rational economic behaviour are implicit in most accountancy behaviour.

The purpose of accounting control, stemming from the stewardship origin (see Glautier and Underdown (1976)) of accounting itself, carries

the function of resource husbandry on one side, and need fulfilment on the other. The concepts of ethics and values find an image in the rules, recommendation and tradition of the accounting profession.

Social needs are recognised as such but further recognition is given to the fact that social intercourse can generate contacts which could later serve as resources.

This model explains harmonious behaviour at two levels:

1. Individual's effort to maintain a balance between his needs and resources (and the alignment of values/views).
2. Individual's effort to maintain a semblance of comparison with others.

The power model behaviour is explained as a method of building up the resources (abilities, skills, etc.) so as to facilitate the meeting of current needs and future realisation of aspired outcomes. Social power being more often comparative rather than absolute, individual behaviour of undermining rivals becomes understandable. The earlier remark of Hilgard et al where they question whether the 'contrariness' need is fundamental or instrumental towards fulfilling the recognition needs could now be elaborated. The author would opine that recognition could be a resource, contrariness may be an operational need. However, this is not to deny that recognition may also fulfil the immediate self esteem need.

The accountancy model is supportive of the self-actualising model. Organisations should attempt to use the untapped resources not only because it would benefit them, but foremost because this is a way in which achievement of individual's personal work-related outcomes are possible and permissible. Such organisational behaviour besides, and through, the fulfilment of other needs meet the individual's self esteem need, which has been defined by Gavin (1973) as:

"... one's general evaluation of oneself as a need satisfying, adequate individual".

The complex model also fits into the accountancy model, as the individual's needs and resources and his wishes regarding them have to be singly and situationally determined. The complex and accountancy models both suggest the adoption of a methodology which some researchers, e.g. Morse (1973), have called 'contingent'. A contingent approach would, of course, be recommendable even from the concept of job on an individual/organisation interface. Each person being different, only by concentrating on the individual as a person, could a job be designed for him. Additionally, commendation for a contingent approach would be that each managerial job (work) situation (role set, tasks, technology) may be different.

Figure 2.15 depicts diagrammatically a model of behaviour which would be in accordance with the accountancy model.

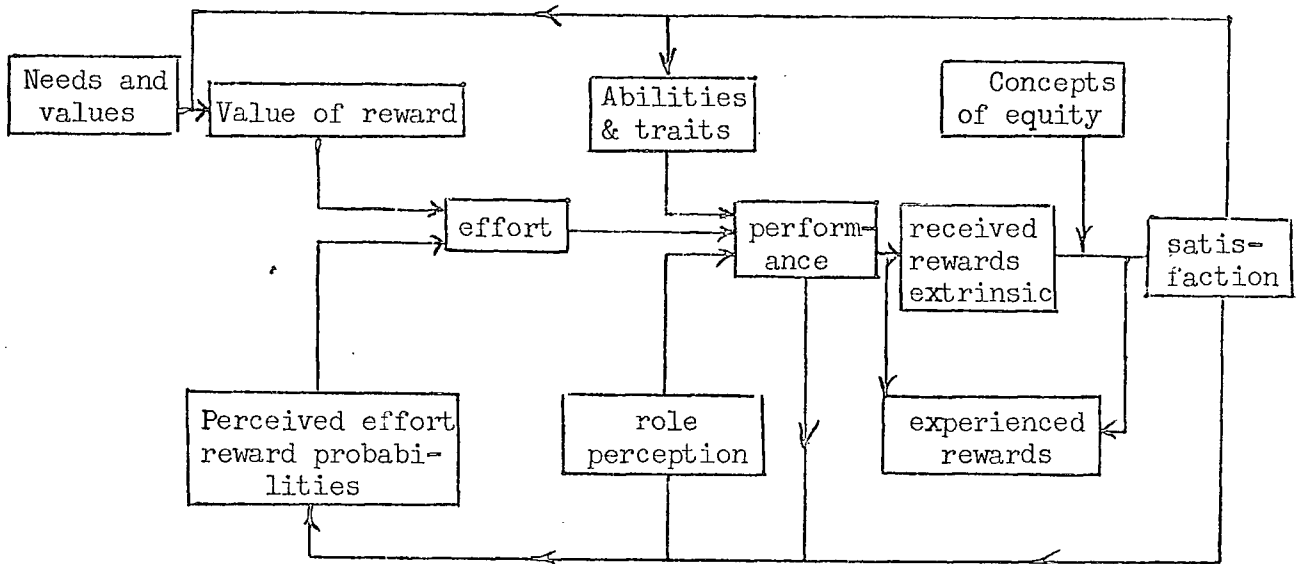


Figure 2.15: Diagrammatical model of purposive behaviour.
Adapted from Porter and Lawler (1968)

Indirect support for the derived model comes from Landy (1971) who was involved in empirical work to investigate satisfaction-performance relationship and motivational type. Under the heading of 'discussion' he writes:

"In the present context, motivational type can be considered a pattern of energy expenditure. At first glance this might appear far removed from the more orthodox notion of motivation advanced in recent years, that is motivation as a need system".

Building from Landy, to explain the derived model, then, it could be said that at one moment an individual may be involved in satisfying some immediate need; at another time he may be involved in building resources for some future need, at yet another moment he may be ready to disregard his needs, and willing to spend his all to maintain some value system. The acts which simultaneously supply immediate need fulfilment, build reserve for future utility and fall within the value system would, of course, be the most desirable ones.

Note that the model depicts a shifting relationship as to what actually is prompting or energising a particular behaviour, or sequence of behaviours, involved in heuristic activity.

In the context of evidence for the Accountancy Model of Purposive Behaviour, consider the following self-assessment question list presented by Schoonmaker (1969).

1. How would you place, vis a vis others, on assets and liabilities:
 "The important comparison for intelligence and other assets and liabilities is not with general population but with people with whom you are competing for jobs, promotion and raises ..."
2. Do you have favourable contacts (a) within your own firm,
 (b) with other firms.
3. Do you have social skills comparable to others both within
 and outwith the firm.
4. Do you have all the necessary credentials for the job you
 want. If not, can you acquire these.

5. How valuable is your experience to (a) your firm, (b) to other firms and how valuable would it be in the future.

The likely behaviour to follow from the above self-assessment is one derivable from the accountancy model. For example, taking items 4 and 5 of the above list, the individual evaluates whether getting higher degrees, etc. will be helpful. Here the necessary resources might be time and money (either in the absolute sense or in loss of earnings during the period of education). On the other hand the individual, on the basis of his values (*weltanschauung*) might decide that the implied swap between resources he presently holds (or will have) does not make sense.

Overall, then, the Accountancy Model of Purposive Behaviour makes a contribution to understanding human behaviour. Of course, the expectancy theory mechanical model of behaviour could be applied to analysing the above situation, but this theory by not giving cognisance to the exchange in resources is in fact a reformulation of the Hedonic Model and suffers the same drawbacks.

The explicit statement of resource exchange is a valuable item in the Accountancy Model of Purposive Behaviour.

In the beginning of this chapter, the concept of the generator that energises motion was mentioned. In this model, the generator is challenge - challenge that propels the individual to meet his needs; challenge that propels the individual to uphold and to modify standards and values for himself; the challenge to make adjustments in the resource base. Zipf's Law - still holds! The model is consistent with and finds support from open systems theory (see Katz and Kahn (1966) on acquisition of negative energy and maximisation of the ratio of imported to expended energy.

Note that in the above model of behaviour, there is no assertion as to whether motivation affects performance or performance affects motivation, at any given instant in time. Effort, which results in performance, may depend on the results of past performance/experience. The behaviour imprinting

which results from learning has made it difficult to test hypotheses on performance and motivation causality. The following causality relations have been inconclusively tested:

1. Motivation causes Performance (M P).
2. Motivation is caused by Performance (M P).
3. There is a mutual causality between Motivation and Performance (M P).

Sherridan and Slocum (1977) and Lawler and Scuttle (1973) discuss the experiments on performance-motivation causality. The subject will come under discussion in Chapter 11.

The author has attempted to present some of the motivation related determinants of behaviour and derived a model (a combined model) of behaviour which the author believes to be representative of the purposive behaviour related to jobs.

In the rest of this chapter will be discussed topics related to experience-in-job. The author does attach a great deal of importance to the differences in the three concepts: Theories of Motivation, Models of Man and Experience-in-Job.

The Accountancy Model of Purposive Behaviour suggests that individuals experience tension which prompts them to take action, and this action is directed at reduction of tension. Concurrent conditions of tension can exist. For example, a Muslim businessman, away from home, on feeling hungry may look for a restaurant serving Kosher food. Here two tensions are concurrent: the one due to need for food and other due to a value based in religion. Reduction of tension is the intent of directed behaviour. Successful effort by the individual at tension reduction (or elimination) results in a feeling of contentment, achievement or satisfaction. Tension having arisen, but the effort at tension reduction not being successful, results in the experience of discontentedness, dissatisfaction. However, if a specific tension has never arisen in an individual, it can be neither a source of satisfaction nor one of dissatisfaction for that individual.

Handy (1976) observes that any lists of need will almost certainly be incomplete; similarly the author regards values individuals may hold to be just as infinite as the needs. However, some sources of tension have been researched in organisational setting. In the following section some of these findings are presented and discussed from the job design perspective. The author regards the book "Job Attitudes: Review of Research and Opinion" by Herzberg, Mausner, Peterson and Capwell, published in 1957, as a classic work of scholarship on the topic of job satisfaction. Their work summarises the till then literature findings. The strategy adopted by the author is to take this work as a starting point and report:

1. Mostly the research findings since the compilation of Herzberg's work.
2. Some of the findings summarised by Herzberg et al (1959), but to report these at length because of their implication for Job Design.

2.9. Sources, Determinants and Correlates of Satisfaction

Difficulty in Measurement

Schneider and Alderfer (1973) in a well researched, and what the author regards as authoritative, way compared three studies to evaluate convergence between measures. In two of these studies there was no convergence at all while in the third study, although some convergence was there, it was low. Schneider and Alderfer explain the divergence in terms of item construction for the instruments used.

Another study on the evaluation of convergence of instruments was undertaken by Imperato (1972). Imperato used two instruments popularly used to evaluate individual experience-in-job. The two instruments compared were:

1. The Porter Need Satisfaction Questionnaire (PNSQ) originally developed by Porter in 1961 and later revised by Porter and Lawler (1968).
2. The Job Description Index, JDI, which was developed by Smith, Kendall and Hulin (1969).

Both these instruments measure job satisfaction as a function of the difference between what is expected as a fair return and what is experienced. Fundamental to both is the concept that as this difference decreases, satisfaction with the job increases.

Imperato reports the following correlation between the PNSQ and JDI corresponding discussions:

Work	0.60
Supervision	0.46
Co-workers	0.36
Pay	0.36
Promotion	0.45

A conclusion of Imperato, and one obvious from the data above, was that the instruments do correlate. For Job Design a possible implication of the use of these instruments would be that while statistically these might converge, in specific instances they may not. In fact Imperato suggests that both instruments should be used simultaneously.

So the consistency of methodology is important, but does not always obtain in the reports in literature. That the operational definition of satisfaction used in any study is important is brought to notice by Wanous and Lawler (1972) who in their search in literature found 9 operational definitions being used. Wanous and Lawler conducted a study to measure the correlations between results obtained in adopting these 9 definitions and two traditional, direct, measures of satisfaction. The importance of this study lies in the researcher's suggestion that the measurement of satisfaction with respect to different Facets of the Job may require the adaptation of different definitions.

Hackman (1978) presents a very persuasive argument for not taking statements on satisfaction at face value. He describes the following interview with an engineering employee:

Q. Are you satisfied with your work?

A. Yes, I guess so.

Q. Would you keep working if you won a million dollars in a lottery?

A. Sure.

Q. Why?

A. Well, you have to do something to fill the day, don't you?
I don't know what I'd do if I didn't work.

Q. Do you work hard at your job?

A. I do my job. You can ask them if I work hard enough.

Q. Is it important to you to do a good job?

A. Like I said, I do my job.

Q. But is it important to you personally?

A. Look, I earn what I'm paid, okay? Some here don't, but I do. They pay me to cut metal, and I cut it. If they don't like the way I do it, they can tell me and I'll change. But it's their ball game, not mine".

Job Design implications from the above interview would be that the necessity for the designer to win the support of the respondent and make the respondent understand that his articulation of his experience-in-job could lead to desired changes having repercussions on his satisfaction

and performance. On the other hand the job incumbent should be made to be specific about the changes he desires and explain how the implementation of the suggested changes would help him, his role set and finally the organisation.

Stability of Constructs

Studies, especially those based on the same set of respondents, but spread over time, often assume the individual respondents' attitudinal discussions to be time invariant; Roach and Davis (1973) conducted a study to validate this assumption; the data supported the assumption.

Effects of satisfaction

There is no strong evidence to suggest that satisfaction and performance are related (Chapter 11 contains a fuller discussion), according to Brayfield and Crockett (1955). Whyte (1955) even suggests a negative consequence of employee satisfaction:

".... people may simply be happy to be members of an organisation and have no urge to contribute to its goals of production. They may be confident that management will take care of them and be reasonably well content with their dependent, paternalistic relationship".

A prerequisite to any discussion on the topic of relationship between performance and satisfaction would require precise definitions of these terms. No rigorous definition of these terms will be attempted, but in order to explicate, consider the discussion under the following two general considerations; firstly with respect to the definition of performance, and secondly, with respect to the definition of satisfaction.

Firstly, while Brayfield and Crockett (1955) do not take absenteeism and turnover into consideration in their analysis, Herzberg et al (1957) do. While evidence on the relationship between, on the one hand, satisfaction and, on the other hand, either or both of absenteeism and turnover, is by no means unanimous, given that whereas an overwhelming number of studies indicate correlation to exist (e.g. Hrebiniak and Roteman (1973), Martin (1979) and Paterson (1980)), data from some others suggests the absence of

this relationship (e.g. Spillane (1973)); a literature consensus hypothesis would be that there is a relationship, at least under some specific circumstances. So, if absenteeism and turnover are considered within the ambit of performance, then inferentially, satisfaction and performance could be regarded as being related.

Secondly, the concept of facets of jobs presented earlier would require that types of satisfaction be made clear. For example, if the particular facet of satisfaction is 'utilisation of abilities and skill, within the job' then inferentially it could be suggested that while utilisation at under or over the level at which the individual wishes to contribute may lead to dissatisfaction, it could also affect performance: under-utilisation through under-productivity and over-utilisation through experience of stress at levels of pressure above the individual's ability to bear (for stress, see Section 2.12).

Other facets of jobs, like office furniture, salary, etc. may, or may not, affect performance and satisfaction simultaneously, but the decision on whether adjustment at individual/organisation should also involve these variables would have to be made contingently and, in any case, would depend on what measures are used to evaluate the design of jobs (see Chapter 6).

Galbraith (see Pelissier (1965)) has even argued for job satisfaction as an objective in its own right; his suggestion is that work should be made more attractive without regard to increasing productivity at the same time (but presumably not accompanied by long-term deleterious effects on the organisation).

An interpretation to Galbraith's suggestion would be the removal, from jobs, of the stress inducing aspects in jobs, because these, in the long run, would be dysfunctional to the organisation itself and society in general. Sales and House (1971) discovered high correlations between job dissatisfaction and arteriosclerotic heart diseases.

Sources of satisfaction

Morse and Weiss (1955) conducted a survey, based on random interviews, in which they asked a number of questions, one of which is presented here.

To the question, "Suppose you didn't work, what would you miss most?", the following answers were elicited:

- | | |
|--|-----|
| 1. The people I know through work, friends, contacts | 31% |
| 2. Feeling of doing something, would be restless | 25% |
| 3. The kind of work I do | 12% |
| 4. Feeling of doing something important, worthwhile | 9% |
| 5. Regular routine | 6% |
| 6. Feeling of interest, being interested | 5% |
| 7. Nothing | 6% |
| 8. Others | 6% |

For Job Design it would be important to realise and to have in mind, when designing and evaluating the design of jobs, that contacts and fellowship are regarded as important aspects of the job. If the responses to items 3 and 4, which are close together, are combined, then it becomes important in job synthesis to ensure that jobs have meaningfulness to them.

Facet Preferences

Jurgensen (1978) reports a longitudinal study on job facet preferences. Over a 30 year period, 57,000 job applicants ranked the importance of the following 10 factors:

1. Advancement (opportunity for promotion).
2. Benefits (vacation, sick pay, pension, insurance, etc.)
3. Company (employment by a company for which you are proud to work).
4. Co-workers (fellow workers who are pleasant, agreeable, and good working companions).
5. Hours (good starting and quitting time, good number of hours per day or week, day or night work, etc.).

6. Pay (large income during the year).
7. Security (steady work, no lay-offs, sureness of being able to keep your job).
8. Supervisors (a good boss who is considerate and fair).
9. Type of work (work which is interesting and well liked by you).
10. Working conditions (comfortable and clean, absence of noise, cold, odours, etc.).

Each individual was asked to rank the importance in two ways as follows:

1. "What are your preferences?"
2. "What do you think others prefer?"

Tables, with 5 year intervals, on ranks are provided by Jurgenson. The table of Figure 2.16 is compiled from Jurgenson's table on male preferences.

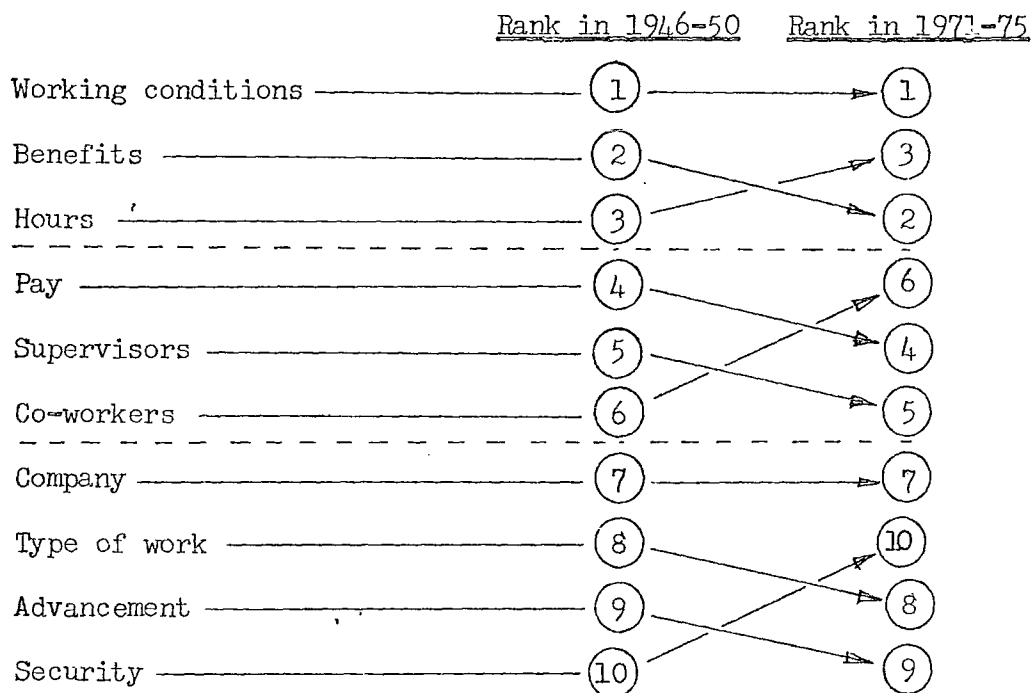


Figure 2.16. Shift in ranks of facet preferences over 30 year period

From the table of Figure 2.16, a possible deduction is that facet preferences are remarkably stable over time; the constructs ranked first three, those ranked the next three and those ranked the last four remain so over the 30 year period.

The differences between what people state of themselves and believe about others, insofar as discernable from the ranked data reported by Jurgensen are also interesting from the Job Design perspective. Figure 2.17 shows their perceptual differences.

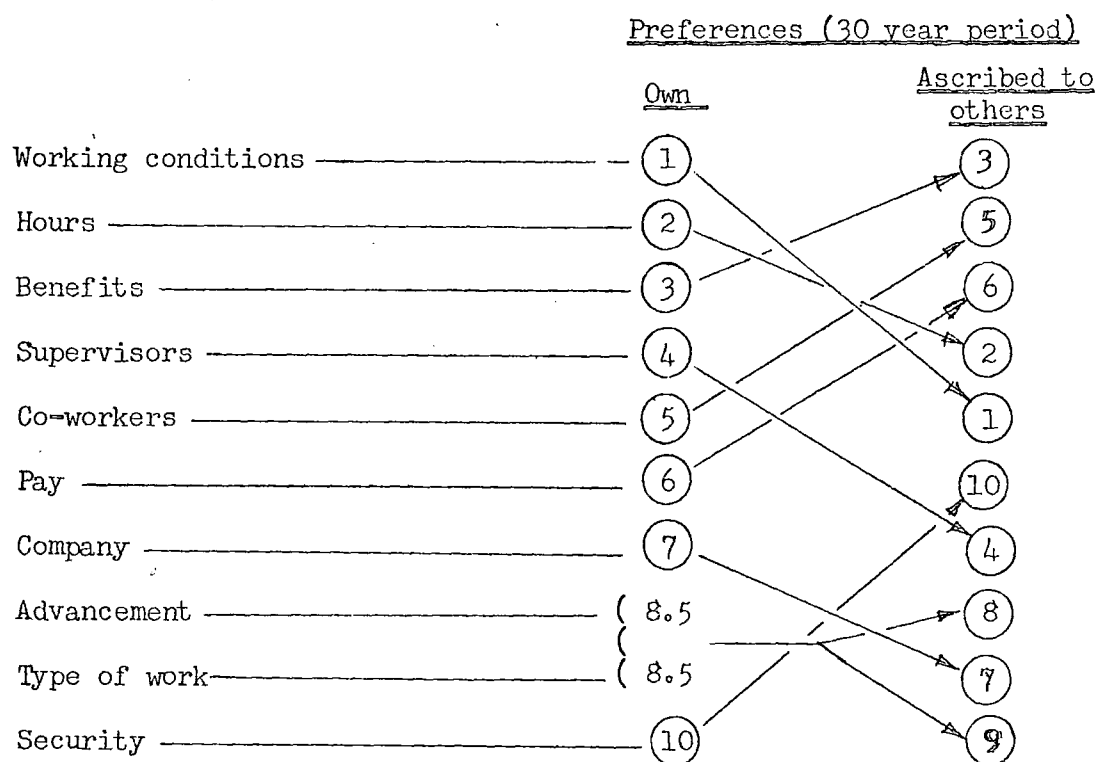


Figure 2.17. Own and ascribed to others preferences over a 30 year period

The table of Figure 2.17 indicates that individuals themselves hold working conditions, hours of work, benefits received and pay as important for themselves but think that others hold these variables in lower esteem. How could this come about? A possible explanation is that in general conversation people convey the impression that these constructs are of lower importance to them whereas in actual fact they do hold these constructs in high importance. Simultaneous, with reference to the table above, individuals could be regarded as conveying the message that supervisors, co-workers, and company are of higher importance, whereas in actual fact these may be held in low esteem.

An alternative explanation could be the one due to Barrett and Ryterband (1969) (see Iris and Barrett (1972)). Barrett and Ryterband presented the argument in the context of explaining cross-cultural responses, but it might be applicable here too. Barrett and Ryterband write:

"... individuals judging the life goals of others believe others to place more importance on their own least valued life goals than they either do themselves or than others do in fact".

Yet another explanation, borrowing again from Iris and Barrett (1972) would be that individuals, knowing some types of satisfaction would be denied to them, opted for those that they thought to be possible to attain and aspire.

The thing that emerges from the above analysis is that the frame of references in which questions regarding satisfaction are put to individuals are important: at least two frames of reference are involved, that of the individual and that on which the individual could model himself. Attention is drawn to the earlier mentioned tendency of respondents to 'fudge' when discussing satisfaction brought to notice by Hackman (1978).

In the rest of this sub-section are presented job facet preferences and dislikes as reported in literature.

Argyris (1973) reports the study conducted by Herrick with 1,533 participants which confirmed that job disssatisfaction increases as job challenge decreases. The six most valued characteristics of work, as found in Herrick's study, were:

1. Interesting work
2. Enough equipment to get the work done
3. Adequate information to get the work done
4. Enough authority and self control related to the job
5. Pay
6. The use of one's abilities

These facets of jobs were tested for their effects on performance and satisfaction in the study, reported in Chapter 7, where jobs had either recently been modified or where modifications might have been made as a consequence of the study.

The British Institute of Management (1979) survey on Job Attitudes reveals that:

- Only 2/3 of the sample regarded their salaries as adequately reflecting the work they did.
- On the question of incentives they preferred, the responses indicated individuals sought
 - 21% - tax reduction
 - 16% - "fairer" treatment from employers
 - 12% - improved career planning
- The younger appeared to be more concerned about improved pay, profit sharing and career opportunities than they were about tax reduction.

Structure of Sources of Satisfaction

Roach and Davis (1973) from their empirical findings report the structure and changes in structure over a ten year period, as shown in Figure 2.18.

Job Design implications of the shift in structure are that employees over time regard physical working conditions, relief from boredom, and matching of demands of work to be something the organisation should provide for them as individuals immediately, whereas at the earlier point in time they were regarded as something less personal. Further, job holders regard the organisational behaviour to be such as to reflect justice in its internal and external relationships. Such 'regardful' behaviour would make them take pride in their employing organisation, and this aspect of organisational behaviour has gained greater importance than it did previously.

Prediction of Satisfaction

Wood (1971) reports a study in which he built discriminate functions for engineering jobs which could be used to predict the state of satisfaction experienced by the job incumbent from data on "background, structural and demographic", dimensions. The discriminating power was the greatest

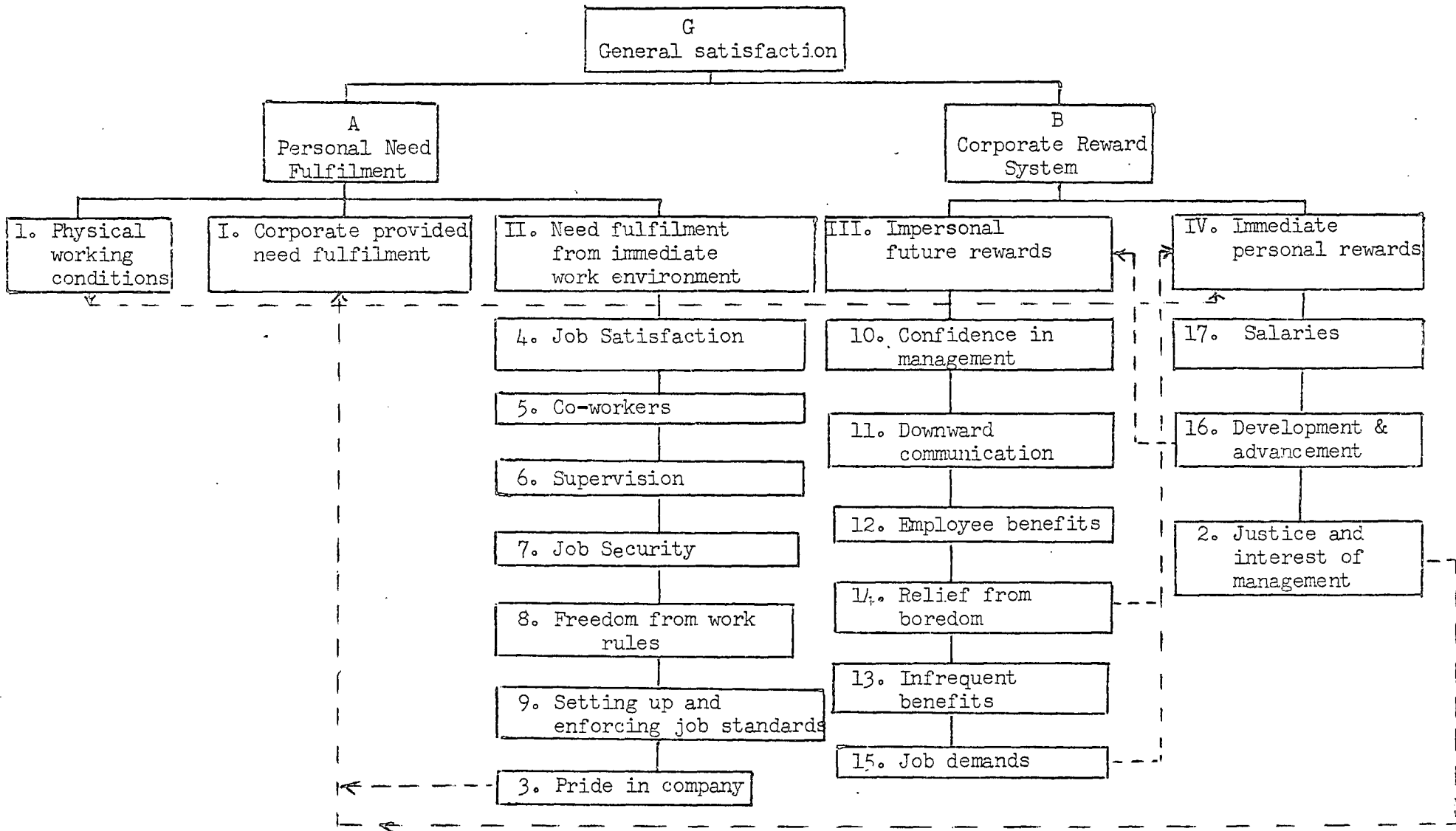


Figure 2.18. Hierarchical factor structure of employee attitudes at two points in time.

The dotted lines indicate shifts in structure.

for those who were likely to be either least satisfied or most satisfied. In fact, the best linear discriminant function could classify the most satisfied individuals with 67% and 65% accuracy in the initial and replication groups. The second best discriminate function could classify with an accuracy of 63% and 47% hit rates for the initial and replicate groups respectively.

Wood collected data on 20 potential discriminators of job satisfaction - i.e. the background, structural and demographic variables - of which the following 8 were used in the 5 discrimination functions:

1. Amount of work done that could be done by someone else with less technical training.
2. Extent of formal training in a variety of specific technical subjects and detailed engineering activities, and engineer's state of knowledge in each area ranging from extensive to none.
3. A description of job function ranging from entirely technical to entirely administrative.
4. Relevance of engineering background to present job from "must have" to "unnecessary".
5. Number of technical activities like meetings and outside courses engaged in during past year.
6. Seriousness of doubts about engineering after having made career choice.
7. Age.
8. Importance of job as perceived by job incumbent.

Of these 8 primitives in the discriminating functions the first five could be classified as being related to 'use and enhancement of valued skills'. Thus Job Design would have to ensure that the valued skills are used and developed in the job. There are sources of satisfaction but the potential for improved performance is also contained therein.

Measures of Satisfaction

Mumford (1972) in her seminal book on job satisfaction among computer

specialists defines five composite constructs, spanning both the intrinsic and extrinsic aspects of the job, measurements of which were hypothesised to indicate individual and organisational satisfaction. Mumford's concept of satisfaction-in-job formulated in terms of "Contracts", is similar to Bakke's (1950) concepts of "Bonds". Mumford's satisfaction constructs are:

1. The knowledge contract
2. The psychological contract
3. The efficiency contract
4. The ethical contract
5. The task structure contract

Mumford hypothesised, and her data supplied support for it, that the satisfaction would be high when both the individual and the organisation met the terms of these contracts.

In measurement of whether the individual's abilities were, firstly, being employed in the job, and secondly, being developed at the rate reflective of his wish, the knowledge contract would serve well. The psychological contract would require that the job permits the higher needs - achievement, career development, etc. - being met within the job, over time. The efficiency contract would require that the individual felt fairly rewarded for his effort; this may involve comparison with other people. The ethical contract based satisfaction would be measured to find out whether the individual's values were being violated; here items like concern for the environment, fair play in trading would be the focus of attention. The task-structure-fit contract would require that the intrinsic properties of the assigned work did not induce stress, or lower his efficiency in any way. The basis of measurement gives explicit recognition to the contractual nature of the job.

Rocco and Jones (1978) propose that job satisfaction has two fundamental dimensions:

1. Satisfaction with organisation
2. Satisfaction with work

From their study on boss and colleague support as moderators of stress-strain

relationship in job satisfaction, Rocco and Jones found that whereas boss support was linked to work satisfaction, colleague support was related to satisfaction with the organisation. Nevertheless, correlation between the two 'dimensions' existed.

The two types of support could therefore be regarded as manipulatable variables to produce the two types of satisfaction in Job Design efforts.

2.10. Experiences of Satisfaction and Dissatisfaction

Hersberg, Mausner, and Synderman (1959) asked respondents to narrate critical incidents, where criticality of the incident was determined on the potency of the incident to evoke feelings 'exceptionally good' or 'exceptionally bad' in the respondent. The data collected included statements on how long the aroused feelings lasted. Figure 2.19 shows, in pictorial form, the data as presented by Herzberg et al. Note that the words "low" and "high" are Herzberg et al notation for exceptionally bad and exceptionally good critical incidents, respectively.

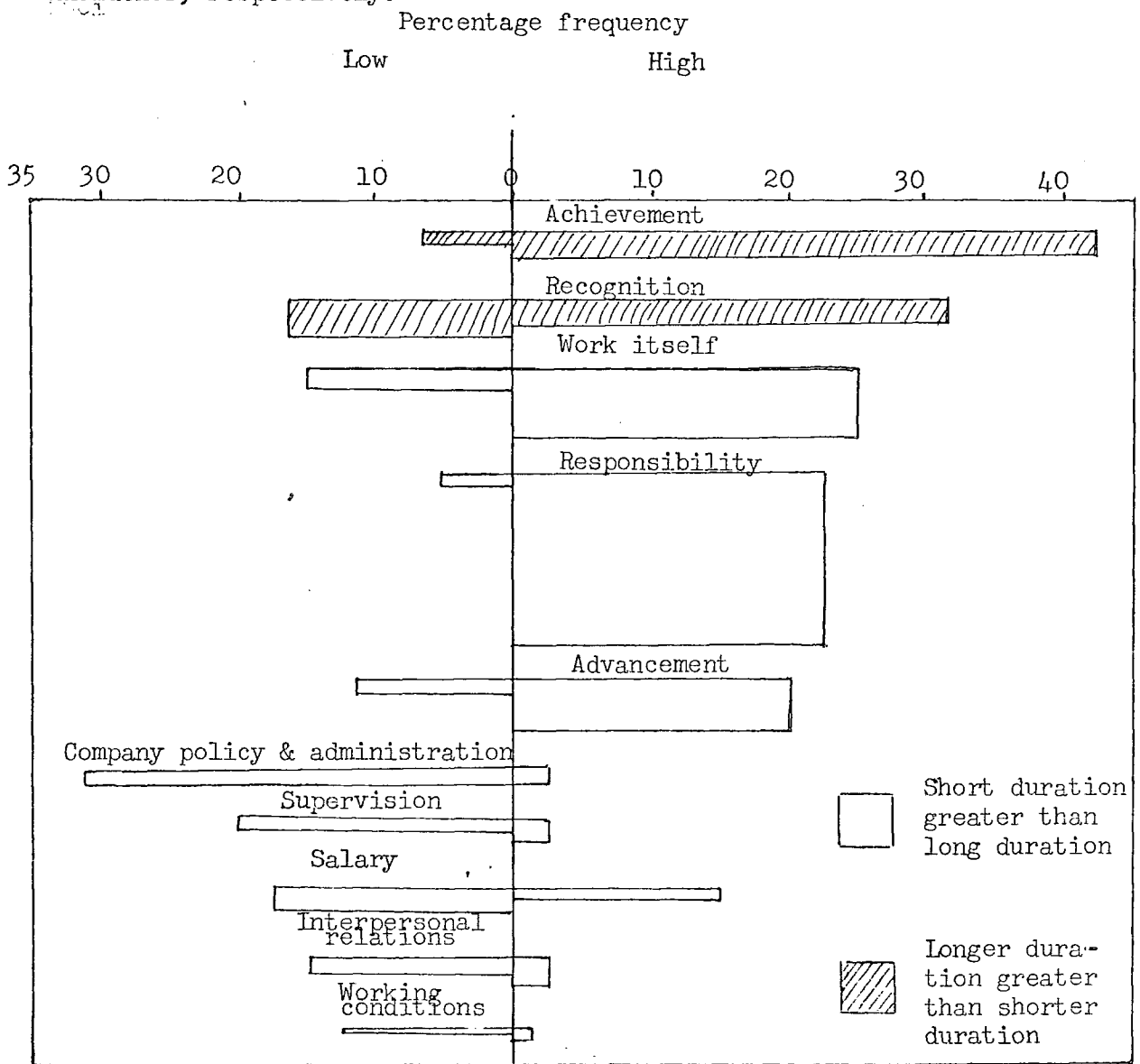


Figure 2.19: From Herzberg et al (1959), satisfiers and dissatisfiers

Note that in Figure 2.19 the length of the rectangles indicates the frequency percentage, and the width of the boxes represents the ratio of long range to short range attitude effects.

Although some authorities, e.g. Caplan (1971), Luthans (1977) and Gardner (1977), have variously referred to the outgrowth of this study by Herzberg et al as a theory of motivation, the researchers themselves saw it as a study in job attitudes, as is evidenced from their explanation of Figure 2.19:

"As indicated in the legend of this figure, the distance from the neutral area shows the percentage frequency with which each factor occurred in the high attitude sequence and in the low job attitude sequence".

Emphases have been added.

Herzberg et al's conclusions are well documented elsewhere (see Herzberg et al (1959)). Their chief contention is that there are two types of variables: those connected with satisfying experiences and those connected with dissatisfying experiences.

The author's interpretation of the study is as follows:

The ten job factors delineated by Herzberg et al can be roughly split into four types, linked to each other in a chain of predetermining relationships as shown in Figure 2.20.

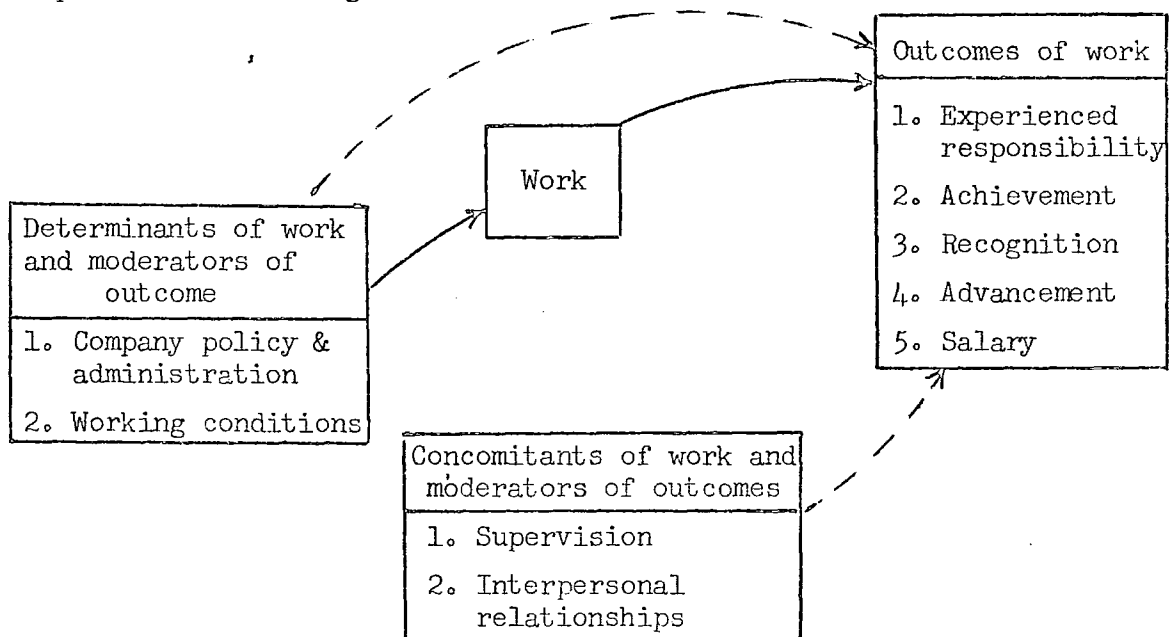


Figure 2.20. The four types of variables in the Herzberg study and postulated relationships between the various types

Note the direct and indirect relationships are shown by unbroken and broken arrows respectively.

In Chapter 10 is reported the study to substantiate the other postulation and investigate in detail the underlying relationships between them. The acceptance of the above viewpoint leads to a parsimonious interpretation of Herzberg et al's data. When individuals narrate 'high' incidences they are focussing on the outcome variables; when individuals narrate 'low' incidences, they are focussing on the predetermining variables. This explanation accounts for the frequency distributions of all variables save salary. A further explanation for this is necessary.

For a test-instrument study and discussing possible response domains to the query requesting individuals to state the importance ascribed by them to different aspects of their job, Herzberg et al write:

"When the person taking the test operates at high conceptual level of ranking or rating factors such as wages, social relation, or supervision, the "social acceptance" of the factors would have an enormous influence on the rankings or ratings. Thus if the person taking a test comes from a group in which it is impolite to value money highly, he would be unlikely to rank wages high even if this were of great importance in determining his morale".

The core concept in the above quotation is societal norms relating to discussions on money - the desire for money is unmentionable. Herzberg et al have conflated the core concept with that of participation in tests. The implication being, that since Herzberg et al were not using a test, they would thereby overcome the inherent problem - impoliteness of appearing to ascribe high value to money. The question, then, is: could Herzberg et al have really overcome the 'mention of money problem', simply by not using "tests?"

Pellegrin and Coates (1956) discussing the mentionability of money problems write:

"For executives it is an obvious role expectation that they should not overtly express too much interest in the accumulation of material rewards but should express satisfaction with job accomplishment"

The emphases have been added.

Given the above argument, it would appear unlikely that Herzberg et al did overcome the unmentionability of money norm.

Thus a likely and parsimonious explanation of the salary variable in Herzberg et al's study is:

1. Only a certain percentage of population is willing to express salary as a variable when narrating critical incidences.
2. The effects of salary as a source of satisfaction are likely to be conflated with the other outcome variables, i.e. advancement, recognition, achievement and experience respectively; the effect of salary as a source of dissatisfaction is likely to be conflated with the variables antecedent to the outcome variables - i.e. company policy and supervision. Further, it has to be recognised that dissatisfaction with salary may also be described by the respondent as dissatisfaction with recognition received, in so far as perceived low salary is regarded as ensuing from lack of recognition.
3. The nearly equal mention of salary as a variable in narrated high and low critical incidences indicates that individuals receive a salary below their expectations as often as they receive it at or above their expectation levels.

The concept of "critical incident" connotes movement; it is not salary per se, which is static, but receiving a rise in salary or not receiving a rise in salary that must be involved. This indicates that about half the individuals get, and the other half do not, the salary rise in accordance with their expectations.

Thus, overall the author's conclusion is that the ten variables are linked to each other and that any description of satisfaction or of dissatisfaction, given the predetermining relationships, is equally likely to involve any factor. Since the focus of attention for the 'high' experience is the front-end of the chain, and for 'low' incidence the back-end of the chain, in any rendering of a description the artifact of satisfiers and dissatisfiers is likely to emerge.

Starcevich (1972) in his study of 518 managers from three occupational levels, found no difference in the potency of a variable to be a satisfier or a dissatisfier in the Herzbergian sense. The variables used by Starcevich in the study and the results are shown in the table of Figure 2.21.

Job Factor	Rank					
	Satisfaction			Dissatisfaction		
	First line	Middle	Professional	First line	Middle	Professional
<u>Content</u>						
Feeling of achievement	1	1	1	1	1	1
Work itself	2	2	2	11	10	11
Best use of abilities	3	3	3	3	2	2
Challenging assignment	8	4	5	4	4	3
Growth on the job	5	7	6	8	6	5
Recognition	9	5	4	2	5	6
Responsibility	10	9	10	9	3	4
Promotion	15	13	14	5	7	7
<u>Contact</u>						
Relations with supervisor	6	8	8	6	8	10
Job security	7	10	9	7	11	9
Work group	11	11	12	10	13	13
Technical supervision	12	12	11	12	12	12
Management policies	13	16	16	13	9	8
Working conditions	14	14	15	14	16	16
Relations with co-workers	4	6	7	17	17	17
Merit increases	16	15	13	16	14	14
Home life	17	17	17	15	15	15
Employee benefits	18	18	18	18	18	18

Figure 2.21. Results from Starcevich's Herzberg type study but including occupational level

Starcevich comments, and something obvious from the table in Figure 2.21, that there is:

"..... a high degree of similarity between the importance of a job factor as a source of job satisfaction and as a source of job dissatisfaction".

Starcevich's data contradicts Herzberg's contention, but as pointed out by Buchanan (1979), other studies have done that before. In fact Buchanan, on the authority of Kaplan, Tausky and Bolaria, reports that studies undertaken to replicate Herzberg's findings could:

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Work group	11	11	12	10	13	13
Technical supervision	12	12	11	12	12	12
Management policies	13	16	16	13	9	8
Working conditions	14	14	15	14	16	16
Relations with co-workers	4	6	7	17	17	17
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(i) using his methodology, confirm his findings only 85% of times.

(ii) using other methodologies, confirm his findings only 21% of times.

However, logical explanations, based on empirical data, for 'the Herzbergian phenomenon' are few and far between. Locke and Whiting (1974) make an attempt at explanation and the author has attempted to suggest some ideas here; Chapter 10 reports the study conducted to ascertain this standpoint.

Locke and Whiting (1974) build their thesis on the contention:

"Individuals are inclined to credit themselves for satisfying experiences and blame others for dissatisfying events; abstracting the agent from the experience would give a different picture".

Collecting statements on satisfaction and dissatisfaction Locke and Whiting split the statements into two parts: one showing the agent involved and the other nature of the satisfaction or dissatisfaction. The classification of the agents and their association with satisfying and dissatisfying experiences are shown in the table in Figure 2.22.

Agent	Experience	
	Satisfying	Dissatisfying
1. Self	95	46
2. Supervisor	212	122
3. Organisation	307	188
4. Union	13	15
5. Customers	49	71
6. Co-workers	23	56
7. Subordinates	14	35
8. Non human	57	176

Figure 2.22. Involvement of agents with satisfying and dissatisfying experiences

The union was the only non-significant agent; customers were significant at the 5% level; subordinates were significant at the 1% level; all other agents were significant at the 0.1% level.

The classification of events, after dropping the agents, produced data as shown in the table of Figure 2.23.

Event	Experience	
	Satisfying	Dissatisfying
<u>Motivator</u>		
1. Task activity	28	52
2. Amount of work	34	107
3. Smoothness	59	138
4. Achievement	83	33
5. Promotions	20	26
6. Responsibility	33	10
7. Recognition	124	96
<u>Hygiene</u>		
8. Money	185	61
9. Interpersonal relations	33	45
10. Working conditions	120	134

Figure 2.23. Classification of events (disassociated from agent) as leading to satisfying and dissatisfying experience

Note that Locke and Whiting have injected three categories 'task activities,' 'amount of work', and 'smoothness' which are elements of the class 'work itself' in Herzberg et al's formulation, but the classification is consistent with Herzberg's precepts.

The data shows that classes: 'task activity,' 'amount of work' and 'smoothness,' are more likely to act as dissatisfiers than satisfiers. Recognition on the other hand shows no significant trend. These results are contradictory to Herzberg et al's formulation. Among the variables classified as dissatisfiers by Herzberg et al; while money is more often associated with satisfying experiences, the variables 'interpersonal relations,' and 'working conditions' have no significant trend.

In summary, then, while Locke and Whiting's analysis does suggest the dubiousness of Herzberg et al's classification, it does not explain the Herzbergian phenomenon if the original classification is followed through.

Job Design Conclusions from Herzberg et al's study of Job Attitudes

Job Design implications from the acceptance of the two-factor viewpoint of satisfaction/dissatisfaction are given in Chapter 5 where the Herzberg theory of Job Design is discussed. The author's interpretation of Herzberg's study would lead to implications for Job Design, (with reference to diagram of Figure 2.20), as follows:

1. Work should be such that the job holder experiences responsibility at level he wishes to (too much responsibility or too little may lead to a sense of debilitation or meaninglessness).
2. Work should be such that the individual uses his abilities at the level he wishes to contribute. (Work at above the level of ability or below the level would be incorrect, the former leading to boredom and the latter to stress).
3. Individual effort leading to goal accomplishment should be recognised. The concept of recognition being very personalised, effort should be made to find out what constitutes recognition to the man himself.
4. Promotion policy should be based on fairness. Learning opportunities should be provided for individual job holders to prepare themselves for the next task. The differences in the hierarchical levels should be such that prospect of promotion acts as a motivator. Those in the organisation who do not wish to take the upward mobility (hierarchical promotion) should be provided with alternative career plans.
5. Salary should be related to the work done. It should reflect the worth of the job in the open market.

The above five point suggestions are based on the five items in the 'outcome of work' class. These could be facilitated through manipulation of the predetermining variables, of Figure 2.20, namely the work, company policies, working conditions, supervision and interpersonal relationships.

Absenteeism and Turnover

Mirvis and Lawler (1977), on the authority of Hill and Trist as well as of Marrow, Bowers and Seashore, accepting that job satisfaction may be related to absenteeism, turnover and tardiness in performance, conducted a study to evaluate, in dollar terms, the relationship of attitudes to measures of behaviour and performance. Before describing this study, let it also be said that there is some evidence to indicate that dissatisfaction in general, and therefore by implication dissatisfaction related to work, may be a risk factor in coronary heart disease (see Cooper and Marshal (1978)). Mirvis and Lawler (1977) applied the economic measures, in dollar terms, and measured the cost of absenteeism, turnover and job performance in so far as these were the outcome of dissatisfaction. The study conducted used three measures of satisfaction:

- (i) Intrinsic satisfaction - related to use of ability and development of ability.
- (ii) Organisational involvement - related to meaningfulness of work, within the organisation.
- (iii) Intrinsic motivation - related to achievement experiences.

For the organisation in which the study was conducted, the data indicated that:

"... expected direct-cost saving of \$17,664 in absenteeism, turnover and performance from 0.5 standard deviation increase in job satisfaction".

Attempts, such as the above discussed study by Mirvis and Lawler, have been made to cost turnover and absenteeism, but the cost of having individuals on the pay roll who no longer contribute to the organisational purpose, has not been evaluated, as yet!

Turnover behaviour was found not to be related to either intrinsic or extrinsic satisfaction in the study conducted by Spillane (1973) specifically to illustrate this relationship. The constructs used and the summary of data, in terms of reasons given for staying with or leaving organisations is summarised in the table of Figure 2.24.

Job Factors	Reason for remaining		Reason for leaving	
	Leavers	Non-leavers	Leavers	Non-leavers
	%	%	%	%
Intrinsic: Achievement	5	7	2	9
Responsibility	10	12	10	12
Recognition	14	16	13	13
Advancement	16	16	16	15
Nature of work	14	8	13	7
Extrinsic: Working conditions	4	1	3	1
Salary	26	32	25	30
Company policies	6	7	12	10
Relationships	4	0	3	1
Supervision	1	1	3	2

Figure 2.24. Sources of satisfaction and reasons for leaving or staying on with the organisation

Martin (1979) wanting to study turnover intentions (i.e. intention to leave the organisation) as linked to satisfaction in job, built a complex model on the basis of 10 determinants, 2 intervening variables, six correlates and finally the intent to leave variable itself. The determinants and the posited links between these determinants is shown in Figure 2.25.

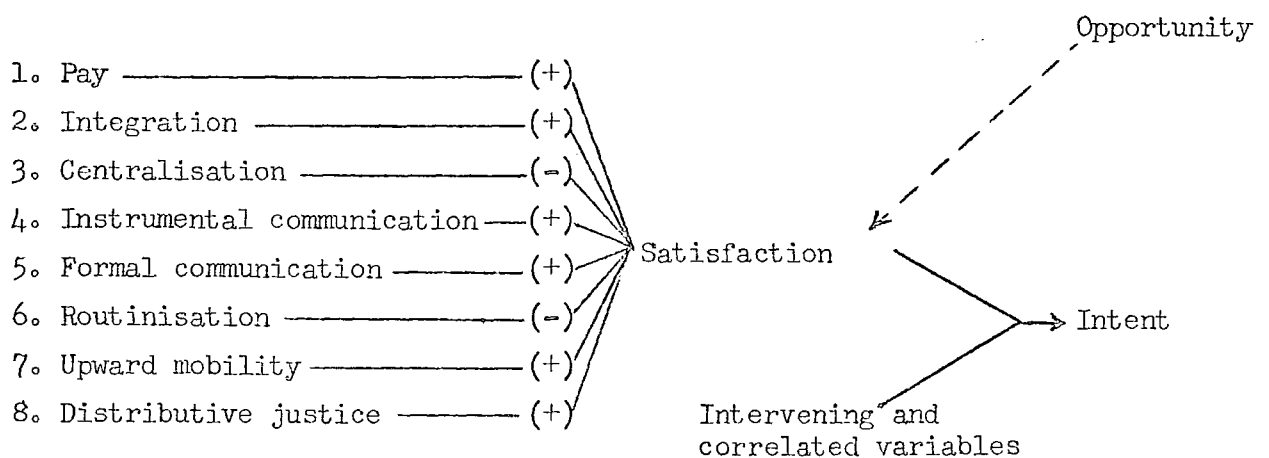


Figure 2.25. Satisfaction and intent to leave model

The model suggests that high pay (shown by +) leads to high satisfaction, but high centralisation leads to low satisfaction; low satisfaction combined with

opportunity, together with the influence of the intervening and correlated variables leads to the formulation of turnover intention. Data supported the model, more or less, and of the reported results the following are salient:

1. "... men who hold the majority of the high status administrative and professional jobs (43 out of 72) desire more pay and consequently, intend to leave if higher paying jobs are found".
2. Upward mobility affected intent to leave not through satisfaction but directly.
3. "Opportunity produced a direct effect on job satisfaction rather than the posited interactive effect with job satisfaction It may be that members experience relative deprivation after observing better jobs in their environment that are available to them. Consequently, this would directly lower their present job satisfaction".

This notion, of relative deprivation, is important for the author's own theoretical standpoint to be presented in Chapter 11.

Paterson (1980) reports a survey conducted by the Brook Street Bureau on sources of dissatisfaction leading to turnover. In decreasing order of importance, the sources of dissatisfaction were:

1. Having too little or nothing to do.
2. Lack of co-operation in work group.
3. Boring-routine job.
4. Not allowed to use initiative.
5. Being treated like machines.
6. Not getting expected pay rises.
7. Other organisations offering higher salary for same job.

The importance of these satisfaction factors lies in that some of them, namely, 1, 2 and 4 from the list, would be related to performance.

Hrebiniak and Roteman (1973) tested Clark's hypothesised relationship between absenteeism and lack of satisfaction of needs for managerial employees. They conclude:

"... a lack of satisfaction of manager's need is correlated with increased rates of absenteeism. It also is interesting to note that perceived deficiencies in lower order need - like security - are apparently related to absenteeism".

Frank Smith (1977) reports some interesting conclusions on the correlations between job satisfaction and absenteeism. Smith's data shows that in the contingency of an excuse-event it is possible to predict

absence rates. The variables Smith found correlated with absenteeism were:

- | | | |
|---------------------------|---|---------------------------|
| 1. Supervision |) | |
| 2. Financial rewards |) | significant at 0.01 level |
| 3. Career future |) | |
| 4. Amount of work |) | |
| 5. Kind of work |) | significant at 0.05 level |
| 6. Company identification |) | |

Individuals low on the above satisfaction variables, if an excuse-event occurs (like a snow storm in Smith's case), are more likely to go absent.

2.11. Job Satisfaction in the Context of Life Satisfaction

For most individuals job is only an aspect, albeit an important aspect, of life. Some job design research has focused only on the skills utilisation aspect of jobs, i.e. the variables that correlate with or moderate the job holders inputs to the job, as will be shown in Chapter 5. But a wholistic theory of job design would have to incorporate within it aspects of life, in so far as the design of a job impinges on life and life is related to jobs.

A large volume of literature on the Job-Life satisfaction theme is published under the title label 'stress' and will be discussed in Section 2.12, devoted to stress. Here will be presented those studies that deal with the subject under the heading 'satisfaction.'

Currently two viewpoints regarding the interactional effects between the different sources of stress/satisfaction/dissatisfaction are prevalent (see Kornhauser (1965) and London, Crandall and Seals (1977)). One viewpoint regards the interaction to be compensatory: dissatisfaction/satisfaction at work/home are additatively linked. In this model if dissatisfaction emerges, say, at home, then a dose of satisfaction at work would decrease this ambient dissatisfaction (even neutralise it or turn it to satisfaction, depending on the ambient condition and the size of dose). The additive viewpoint is held by London, Crandall and Seals. The other viewpoint holds that the interaction is one of "spillover". In this model, the dissatisfaction, say at work, will rub-off and create dissatisfaction at home. The spillover viewpoint is held by Kornhauser (1965).

How work and life variables interact is shown in the following.

Iris and Barrett (1972) conducted a study involving two departments, one in which dissatisfaction was known to exist and the other in which dissatisfaction was considered not to exist. These departments are referred to as Department A and Department B, respectively, in the text below. On the question of importance of job dimensions to life satisfaction, Iris and Barrett data lend support to the spillover hypothesis.

Further the data indicated that for individuals in Department A, those that valued such aspects of job as promotions, supervision and work to be important, then they were likely to be dissatisfied with the life variables as well. On the other hand, those who had already rationalised, (i.e. downgraded the importance of the job related variables,) or were not, *ab initio*, orientated towards the job related variables, were more likely to be satisfied with the life variables. Employees in Department A were, on the average, receiving \$130 per month less. The data from this group showed a remarkably high correlation between the pay dimension of job satisfaction and the life satisfaction construct.

The above results draw attention to the saliency of money, in the wider context, of an individual's life. Broad (1970) writes:

"Although some men may say that job satisfaction and achievement are more important than money, their wives, to a greater extent, tend to think of their husband's success in terms of the size of the pay cheque. To a wife, the pay cheque may be a concrete proof of her husband's success as compared to that of other men".

Broad should know - he is the Director of Compensation of a large Canadian organisation. The central concept of Broad's remark is related to individual effectiveness, as perceived by others. In studies for evaluating effectiveness, the salary earned has been suggested, according to Bennett and Brodie (1979), by Burgoyne as an important variable in the measurement of effectiveness. A brief discussion on measurement and concepts of effectiveness and success follows.

Effectiveness and Success

Pellegrin and Coates (1956) state:

"Effectiveness is related to meeting identified set goals. With passage of time, individuals set different goals and the degree to which the spectrum of goals (over time) is met constitutes success".

Griffin (1977) taking the experiential viewpoint defines the concept in terms of individuals experience, rather than the more objective definition suggested above. Griffin defines psychological success as:

"A variety of work related outcomes, attainments and achievements, e.g. actualisation of occupational values and personal needs, career commitments, organisational identification, work satisfaction, enhanced self image and so forth".

In both the definitions, the concept of long-termness is related with success while one off goals, even though these could last a lifetime of pursuance, are related with effectiveness.

The importance of the concept of success and effectiveness lies in that Job Design should endeavour to facilitate the individual in meeting his goals over the long term (his success) and over the short term (his effectiveness), and not only in the psychological realm but in the material realm as well. Knowing the individual's criteria of personal effectiveness, by adopting a developmental perspective, with a view of catching his concepts of success, would then be called for.

While on the topic of career success, the rigorously conducted study by Wald and Doty (1954), of how the successful executive reached the top, has a message for Job Design. An advice from the successful executive to aspirants was that they should take:

".... an extremely high degree of interest in the work of the entire company as well as in his own particular job".

Job Design could, therefore, attempt to foster the interests of the job holders into company-wide affairs, and where this interest exists, means provided as way of reciprocation. The means of creating interest could be: information about the other departments, division of the company, interchange and visiting possibilities, and encouragement to make suggestions on company-wide issues.

Age Distribution of Peaks in Satisfaction

Saleh and Otis (1964) conducted a study to test the hypothesis:

"The level of job satisfaction increases with age until the pre-retirement period, when it declines".

Although this is a classic study, and often referenced, and further the fact that the data confirming of hypothetical relationship were obtained, the use to which this can directly be put in Job Design is limited. Its cross correlation with sources of satisfaction would have been instructive. However, in their explanation, the researchers do suggest some ways of interpreting the data. The researchers writing:

"It is most probable that the decline is due to the actual blocking, or anticipated blocking, of the channels for self-actualisation and psychological growth. The factors which are related to actualisation and growth such as achievement, recognition, advancement, responsibility and growth in skill". . . .

could therefore be regarded as suggesting these as the important job-related sources of satisfaction - but to all ages.

The results of Saleh and Otis confirm and extend the empirical findings of Wyatt, Marriott and Assistant (1956) whose research findings are illustrated in Figure 2.26. Note that the graph of Figure 2.26 has been developed by the author from the original data through:

- (i) Ignoring the cases which reported neither satisfaction nor dissatisfaction - the neutrals.
- (ii) Collapsing the remaining 4 classes into 2, indicating satisfaction or dissatisfaction but ignoring the degree of satisfaction or dissatisfaction.

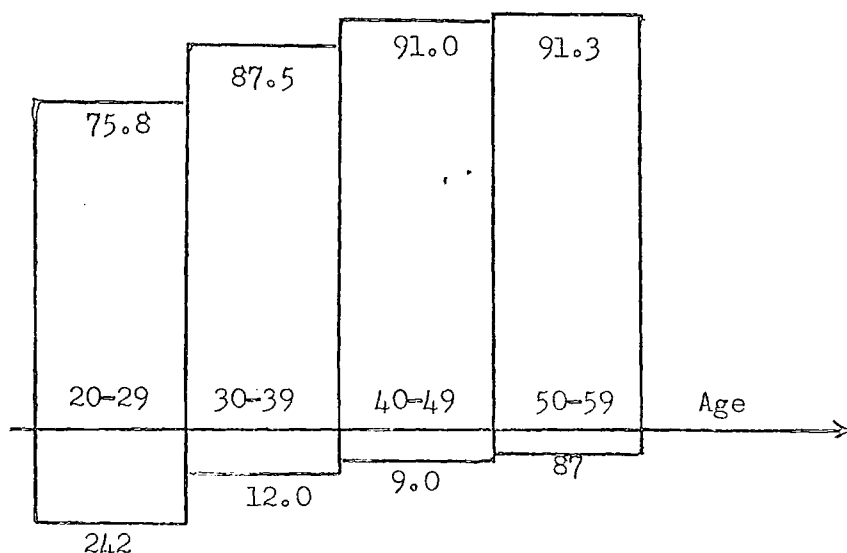


Figure 2.26: Satisfaction correlated with age; adopted by Wyatt, Marriott and Assistant (1956)

Occupational Level and Satisfaction

Starcevich (1972) recruited three occupational classes, First Line Managers, Middle Managers and Professional Employees, to investigate whether there were differences in the importance the three classes attached to different sources of satisfaction. Data collected indicated no differences.

Locke and Whiting (1974) found significant differences in the levels of experienced satisfaction between the following classes of occupational groupings: unskilled, skilled, supervisory, secretarial/clerical and managerial. Further analysis, through regrouping of data into blue and white collar workers indicated that whereas blue collar employees are likely to mention amount of work, money, interpersonal atmosphere and working conditions both as satisfiers and dissatisfiers, the white collar workers are more likely to mention smoothness of work, achievement and promotions as their sources of satisfaction and dissatisfaction.

Argyris (1973) supports, and produces empirical support for, Holtz's contention that

"... different occupational status groups do have different rewards from their jobs and that the higher the occupational status the more the desire for 'maturity'-directed job characteristics and the higher the occupational status the greater the actual provision of maturity-directed demands rewards".

Porter (1961), (1962), (1963A) also found support for the hypothesis that the individual's need satisfaction is related to his hierarchical position. Herman and Hulin (1963) found support for the hypothesis but not by using Porter's instrument (PNSQ), but using the JDI instrument.

The above four sets of observation, those of Starcevich, Locke and Whiting, Argyris and Porter, are important: if the higher status jobs provide for certain types of satisfaction and by implication the lower types of jobs for others (provided they do provide for any), then there is a possibility that mismatches may occur, i.e. individuals are looking for certain satisfactions but by virtue of holding a job at a certain level are being provided with types of satisfaction that are at variance with their needs.

Attitude to change

A facet of organisational life is that changes have, from time to time, to be made within, and with respect to, the structure and systems extant in the organisation (in Chapter 3 some of these systems are discussed; in Chapter 4 are discussed reasons for organisation change).

Kirton and Mulligan (1973) from their study of managerial attitudes towards change report that the older managers were more conservative than the younger managers, and the confident more radical than the unconfident. The relationship of readiness to accept change, on the one hand, and managerial status and contentment depends on the type of change, i.e. it is issue bound.

A viewpoint, that of Vicino and Bass (1978) holds that any change, whether overall good or bad, intrinsically carries a negative effect. On the basis of studies conducted on U.S. Navy personnel, Vicino and Bass write:

".... changes had negative impact regardless of whether they were good or bad. That is, a job change might be regarded as beneficial. Nevertheless, it was also a source of stress. What was measured here was the amount of stress requiring energy for a readjustment whether as a consequence of a clearly negative event such as an illness or a positive event such as a marriage".

If measurements on the design of a job indicate necessity for re-design, then some strategy related to the kinds of changes envisaged may have to be worked at so that individuals to be affected by change accept the changes or at least do not fight against them. Kotter and Schlesinger (1979) present 6 methods of dealings with resistance to change; for each approach the researchers also delineate situations where the method might be useful, and the advantages and drawbacks of each approach.

Morrison (1977) discusses the importance of individual willingness to adapt to changing role demands. In Morrison's theories the organisational Job Design policy could facilitate this by encouraging individuals towards developmental possibilities within a job, on a continual basis.

Sex Differences in Job Attribute Preferences

Bartol and Manhardt (1979) report the results of a 9 year attempt to investigate preference differences along the following 3 dimensions:

1. Long-term career objective
2. Working environment and interpersonal relationships
3. Intrinsic job aspects

Results are based on 648 newly hired, into entry level business jobs, study participants. Data indicated that:

1. Type of education, prior to entering, did not materially affect difference in job preference indicated by sex splitting of data with respect to "long term objectives". Females had weaker career objectives.
2. Females placed significantly more emphasis on the work environment and interpersonal aspects of the job than did males.
3. Analysis of trends over the 9 year period showed a convergence of female preferences towards those of the males, on the above two differences (points 1 and 2 above).
4. Females having a high career orientation were less likely than either other females or males.

Earlier, results of a survey conducted by Brief, Rose and Aldag (1977), controlling for occupational level, however, had indicated no sex differences in job attribute preferences. Barthol and Manhardt's second result, provided 'work environment' is equated with 'co-workers', would supply support for Centers and Bugental (1966) study. This latter mentioned study also suggested, though not at any significant level, that women were more inclined towards "interesting work" than men.

Jurgenson's (1979) report on the 30 years study does not support the convergence hypothesis, for females, proposed by Barthol and Manhardt. But Jurgenson's data does indicate lack of consistency over time in the importance females place on the ten facets of jobs investigated. The said consistency, as discussed earlier, is present for males. Herzberg et al (1957) report other studies in which similar findings obtained.

2.12. Stress

An aspect of experience-at-work, especially at managerial level, that could be said to have received a good deal of attention of late is stress. From Cooper and Marshall's analysis of the nature of areas identifiable as potential stressors the following three conclusions emerge:

- "(a) that almost everything in the work environment is at some time, or by some one, identified as a cause of stress.
 - (b) that frequently both a situation and its direct opposite can cause stress - having too much work to do and too little.
- and (c) that many of the factors quoted have been identified as direct or indirect sources of job satisfaction, e.g. 'A poorly defined task' whilst causing anxiety can also provide scope for the employee to use his initiative and gain satisfaction from a job well done".

From the above quotation, deductively, although stress is neither a synonym nor a surrogate variable for dissatisfaction, the two variables are linked. From (c) above it could be deduced that sources of dissatisfaction and stress are the same.

The modern understanding of stress can be traced to the Selye's (1946) posited process model, an adaptation of which is depicted in Figure 2.27.

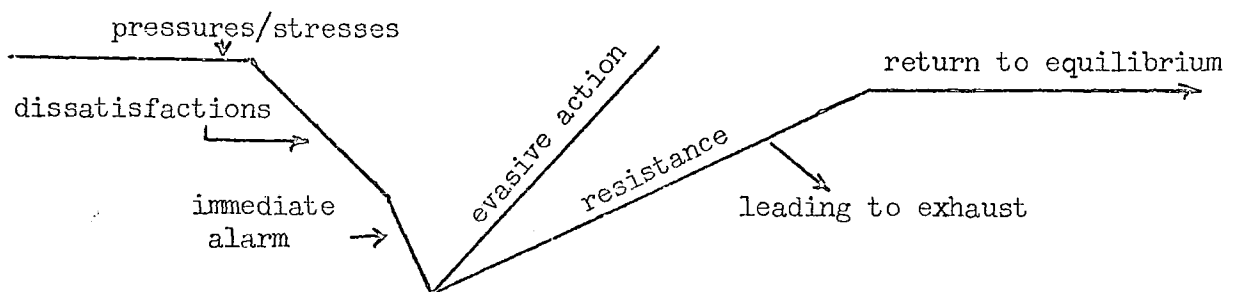


Figure 2.27: Framework for understanding stress. Adapted from Selye (1946)

In the diagram of Figure 2.27 the "pressures and stressors" as the causative agents and "stress" as a resultant are consistent with the Cooper and Marshall (1978) formulation.

The model depicts that pressure initially causes the onset of dissatisfaction. At a certain critical point, an 'immediate alarm' phase takes

over. The alarm phase ends in either the person taking evasive action or the onset of resistance against the pressure/stressor. It is during the resistance phase that the stressor or pressure can act as a stimulant.

The resistance entails coping behaviour. Whilst the failure of the coping behaviour results in exhaustion, successful coping results in return to normality. As to the source of pressures/stressors, the duration of any phase of the stress process, and the triggering of actions at the various points in the process, these all depend on the individual person and the particular set of circumstances.

How stress can be good is well summed up, on comparative basis, by Crisp (1978) when he writes:

"It seems that, contrary to popular belief, stress far from hastening a successful manager to an early demise, actually helps to prolong life. This is particularly noticeable among American presidents who unless they meet an unnatural death, live longer on average than vice-presidents, and longer still than candidates who ran for the presidency but failed in their attempt to get elected to the White House".

And the above analysis finds collaboration, again according to Crisp, in Wright's assertion that:

"Stress is related to morale and there is nothing like success and achievement to keep morale high and this mitigates against being stressed".

The foregoing indicates, above all, that provided the experienced pressure does not exceed the individual's resistance level, the experience can have a beneficial effect as a consequence of higher psychological activation-levels being triggered off. In other words, the experience of pressure could be a satisfying experience, provided the person can cope with it, in the first place.

Lack of stimulation can cause effect boredom (Wyatt et al (1929)) but stimulation at levels above the individual capacity causes stress. Chadwick-Jones (1969) reports fatigue being induced in subjects on tasks below their levels of arousal, i.e. not through exhaustion but through boredom.

Katz (1977) quotes Dostoevsky:

"To crush, to annihilate a man utterly, to inflict on him the most terrible punishment, one needs only give work of an absolutely, completely useless and irrational character".

on how work that could be regarded as meaningless by the individual could, in fact, be regarded as punishment by him. Job Design should, therefore, endeavour to make the tasks within the work, and the work itself, meaningful to the individual.

Burgoyne (1975) suggests a functional model for levels of activation. The model is:

$$\text{Activation} \leftarrow \begin{matrix} \text{Uncertainty about} \\ \text{the outcome} \end{matrix} \times \begin{matrix} \text{Importance of the} \\ \text{outcome of the} \\ \text{event} \end{matrix} \times \begin{matrix} \text{Ability to influ-} \\ \text{ence the outcome} \\ \text{of the event} \end{matrix}$$

With respect to the above functional relationship, Burgoyne states that activation,

"Can be roughly defined as the level of psychological energy that the given situation stimulates".

The Selye model introduced earlier, together with the above statements on boredom, activation and exhaustion due to stress, are linked together in the model of activation suggested by Burgoyne, and depicted in Figure 2.28 which links these concepts to the concept of motivation.

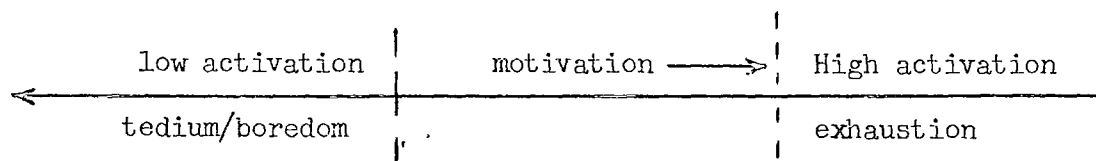


Figure 2.28. Activation Model (adapted from Burgoyne)

In its basic form the Burgoyne model of activation is a reformulation of the Yerkes-Dodson Law discovered in laboratory experiments. Yerkes and Dodson (1908) found performance or efficiency to be related to the experienced stress, as shown in the diagram of figure 2.29.

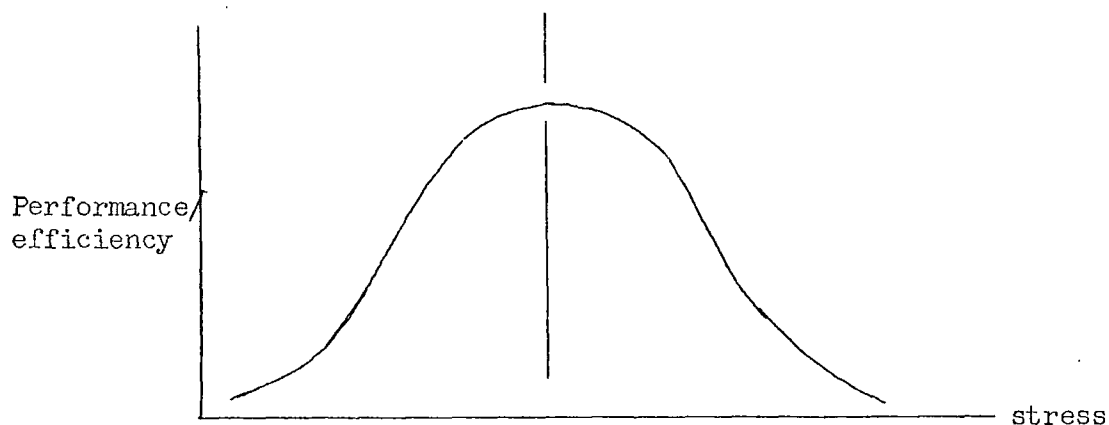


Figure 2.29: Yerkes and Dodson empirical findings on the relationship between stress and efficiency

Starting with low values of stress, as stress is increased, performance increases; after a while the performance or efficiency reaches a plateau, i.e. increases in stress do not increase performance; still later the performance begins to drop with increasing stress. A plot of performance/efficiency against stress is a bell-shaped curve.

More recent evidence on the effect of stress on performance comes from Fiedler, Potter, Zais and Knowlton (1979). These researchers found that stress experienced by an individual in his relationship with the boss affects his performance through moderating both the application of intelligence and experience to the job situation. The two graphs, A and B, of Figure 2.30 show the effect of stress on use of intelligence and experience, respectively.

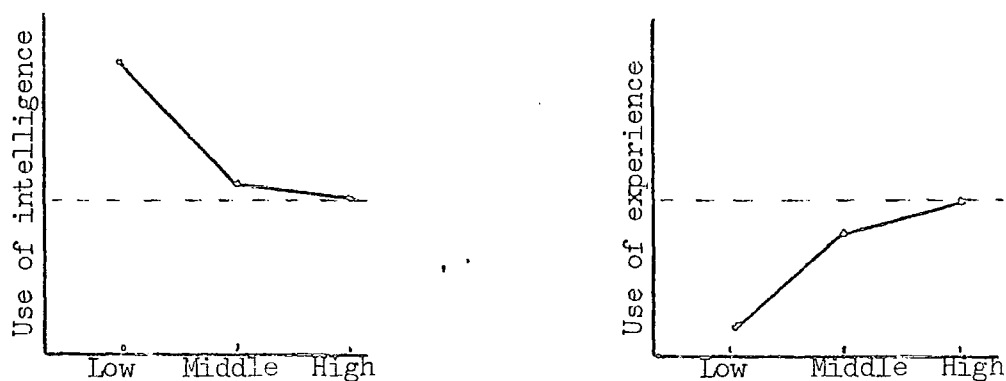


Figure 2.30: Effect of varying degrees of stress on intelligence and experience

The figure 2.30 indicates that as stress is increased, the use of intelligence falls appreciably while the use of experience increases marginally.

The models and laws discussed above and the empirical findings discussed above, all indicate that stress could occur at either too low or too high levels of activation. An important caveat pertaining to the interpretation of models and empirical evidence comes from the theory of individual differences: the same activation level (if a measure could be devised) has different points for onset of tedium and stress for different individuals.

According to Greenwood and Greenwood (1979), the experience of stress, at levels above the individual's capacity to cope, results in mental illness, of which the symptoms may be physical according to Goldberg (1972). Gillespie (1974) suggests that for industry in the U.K. time lost due to these mental illnesses is absolutely staggering and way above any loss due to strikes.

Locke (1976) summarising various arguments for the use of abilities in the job writes:

".... the job structure (or rather the poor fit between the job requirements and the employee's mental capacity) is a cause (or more precisely, one of the causes) of both the dissatisfaction and the mental health problem".

The understanding gained from the above discussed, and other, evidence on stress suggests implications for job design. As the sources of stress and satisfaction, as well as stress and performance are one and the same, and practically any job characteristic or facet can be involved, organisations should endeavour to design jobs so that a balance is maintained with respect to the degree of stress induced in the job holders: too high, or too low, a degree of stress would lead to dysfunctional and deleterious consequences. That some organisation may already be attempting to do so is clear from the interview by Benson and Allen (1980) with McColough of the Xerox Corporation. How McColough sees Xerox achieving this objective is shown in the following quotation attributed by Benson and Allen to McColough:

"We say over and over that we want people who are balanced - that we are not looking for workaholics. We expect our people to work hard, and we do work hard. We also do believe that there is a broader purpose to a good corporation than just making money. We try to bring balance to people's lives. We greatly encourage them to do outside activities so they can get some interests outside of business".

Poulton (1977) also builds a strong case for making the work environment a source of motivation for the individual. Stress experienced at work, believes Poulton, is likely to keep people away from work, if a reasonable pretext can be built. His suggested solutions to problems of absenteeism although apparently quite novel, are based on comparative findings.

Still concentrating on the job environment he suggests:

"People can also be attracted to work by making the company of other people at work at least as enjoyable as the company at home. In Belgium, which has very little absenteeism, the law requires that there be a bar in every factory, where wine, beer, brandy and vermouth are served Social breaks at work can then compete on favourable terms with social activity at home. They may help compensate for the stress at work which cannot be reduced".

In the Poulton model, then, in situations where the intrinsic nature of work is stressful, the external may be made compensatory.

Common Sources of Stress

At the outset, and throughout this section, effort has been made to indicate that practically any delineatable characteristic of the job may cause pressure and thereby effect stress. To reinforce this viewpoint is presented the following quote from Bartolome and Evans (1979):

"At one point in an interview, a manager will talk with exasperation about the havoc his job pressures create on his family life. Ten minutes later, he talks about how he likes these pressures, for indeed we found that a vast majority of managers want constant though reasonable pressures in their job"

In view of the above remarks, some literature on the nature of the managerial job (which is discussed in Chapter 3), remains somewhat unconvincing. An example of this type of literature is the study by Stewart (1974) in which she assumes certain characteristics to be more pressure generating than others. That a normative model is being used is obvious. Stewart alleges that 'self starting' and jobs with a 'high possibility of incurring unpopularity' generate greater pressure than those which are of the type 'responding' and 'no possibility of unpopularity' respectively. This author maintains that both jobs that are of the type 'responding', or that are of the type 'self

starting', could generate pressure, and thereby induce stress, in different types of individuals, and job circumstances. As for popularity versus unpopularity standpoint, the concept of 'Hatchetmanny' from its everyday language based association as well as the case study compiled by Broadway (1964) clearly indicate that not all individuals have compunction at incurring, or the prospect of incurring, unpopularity. Note that the author disagrees with Stewart (1974) only to the extent that she classifies job characteristics on a pressure continuum, but the disagreement is with respect to all 12 pairs of job characteristics along which she attempts to classify pressure. Stewart, in fact, recognises the conjectural and unsubstantiated nature of her analysis.

Essentially, then, most of the constructs discussed and derivations made in Chapter 2-4 on which experience of the individual can be measured, are potential sources of stress. Here will be presented some of the more salient job outcomes related to stress in organisations not so intensely discussed in other parts (Chapter 2-4).

Role ambiguity is the state where the job holder is unclear as to what is expected of him. Ambiguity is caused by lack of experience with respect to situations at hand, a state of affairs which often arises due to newness to the job or rare occurrence of the event or due to modifications in the job environment (Gowler and Legge (1975), Parkington and Schneider (1979)).

Role Conflict is the state where the job holder is subjected to situations which demand contradictory behaviour. One well known study in this area refers to the role conflict experienced by prison warders who have to maintain discipline and at the same time attempt to help the individual in his adjustment (Grusky (1958)). Levinson (1959) introduces the concept of role difference.

Role conception-differences. This concept has to do with two or more individuals having differences in opinion as to what either can demand from, or give to, the other legitimately. The construct is built around individual

differences in perception (Gross, Mason and McEachern (1958)). In organisations, situations of role conception differences do arise, especially with respect to participation in decision-making, i.e. the level at which a certain position holder should participate in decision making, through consultations.

Job Load. Stanvic and Pum (1968) elaborate on this construct by splitting it into two components: qualitative job load and quantitative job load. Job holders judge their jobs in terms of what the job is to them but also on comparative basis - how other jobs, those of their role-set, are loaded compared to their own.

Working conditions. Situations arising in the work which could lead to stress are:

1. Inadequate resources: finance, authority, office furnituer which is inadequate, information etc.
2. Time pressure for task accomplishment: the person may have to put in extra time for task accomplishment; the person may have to finish work the quality of which robs him of any sense of achievement - he himself regards the quality as sub par.
3. Restrictions on behaviour which could be easily done away with, e.g. fixed working hours where flexi-time would be allowable.
4. Individuals being allocated bits and pieces of work, which lead to meaninglessness.
5. Lack of security of tenure, or of opportunity for career growth.

In the studies reported in Chapter 7, effort was made to find out the effect of job modification on some of these variables. The measurement in the studies reported in Chapter 7 involved finding out whether modification to jobs involved changes on their dimensions of experience, and the consequences thereof. The consequences were measured on job satisfaction, utilisation of personal potential and their own contribution to organisation purpose.

2.13. Cross Cultural Differences

Culture as a concept can be made specific to and measured with respect to any aggregate or group: Harrison (1972) discusses it in terms of the organisation; Hines (1973) discusses it in terms of nationality differences, as do Bartolome and Evans (1979) and Fores and Glover (1978); Burrage (1973) discusses it in terms of group ties within nations, i.e. in terms of clan; and Arvey and Mussio (1974) discuss it in terms of culturally advantaged and disadvantaged groupings.

The importance of the concept culture to Job Design lies in whether:

1. Individuals belonging to different cultures, on the basis of their class and background of origin, aspire for and demand different things in their job.
2. Organisations having, or attempting to inculcate, a specific culture would design jobs differently.
3. The interactional effect between the individual's away-from-work culture and the organisationally pervading culture and the organisationally pervading culture would be sources of satisfaction or stress to the individual.

Handy (1978) classifies organisational culture as:

- (i) The power culture epitomised by centralisation of power.
- (ii) The role culture organisations are those operating in a relatively stable environment, and could be located by their reliance on procedures - job descriptions, authority distribution, communication, settlement of disputes.
- (iii) The task culture refers to organisation by groups having specific aims, e.g. project teams. Groups, project teams and task forces are formed and reformed so as to respond to emerging events.
- (iv) The person culture refers to organisations where some individuals take over large parts of responsibility.

The job design question is: If an individual has one particular personal orientation, say task culture orientation, while he works in an organisation (or reports to boss) with power or personal culture orientation, what would be the consequences? This might be one of the limitations, or constraints on job design.

Triandis and Vassilion (1972) found that people from different cultural backgrounds placed differing degrees of importance on 'recommendations' sources for recruitment. Greek and American subjects participated in the study.

While the Greeks placed high importance on recommendations from friends and relatives, the Americans placed greater weighting on recommendation from neighbours and persons unknown. Although, since the constructs 'friends' and 'neighbours' are not dispersed, the results are not very clear cut. For international organisations attempting an organisation-wide Job Design Policy, results of this kind indicate possible operational difficulties.

Similar culturally related differences in behaviour-in-organisation were observed by Graves (1972) in his comparative study on goal directed behaviour between French and English executives.

Watson and Williams (1977) found that blacks required different values for success in a white industrial background. By implication, if they did not modify their observable values they may not be successful. Similarly, Arvey and Mussio (1974) found that "culturally disadvantaged" held different expectations from their jobs than did those who were "culturally advantaged". Figure 2.31 contains a table depicting the different facets of jobs, the two groups showed preferences for:

Advantaged group	Disadvantaged group
1. Use of abilities	Getting along with co-workers
2. Accomplishment	Safe and secure employment
3. Safe and secure employment	High salary

Figure 2.31. Job Facet Preferences by "Advantaged" and "Disadvantaged" Workers

The table shows, from top to bottom, the highest, the second and third most often preferred facets. Hines (1973) from this New Zealand data found that individuals attached greater value to interpersonal interactions than the Americans (USA) do. Given that such conditions may obtain in any organisation, these may act as constraint in designing jobs.

However, and to a certain extent in the face of the above results, Sirota and Greenwood (1971) on the basis of a comparative study across 25 countries, involving more than 1,000 managerial participants, came to the conclusion that there were few cultural differences, affecting individual satisfaction across nations. They reported:

"Main findings.

1. The most important goals of these workers are all concerned with opportunity for individual achievement.
2. Occupational and national comparison reveals remarkable similarity in the goals of the workers around the world.
3. Although difference among nations are relatively small, it is possible to identify country 'clusters' within which goals are nearly identical".

Sirota and Greenwood's results indicate a method for formulating job design policy.

A possible conclusion from Sirota and Greenwood is that the level of abstraction in the delineating constructs to be included in job design policy formulation should be high; each unit, on the basis of consensus, could then operationalise the policy according to their own needs and genius.

Closing remarks on chapter

The concept of motivation being broad, a vast amount of literature is available on the topic; in fact, whole volumes can be, and have been, written on the topic. In the presentation of the material, the author has attempted to be brief; but the prevailing criteria used on whether or not to present certain evidence, was its relevance to the topic at hand - analysis and synthesis of the managerial job.

In the next chapter is considered the nature and description of the managerial job. Job being the medium through which individual and organisational needs are (or are not) met and value upheld (or violated), the focus of attention now shifts to the job itself.

Chapter 3

CHAPTER 3

NATURE AND DESCRIPTION OF THE MANAGERIAL JOB

3.1. Introduction

The distinction between "Description of the Managerial Job" and "Experience of the Managerial Job" is essential for a clear understanding of the material in this and later chapters and the author can demonstrate this from his own work experience. It is customary in the organisation with whom the author worked prior to undertaking this research for newcomers to the department to be introduced to position holders in neighbouring units, whom the newcomer might meet in the course of his work. It was often the case that when the newcomer asked the individual he was being introduced to, one of the following simple questions:

"What is your job?/What do you do?"

either of the following two answers were equally likely:

1. Programmer/systems analyst/project manager (or whatever the position Title).
2. Suffer, all day.

Whereas the first of the above responses could be conceptualised as having a 'Job Description' frame of reference, albeit stated at the level of the job title or role, the frame of reference of the latter response could be classified as 'experience-in-job'. This chapter is concerned with Descriptions of the Managerial Job; in Chapter 2 were discussed elements of experience-in-job with further discussion in Chapter 4.

The assertion that the organisational experience of how the job holder performs can be measured in terms of goal attainment gets support from many theoreticians (e.g. Guion (1965) and Seashore and Yuchtman (1967)). A framework within which individual effectiveness for organisational purposes can be evaluated, as suggested by Seashore and Yuchtman (1967), is:

".... a set of managerial actions believed to be optimum for identifying, assimilating and utilising both internal and external resources towards sustaining, over a long term, the functioning of the organisational unit for which a manager has some degree of responsibility".

The acceptance of the above model leads to the conclusion that a detailed job description is necessary, indeed essential, for any evaluation of effectiveness. Campbell et al (1970) allude to this imperative when they write:

"Statements or measures of a manager's effectiveness should be based on how he handles the optimising requirements and opportunities offered by his particular job. This requires that the job be described fully and that observational and measurement methods be developed to help the many aspects of his behaviour on it".

Note: the emphasis is due to the author and not Campbell et al.

Job descriptions are potentially useful for both the individual performing the job and the individual evaluating the effectiveness of its performance; (it is recognised that the person performing the job and the person measuring performance might be the same person). For the job holder, the description of the job helps in directing his performance. To the person measuring the performance, it helps in providing the base lines in respect to which performance can be measured.

Given the software engineering nature of Job Design, i.e. adjustment of the individual/organisation interface, where the basis of adjustment is linked to the experience-in-job of both the individual and the organisation, the first prerequisite is to have a good job description and, secondly, to be able to relate these experiences-in-job to the job description. The importance, then, of the descriptions of the job lies in the possibility of deriving from these the components, shapes and natures of the jobs being studied. In Job Design and Redesign, the components are manipulated to provide varying shapes, thereby giving the job differing attributes of nature.

Carlson (1951) writes:

"As is generally the case in the analysis of management problems, it is often more difficult to formulate the relevant questions than to answer the questions, when they have once been stated. Any research tool which can be of help in this respect should therefore be of value".

The importance of the above remark lies in that the knowledge gained through the study of analytic descriptions of the managerial job, in the context of Job Design, would provide frameworks within which pertinent questions relating to the experience-in-job could be formulated. In the abstract, the number of questions that can be formulated is indeterminate, with the relevance or pertinency of the proposed question, to the state being analysed, by no means assured. The study of the different job description frameworks, then, offers a way of ensuring that the questions for capturing the experience-in-job are purposefully formulated.

Given that, for Job Design the availability of a job description is necessary, it follows that a prior and equally essential requirement is for an efficient and effective method of generating job descriptions. The author has, therefore, analysed the methodologies used by a wide variety of researchers, to ascertain how they come to their (frequently different) conclusions regarding the nature of the managerial job.

Finally, in most medium to large organisations, there are many organisational processes and events related to, or associated with, job descriptions. These processes or events give form to, circumscribe, and may even be consequent or dependent upon the shape of the job itself. Because of the form-giving nature of these processes and events, the author felt it appropriate to research these processes and events.

The development of the thesis and how the research came to be focused on managerial jobs has been documented in Chapter 1. The purpose of this chapter - on the description of the managerial job - is:

1. To share with the reader the knowledge gained from literature of the components, shapes and nature of the managerial job.
2. To share with the reader the uses of job descriptions as depicted in literature.

3. To delineate the various methodologies employed in generating job descriptions - the purpose of this study being partly to see whether one or more would stand out as being particularly relevant for use in Job Design.
4. To attempt to delineate types of descriptions which might offer the greatest possibilities for adaptation as a standard for the purpose of Job Design.

The last two points are discussed in the conclusion to this chapter. The conclusions arrived at in this chapter help advance the delineation of characteristics for a job design methodology (Chapter 8), and form the basis of some of the author's comments to the action research study (Chapter 9).

The chapter has the following three main sections:

- 3.2 Nature of the Managerial Job
- 3.3 Methodologies used for arriving at descriptions
- 3.4 Organisational processes and events giving shape to the design of a job or which take the design of a job as given.

3.2. Descriptions of the Managerial Job

There is a vast amount of varied literature on the topic of this section, and the subsectioning is in accord with this variety. The following six subsections are conceptually derived:

- 3.2.1. Elements model - the classical approach
- 3.2.2. Classification and time-spent models
- 3.2.3. Dimensional (including role and relationship) models
- 3.2.4. Factorial models
- 3.2.5. Characteristic models
- 3.2.6. Effectiveness models

The above conceptual schema is of the author's derivation. Essentially it is based on how the various reporting researchers themselves labelled their work. However, in some cases where researchers did not assign labels, the author has assigned the work to one of the above classes. The labels of the above classes, as well as the various works that will be presented within each class, have been termed models; this terminology is consistent with Baker's (1980) conceptualisation of theories, models and techniques.

3.2.1. The Elements Model - The classical approach

Into this class falls the works of Fayol (1916/1971), Gulick (1937), Urwick (1943/61) and Brech (1960). Fayol could be regarded as the source author for this class of description of the managerial job. Brech's book presents snippets of other early writings, and these also fall within the same mould. Stewart (1965) refers to this type of work as responding to the question "What is management?" Fayol's work was presented under the three categories: Activities, Administrative Duties and Principles. Gulick and Brech extended Fayol's work in the activities category, and in the process the label activities got modified to elements. Urwick extended that section of Fayol's work associated with principles and administrative duties. The principles strand has more to do with organisation theory and will be covered in Chapter 4; the elements strand has to do with the description of the managerial job and is covered in this chapter.

3.2.1.1. The Elements

Lowe and Puxty (1979) suggest that if the role of planning were taken to be future control, then it would be possible to regard planning as a sub-set of control. Giglioni and Bedeian (1974) write that the work of Holden, Fish and Smith leads to the conclusion that control is a process with three elements:

1. Objective determination, i.e. planning
2. Procedure, i.e. organisation of responsibility and standards
3. Appraisal

This concept, of regarding processes as composed of elements, offers the possibility of linking the constructs presented for the description of the managerial job, by Fayol. The generalisation of this notion leads to the development of the process sectioning schema presented diagrammatically in Figure 3.1.

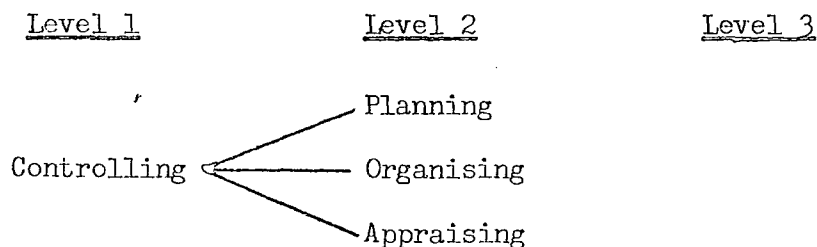


Figure 3.1. Schema for a perspective on the Element Models of the Description of Managerial Job

The diagram in Figure 3.1 depicts a two level definition as suggested by Giglioni and Bedeian. The schema, through the application of inductive logic, permits extension; simply posing the question, in the form "what are the sub-elements of this activity?", with respect to any second level activity should produce the third level constructs. Equally, however, it may be necessary to fit new activities on to an existing partly developed schema. In such cases, if the new activity cannot be assigned to a position at lower levels, then a new level 1 may have to be started.

The Fayol Model

Fayol (1916/1971) proposed a model, describing the nature of the managerial job, consisting of a five elements universe:

1. Planning
2. Organising
3. Co-ordinating
4. Command
5. Control

An arrangement of the elements, in accordance with the earlier derived schema, produces a mapping shown in Figure 3.2.

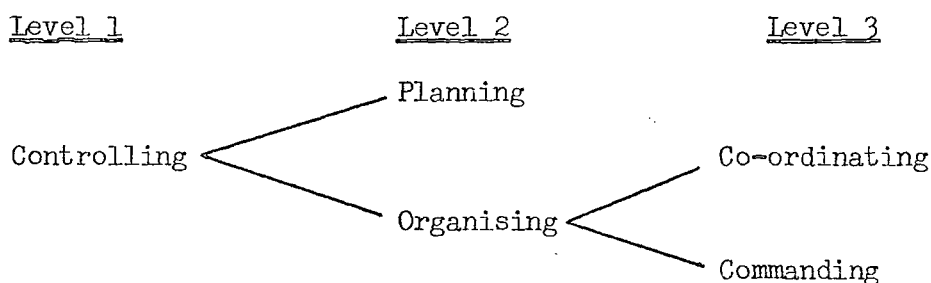


Figure 3.2: A Mapping of Fayol's Model

Recursive application of the inductive logic inherent in the schema, together with Fayol's description of co-ordination (pages 103-107) and Command (pages 97-103) lend plausibility to the assigned structure of Figure 3.2.

Note that both the derivation of the schema and Fayol's model are defined independently of any functional process, e.g. Marketing, Production, etc., to which the model may eventually be applied.

The Gulick Model

Gulick (1937) presented a new model describing the managerial job and came up with the acronym 'POSDCORB' which stands for:

Planning, Organising, Staffing, Directing, Co-ordinating, Reporting
and Budgeting

Comparison of Gulick's model with the schema mapping Fayol's model suggests

that the exclusion of 'control' from the list of elements could be regarded as a weakness of this model.

According to Albers (1969), the processes of feedback and feedforward are of cardinal importance to the practice of management (also Tannenbaum (1968)); especially so in situations where the individual doing the work, i.e. executing plans, may be different from the individual who prepares the plans. That this latter situation may hold is evident from Figure 3.2, derived from Fayol, where the sub-element of 'direction' may have transferred execution to someone else. This reasoning would suggest that Gulick's addition of the element 'reporting' strengthens the descriptive model, compared with that of Fayol.

The two additional elements proposed by Gulick, 'staffing' and 'budgeting' could be regarded as appendages detracting from the conceptual clarity of the model since their inclusion produces redundancy or introduces hybridisation:

1. Budgeting - adds redundancy, the term denotes planning and organising in accountancy language.
2. Staffing - causes model hybridisation; while the other terms are of the conceptual variety 'element class', this term could be regarded as belonging to the class function .

Finally, the term 'directing' appears to be used by Gulick as a synonym for command, as used by Fayol. Figure 3.3 depicts a hybrid model derived from Fayol-Gulick. The hybrid schema has two distinct parts. The left hand portion has the same conceptual framework as the sectioning schema - the germane idea being the sectioning of processes into elements; on the right hand side are functional areas to which belong the processes being elemented.

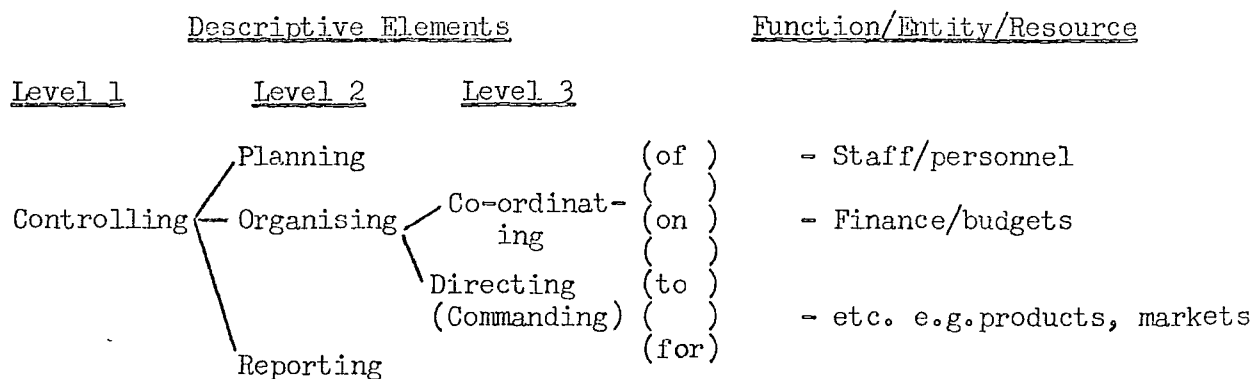


Figure 3.3. A 2-part (hybrid) model derived from
Fayol-Gulick

When presenting his descriptive model, Gulick wrote:

"It is believed that those who know administration intimately will find in this analysis a valid and helpful pattern, into which can be fitted each of the major activities and duties of any chief executive".

The fact that the description makes no mention explicitly, (or for that matter implicitly), to the host of activities of the 'chief executive', e.g. those concerned with linking his organisation's products or services to the environment, belies the claim on the model's potential to map "each of the major activities". This last remark indicates that a deficiency of the model is its lack of completeness or closure.

Mintzberg (1973) points out the shortcomings of the PODSCORB descriptive model, and his criticism would be equally applicable to the hybrid model depicted in Figure 3.3, in his rhetorical statement:

"How useful is it? If we observe a manager at work and then attempt to link his specific activities with the function of PODSCORB, we quickly find out. Consider a chief executive who is approached by a group of dissatisfied employees threatening to resign unless a senior executive is fired, and who must spend the next five days collecting information and working out a means of dealing with the crisis. Or a manager who carries to a subordinate some useful information from an external board meeting".

Perhaps Mintzberg, in his enthusiasm, is overstating his case. His above quoted criticism when analysed is only half true. The truth lies in the fact that the Fayol-Gulick hybrid model fails to describe that a given portion of

the manager's total activity is not planned but arises as a consequence of the actions of others, i.e. it is reactive rather than proactive; it is action in the face of crisis rather than pursuit of plans. Having said this much, however, did not the manager, referred to by Mintzberg spend 'the next five days' attempting to control the situation, through planning, organising and presumably reporting? Moreover, was the second manager, referred to by Mintzberg, not involved in reporting activity when he passed information to one of his subordinates?

Overall then, the POSDCORB model itself does not enhance the original derived analytic two-part model, which has the particular merits of being extendable in its components.

The Brech Model

Brech (1960), on presenting a formal definition of management, suggests that in simple language it comprises the following elements:

1. Planning
2. Co-ordinating
3. Motivating
4. Control

Elements 1, 2 and 4 of the above list are, by now, familiar in the sense of being contained in the model derived from Fayol-Gulick.

Conceptually the term 'motivating' could be regarded in the following two ways:

1. As a sub-element of organising, and thence related to directing.
2. As belonging to a different framework than the Fayol-Gulick models.

The development and consequences of the acceptance of the first suggestion are straightforward. The acceptance of the second suggestion necessitates amendment to, or extension of, the 2-part derived model. Figure 3.4 shows diagrammatically a three-part model including the additional part necessary to accommodate motivation in pursuance of the second of the above strategies.

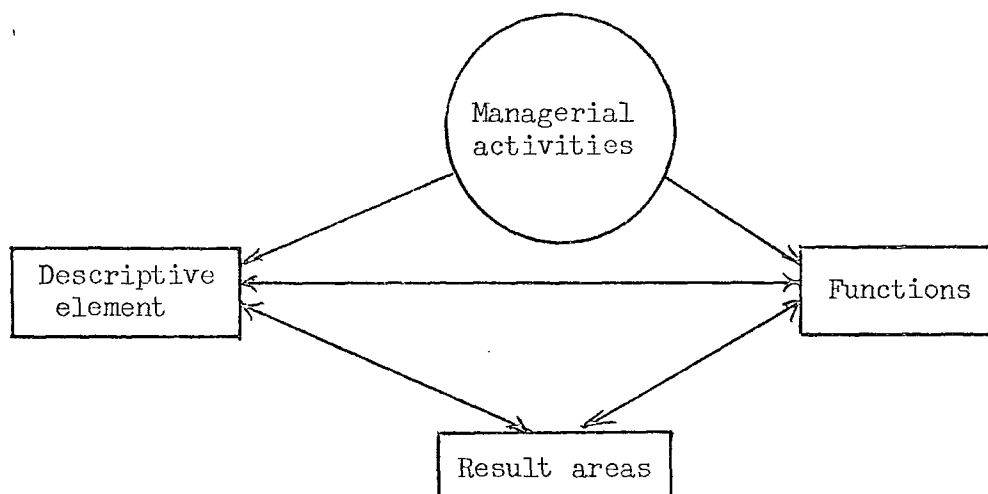


Figure 3.4. A three-part model describing the managerial job

In Figure 3.4 the box containing result areas is an attempt to relate the purpose of activity to the process itself, as well as to the elements and functions.

Horne and Lupton Model

Horne and Lupton (1965) presented a new 'elements' model. Horne and Lupton wanted to investigate how managerial time is spent. For this to be accomplished a classification of activities being necessary, they write:

"We therefore spent much time discussing activities and ways of classifying and defining them with practising managers to ascertain whether the usual five-fold classification of activities was meaningful to them. It was decided that every activity of a manager could be recorded by referring to four 'elements'

Formulating
Organising
Unifying
Regulating"

Horne and Lupton produced the second management acronym: FOUR.

On account of its relationship with the time-spent analysis models, this model will be mentioned later in Section 3.2.2.

3.2.1.2. Potential Job Design uses of the Elements Models

Analysis of the job in accordance with the elements model could be useful in many ways, such as:

- (i) Where an individual is involved in an activity the inputs to which are prepared by somebody else, regarding these inputs as part of the preparation, i.e. planning, it might be instruc-

tive to see whether the job holder concerned has any say in the quality/quantity/timing of these inputs. The measurement of the inputs on these parameters might go some way in determining the amount of work the job holder himself has to put into the work process. Similarly, the nature of demands on the outputs would also be determining the intensity of effort required of the position holder and his influence over the outputs may throw some light on the total demands on him.

- (ii) Regarding co-ordination of work activities as at least important, if not essential, for effective job performance, then it would be instructive to see whether the job holder is satisfied with the efforts of his role-set towards co-ordinating their activities with his own. Equally, it would be important to check whether others regard the job holders effort at co-ordination as satisfactory.
- (iii) The position incumbent could be checked to ascertain whether the position incumbent's boss is giving him insufficient direction, or whether the directions received are considered by him to be so detailed as to exclude use of initiative. On the other hand the position incumbent's subordinates could be asked to comment in a similar fashion on their superordinate's performance.
- (iv) The individual could be asked to relate whether his performance is being helped or hampered by reporting systems devised by personnel in the other functions, e.g. whether the budgetary control systems are attuned to the current reality of his position.
- (v) It could be ascertained whether the target areas of his effort are clear to him, and the measures of performance reflect his task achievements.

(vi) Towards determining job design defects, performance could be evaluated to find out:

(a) What steps, linked to which processes, are not being undertaken?

(b) What steps, linked to which processes, have not been satisfactorily performed?

The elements model builders do help to indicate the kinds of questions (cf. (i)-(vi) above) that a researcher needs to ask to ascertain whether the job is being performed effectively. Answers to such questions would provide insights from the opinions expressed about the processes involved in a respondent's job but would not, in the author's opinion, produce anything resembling a thorough description of the respondent's job.

3.2.2. Classification and Time-spent Models

This section presents nine models describing the managerial job. The link between these models is the method of analysing data - all analyses were in terms of the time spent by the manager on various activities. The classification of activities was sometimes done by the researcher and sometimes done by, or with the involvement of, the managers under study. The classifications themselves appear not to be too clear cut and have come under attack by theoreticians, especially where managerial involvement was prevalent. In a criticism of a study where managers were involved in classification, Mintzberg (1973) writes:

"... the researcher abdicated his responsibility to the manager".

Whilst not denying that Mintzberg's argument has some substance, the author believes that it is important to have a classification with which managers can relate i.e. in a subset of their own language, rather than in a terminology imposed by the researcher.

Shartle Model

Shartle ((1948), (1957)), reporting in a series of reports emanating from the Ohio leadership studies, presented a fourteen item classification

of "Activities performed by executives":

1. Inspection of the organisation
2. Investigation and research
3. Planning
4. Preparation of procedures and methods
5. Co-ordination
6. Evaluation
7. Interpretation of plans and procedures
8. Supervision of technical operations
9. Personnel activities
10. Public relations
11. Professional consultation
12. Negotiation
13. Scheduling, routing and despatching
14. Technical and professional operations

The above constructs were used in the Ohio leadership studies to find out the percentage of time individual managers spent on each class of activity. Such analyses are used to generate "Work Pattern Profile", a typical example of which is presented in Figure 3.5, where the activities are referred to as responsibilities.

Shartle (1957) saw the main use of this method of analysis in the area of job assignments and job modifications. He wrote:

"The point of view is ventured here that certain combinations of work patterns result in balance and harmony and other combinations create difficulties. It would seem important, in selecting executives and in transferring them, to study their pattern and to use this information in making decisions. Experienced executives appear to develop patterns, or habits, of operation which they take with them, in part at least, when they move to a new position. If an organisation is apparently working well, it would seem wise to replace an executive with another having a similar pattern. But if changes are desired, an executive might be replaced by one with a distinctly different pattern. If an organisation needs tightening and re-evaluation, perhaps a new top executive with a high evaluation pattern would be valuable, even though it would mean some unhappiness and perhaps a turnover among the subordinates".

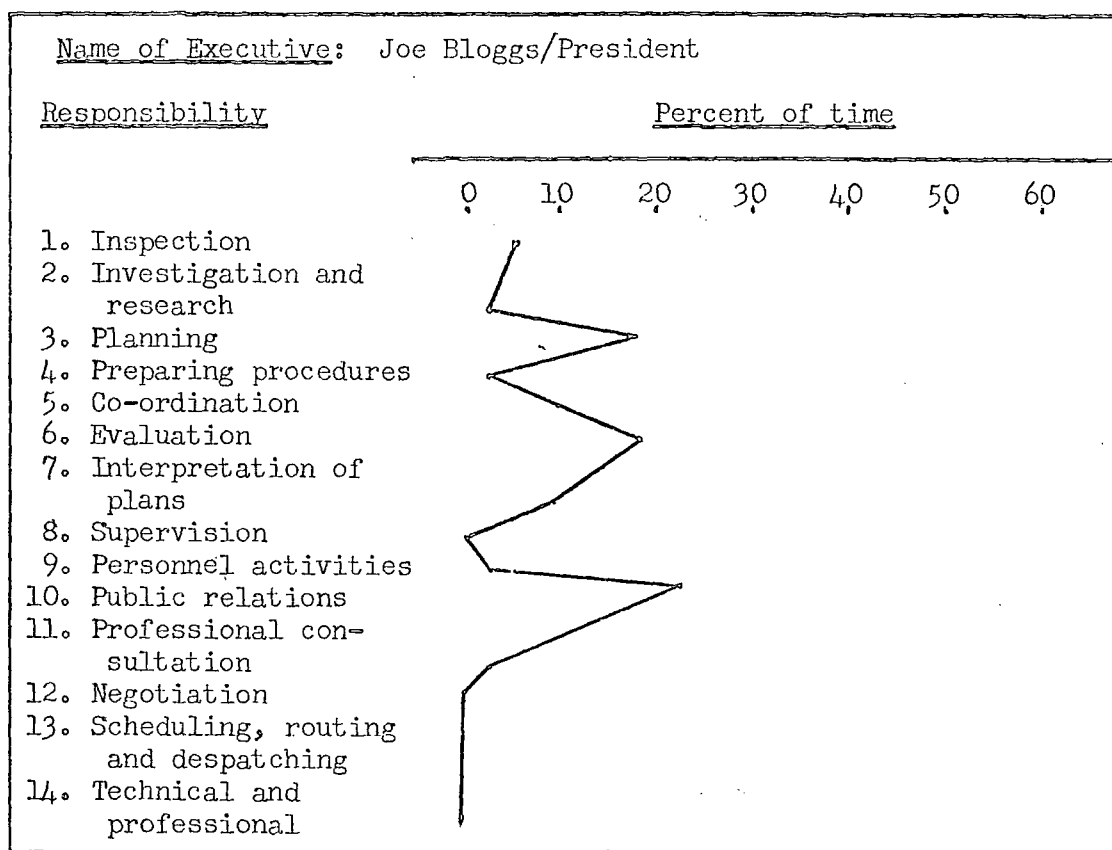


Figure 3.5. Work Pattern Profile, adapted from Shartle (1949)

So, Shartle's profiling method could be used to evaluate the design of the job from the performance viewpoint; where re-design is necessary, effort could be put into creating work patterns that optimise performance, from either or both the viewpoints - the individual and the organisation. Before moving on to a consideration of the next model of this type, it might be instructive to attempt to link the Shartle model, (and thereby, to a certain extent, all the other models of this class), to the model discussed in Section 3.2.1. The author believes that all the items, save one, of the 14 listed could be assigned to one or the other of the three parts depicted in Figure 3.4. The exceptional item is professional consultation. The way it is defined and arrived at, indicates it to be a morphological description. Researchers using the time-spent model have often included in their classifications items like 'attending meetings', 'visiting subsection', etc. which are morphological descriptions rather than content descriptions - these items show how work was done rather than what work was accomplished. Note that the morphological class is

distinct from the process classification into which, with reference to the 3-part model of Figure 3.4, would be placed items like 'investigation' and 'preparing procedures'.

Carlson Models

Carlson's (1951) work on the nature of the managerial job is seminal in that it gave an impetus and guiding influence to much research effort over nearly two decades; his work and those of other researchers, inspired by his work, has cumulatively added much to the understanding of the nature of managerial work. Carlson's work, through his own acknowledgement, can be linked to Shartle's work. Carlson directed his research to analysing the following features:

1. Place of work
2. Contacts with persons and institution
3. Technique of communication
4. Nature of questions handled

Model 1: Morphological classification on place of work.

Within this classification were two main classes with sub-classes as follows:

- (1) Inside the firm -
 - (i) own office
 - (ii) other parts of head office
 - (iii) other parts of the home plant
 - (iv) visits to other of the firm's plants
- (2) Outside the firm -
 - (i) at home
 - (ii) other places, individually specified

Analysis of the job in this way could help the position incumbent to relate his experience in terms of difficulties experienced, i.e. if the job involves more travel than he really wishes to undertake. Equally important would be to find out whether any performance-related difficulties are experienced on account of not travelling - for whatsoever reasons - as much as is necessary for role performance. Of course, the position incumbent's role set could be asked as to whether their own job performance is being affected by the job holder not being in office when they need him. Those outside the office area could be asked to comment whether the frequency of visits or the absolute attention they receive from the incumbent are in any way adversely affecting their performance.

Model 2: Morphology based on contacts with person and institution

This morphology consisted of 10 items:

1. Official authorities
2. Trade association, chamber of commerce, etc.
3. Scientific institution
4. Trade union and employees' federation
5. Other companies of relevance to the individual
6. Customers
7. Supplier of goods
8. Banks and representatives of financial institutions
9. Outside companies
10. Visitors

Analysis of the job according to this model, where the categories do not have to be the same as above, may be helpful in job design for the job holder may be able to indicate which of the contacts he is not able to cultivate, at all, or at the level he thinks appropriate. The role-set could equally comment whether the job incumbent, because of his personal inclination, is spending too much effort on some contacts at the expense of others. It could, of course, be the case that the job holder is spending effort with respect to the contacts he does maintain, in proportion to their importance in his job, but on account of work-overload conditions is unable to cultivate other contacts which are felt to be just as important.

Model 3: Morphology based on techniques of communication

The two classes and items within these subclasses were as follows:

- (1) Direct contacts
 - (i) personal observation
 - (ii) conversation, person to person
 - (iii) conferences
 - (iv) telephone calls
2. Indirect contacts
 - (i) via person (e.g. staff assistant, private secretaries, etc.)
 - (ii) via papers (which the individual either reads or writes)

Analysis of the job in accordance with this model, where the categories do not have to be the same as those Carlson found for his sample, offers the possibility of finding out whether the role set believes their own performance to be adversely or advantageously affected by relationships. Additionally, the incumbent could suggest whether he is satisfied with the techniques of communication adopted by his role-set colleagues.

Model 4: Three classifications on the nature of questions handled

Classification 1. This classification contained nine items:

1. Finance, legal
2. Accounting
3. Buying
4. Production
5. Product research
6. Sales
7. Personnel
8. Public relations
9. Organising planning

This classification is very similar to those presented in Section 3.2.1. The uses in Job Design that could be made of it are similar to those that were stated in 3.2.1.1.

Classification 2. A two item classification consisting of:

1. Whether the activity was developmental, or
2. Whether the activity was concentrating on current operations.

Although on the surface the above two classes may appear something akin to planning and control, in fact, as described by Carlson, they are different. Here, the first category refers more to what Anthony (1965) has described as "strategic planning"; the second category refers to activities of an operational or programmable kind.

The value of analysing the managerial job performance along the dimensions of this model comes out from the following text from Carlson:

"In the majority of cases the questions classified as development represented only a small part of the total. It is therefore not unnatural that, when asked what particular part of their duties the executives themselves regarded as neglected, they almost without exception answered the long range planning of their business. The increasing amount of outside activities and the difficulty in getting enough time undisturbed by visitors and telephone calls were the common excuse in this connection. It was noticeable, however, that the executives who were found to have the longest "work alone" time also were those who during their meetings with subordinates had the highest percentage of development questions".

The above quotation also indicates how job design might be helped by the above analysis. Were it the case that the executive himself or his role set perceived that effort or results of long range planning leave something to be desired, methods of reducing the disturbances so as to increase the

"work alone" time may help. Other strategies of increasing the work alone time might include considerations of flexi-time, if such a scheme does not already operate.

Classification 3: A two item classification consisting of:

1. Whether the activity was one of initiating policy, or
2. Whether the activity was one of implementation of policy

Carlson noted that policy-initiating activity was even less frequently reported than activity that was classified as developmental in the foregoing classification (classification 2). Low reportage could be indicative of the existence of already well established policy, or that not enough effort is being expended on policy. The latter situation may give rise to problems at the lower levels. Lower level management people may find the absence of clear cut policy detrimental to their own performance. The vicious circle that absence of policy can create is so clearly depicted in Carlson's own words:

"A policy decision is generally much more difficult and time-consuming to take than a decision regarding some matters of detail. But by doing so he becomes more and more caught in a vicious circle; he is too overloaded by details to be able to take policy decisions, but the very reason why he is overloaded by detail is the absence in the organisation of established policies".

Analysis of the managerial job in the above method could help relate sub-par performance to absence of established policy at the level of the individual position holder.

Carlson's other reports on the nature of managerial jobs

1. Kind of action

Carlson wanted to record as an additional classification, based on the following items:

1. Getting information
2. Systemising information
3. Taking decisions
4. Confirming or correcting decisions of others
5. Giving orders
6. Advising and planning
7. Inspecting, reviewing
8. Executing

This intended classification was labelled 'kind of action' by him. However, he was not able to do this. This failure might have to do with the items forming the intended classification. Any intended breakdown of the managerial task involves large groupings and small groupings. The small groupings, as the above items are, are almost inevitably not mutually exclusive. A transaction between two (or more) individuals more often than not involves activation of more than one class from the above list.

2. Concomitant analysis

Carlson's concomitant analysis and conclusion based on the time-spent "alone" presents another insightful perspective (and supportive of the author's Job Design derivation under Model 4):

"'Alone' intervals of 5 or 10 minutes are, of course, not only of little value for working purposes, but are also unsatisfactory as rest intervals. It is characteristic that but few if any of the executives had any idea that they spent up to an hour or an hour and a half 'alone' during the day. All they knew was that they had scarcely had time to start on a new task or sit down and light a cigarette before they were interrupted by a visitor or a telephone call. It is only when the 'alone' interval is of certain minimum length that it can be utilised efficiently. In order to get more time for those tasks which demand concentration and peace of mind most executives must organise their working day in a different way from what they do today".

Another observation reported by Carlson is that executives worked excessive hours. Invariably they worked around one and a half hours a day at home. Thus, it could be argued that the 90 minutes that the executive 'wasted' at work were made up by working for 90 minutes at home.

Carlson's 'time-analysis' makes implicit assumptions about the managerial job, which need facing - like the extent to which it is important for the executive to exercise time-control in office. Methods by which time-control may operationally be exercised, including gatekeeping, are discussed by most texts in communication theory, e.g. Porter and Roberts (1977). Suffice it to say that the specific method adopted by a particular manager may have repercussions on the job designs of the role-set.

3. Who to involve

In analysing communication contents of his executive group, Carlson drew attention to the following phenomena:

- Production questions were more often discussed than those of organisation and planning
- Questions of production were discussed with several people, while questioning public relations with only one person at a time
- Discussion of finance and accountancy took place mainly with people from a specific division but questions of buying were discussed with almost everybody
- Sales questions had, in the majority, to do with policy whereas financial questions were often of application

The relevance of the above type of observation to Job Design lies in evaluating the situation extant and asking those involved whether the job holders themselves find the situation helpful and conducive to performance or whether their current exclusion from some discussion is detrimental to their performance.

Note: Until now, in the presentation of the works of various authors, all the categories or components of the model under discussion have been presented. This has helped in building up a 'data bank' of terms used. To save space and avoid tedious repetition henceforth when a new model is presented only classes that are new, i.e. not already within the accumulated repertoire will be stated. Similarly, where the whole model is more or less a replication of some already discussed model, it will only be mentioned but not presented.

Burns' Models

Burns (1954) reports a study with managerial participants, the purpose of which was:

"To provide information about the way in which individuals at executive level spent their time, about their fields of interaction and about the distribution of work within a departmental executive group".

Later, Burns (1957) reports another study, the main aim of which appears to be similar to that of the earlier study, but from which, due partly to differences in design, deductions augmenting the earlier results could be made.

Burns (1954) investigated the models discussed below:

Model 1: Contrived with the help of the participants, consisted of 'ten categories according to subject'. Of these ten categories nine have been mentioned in connection with the work/models presented earlier. The tenth category, labelled "General Factory Matters" and defined as relating to "information and discussions about people and affairs not directly, or solely, concerning the department's activities", will not be discussed as it appears to be of no direct utility for the present.

Model 2: Time-focus of activity. This was an intended classification transverse, as it were, to the categories of Model 1. It was planned to contain the following three classes:

1. "Old"
2. "Present"
3. "Future"

The intention was "to ascertain the extent to which executive action was related to "post-mortem" and to "policy-making" activity".

However, analysis on this model was abandoned. The reason given for non-analysis is:

"Judgements seemed to vary as considerably as to what should be noted as old, new or future".

Notwithstanding Burns' abandonment of this model, given that it looks so similar to Carlson's Model 4, classification 2, the model could be useful in Job Design. The position incumbent's role set, especially those in subordinate positions may feel that there is too much "post mortem", a state of affairs which the incumbent himself could relate to observed variances between budgets and actual. On the other hand those at the receiving end of criticism may relate variances as arising from lack of contingent planning.

Model 3: consisted of a typology on the purpose of communication.

It consisted of four items:

1. to facilitate decision
2. to give instruction
3. to give advice
4. to extend awareness

Burns found conflicting reports on this typology. Two kinds of conflicts are reported by Burns:

"Whenever the department manager noted that he had given an instruction or a decision, while the other had recorded merely advice or information, the lack of concurrence was noted by +. The reverse situation, of information or advice being received as instructions or decisions was noted as -".

Burns reports the above two types of discrepancies as occurring "in two cases out of every five". Similar differences in perception was also observed by Heller (1972).

For job design the utility of this model may lie in attempting to resolve situations, where either party in a boss-subordinate relationship feels that:

1. instructions are not clear cut
2. instructions are not obeyed
3. too little advice and too much instruction
4. too much advice and no clear cut instruction

The above kind of difficulties may be cumulatively labelled 'role-clarity'.

Model 4 consisted of a morphology based on 'modes of communication', which is somewhat reminiscent of Carlson's morphology on techniques of communication.

Items different from those used by Carlson are:

- face to face
- drawing (Note: some participants were design engineers)

In evaluating the design of the job from the perspective of whether or not the incumbent's performance is facilitated by the particular modes of communication used by him in his interaction with his role-set, or, and of equal concern, whether the modes of communications used by the role-set are facilitative in the performance of his own work, the above analysis could be useful.

Burns cross-checked how different individuals involved in the same episode described it, i.e., the subject under which the episode was coded, by the people involved. He found to his surprise that in 'three or four out of ten' the subject of communication was coded differently. Burns, while attempting to explain it "in straightforward cases" also, passes warning for possible job design failures. The explanation is posited as follows:

If manager A, responsible for production, discusses with manager B, responsible for personnel, matters related to the forthcoming production of a new product, then the episode may well be coded as follows:

Manager A: New development and research
 Manager B: Personnel

Thus, it would appear as if the managers were concentrating on their functional responsibilities. Burns' warning on possible Job Design failure is noted in the following quote:

"..... In more complex cases, however, the intention of the other's concern was either not expressed or not comprehended. Over a period of time, however, they might account for a sizeable bias when lack of concurrence as regards subject is a persistent aspect of on-going communication, it may eventually produce a serious deflection of managerial control from its appropriate objective"

Another very perceptive analysis, from the Job Design viewpoint, was the actual time spent versus perceived time spent on the 10 categories in the model. In fact, two estimates on perceived time spent were acquired (Burns (1957)):

1. The time the individual thought he himself was involved in activities of the various classes.
2. The time the individual thought the group as a whole spent on the same class of activities.

The tables in Burns' report indicate extraordinary differences between the actual and the first of the above two estimates. Burns hypothesised this

difference to be related to individual perceptions and to stem from:

"... their expenditure of effort, deriving from demands made on their energies and capacity rather than on their time".

The veracity of the above hypothesised explanation would have implication for job design: it may imply that a manager has a view of what managerial work for the particular position he is occupying should be. And in reality the job is quite different. Equally, it could be the case that involvement in activities one likes makes the time pass 'apparently' quicker, than time spent on activities not exactly matching the person's inclinations.

Burns' analysis with respect to the second of the above estimates and reality showed even more significant variances. The boss of the group of subjects thought that while he himself spent 30% only of his time on production, he estimated the group as a whole to be spending 55% of their time in activities in this category. In reality the group were spending only 36% of their combined time in activities concerned with production.

A generalisation from the above, with implications for Job Design, would be that whereas individuals feel that they carry a disproportionate burden of one particular activity, in actuality the division of labour may be fairly even. However, an alternative hypothesis could be that individual job holders have operationalised their job descriptions in such a way that they are doing a job which is not the one intended. A possible effect of this could be the dereliction of some duties that should be performed by the incumbent.

Burns (1957) report, although based on comparisons between organisations, confirms the findings of the above discussed study. The confirmation is evident from a more assertive style of writing.

Chapple and Sayles Models

Chapple and Sayles (1961) presented a conceptualisation of job analysis based on work flow. In this viewpoint a manager is the hub of several flows (of work). A work flow could be regarded as a specialised procedure which is

either invoked by the individual or the individual contributes to that procedure in some way. Having identified the various work flows, the individual's responsibilities with respect to each are noted down, with attention being paid to decision alternatives where applicable.

A brief description of the way Chapple and Sayles analyse jobs is provided. The description is based on the analysis of a superintendent's job, as provided by the researchers.

Starting from a conventionally written job description, Chapple and Sayles found the following 11 flows:

1. Quality control
2. Production planning, scheduling
3. Production control - efficiency
4. Material planning
5. Personnel development
6. Support to own unit
7. Relating own unit to other departments
8. Recruitment
9. Interactions with union representatives
10. Developing own unit
11. Organisation of, or attendance at, meetings.

Next, the Chapple and Sayles method of analysis calls for 'classification of the types of activities', from the conventional job description. For the superintendent's job, Chapple and Sayles delineated the following 8 classes:

1. Consulting, advising, or interviewing
2. Running a meeting
3. Negotiating
4. Transmitting inquiries
5. Analysing data
6. Analysing and initiating action
7. Trouble shooting on initiation by others
8. Pattern of behaviour unspecified

The third and final step in the Chapple and Sayles method of analysis, and one forming the basis of conclusions regarding whether the performance or the efficiency of the current design of the jobs meet the designated criteria is to analyse the time spent on specific activities.

Chapple and Sayles's 3 step analysis has relevance to analysis for job (re-)design, but the author deems it fit to raise a query at this point: Why did Chapple and Sayles do the time analysis on the activity listing rather than on the work flows? Of course, only Chapple and Sayles could respond to the

question. However, the author's purpose in raising this query is simply to state that time analysis performed on the basis of the activity classification simultaneously linked to the work flow pattern might be even of greater help in formulating emphatic questions for discovering the failures in the current design of a job.

Chapple and Sayles present time analysis for four different jobs: for an industrial relations manager, a chief sales engineer, a production planning manager and a research director, on the basis of average duration of contact (computed from number of contacts) and total weekly time requirements. Although, of course, the classes forming this analytic base are different, the rationale for analysis is the same as discussed in the Shartles and Carlson's models; for this reason no typical analyses are presented.

Job Design interpretation of the Chapple and Sayles study

Caution

Chapple and Sayles start by warning the reader about drawing conclusions from the time-spent model. The time an individual spends on the different aspects of his work is a function of what he sees as important, what his own abilities (in the context of the job) are, and as well the personalities and abilities of the role set and in turn their abilities. Of course, the situation extant in respect of the prevailing interpersonal climate, the resources available, the state of the demands on products or service offered by the group or individual all decisively affect the time an individual spends on an activity at any specific time.

Workload determination

Chapple and Sayles suggest that the proposed model be used for determining whether firstly, conditions of overload exist and, secondly, whether these are real or due to unnecessary devotion to the unnecessary or irrelevant. Chapple and Sayles' hypothesis that specialisation at managerial level occurs on account of organisational action in the face of experienced stress. They suggest that, under conditions of experienced stress:

"the easiest solution is to give one man the full time responsibility"

The newly hired or assigned executive, specialist in the particular activity as he might be, now involves the organisation in activities which were not the organisation's main concern prior to his arrival. Further, note that this could be the process by which jobs start, on one hand, getting narrow boundaries, and on the other jobs get eroded - for the aspect of the job that was assigned to the specialist must have, prior to this assignment, been the responsibility of somebody else, and has now been detached from that job. In conclusion then, the model offers the possibility of attempting to ascertain whether the current organisation, of say 6 people, is sufficient or whether it should be composed of a different number of people, say 5 or 7. Since "the contribution of the individual, or lack of it, is hidden in activities of the group", the method of analysing the job, for the purpose of synthesis, should be such that a group of jobs can be analysed simultaneously.

Luijk Models

Luijk (1963) conducted a Time-Lost analysis on 35 Dutch senior managerial personnel, by observing them for 1,000 hours. The findings are seminal to job design work. Besides being forceful reminder of the necessity for improving Job Design, the analysis of the sources of wastage could directly be used in a synthesis effort.

Luijk concluded that, of the 1,000 hours for which data was collected:

"fully 320 hours were unable to stand up to close scrutiny"

i.e. were wasted or lost. In attributing this total wastage to various reasons/causes Luijk presents the following breakdown:

1. Too simple work	11%
2. Too difficult work	13%
3. Not enough delegation	8%
4. Insufficient information	6%
5. Inadequate instructions	5%
6. Impulsive reaction	6%
7. Poor communication	10%
8. Disturbances and interruptions	23%
9. Organisational faults	18%

The above list of constructs could readily be used directly into formulating

questions for the response of both the position incumbent and his role-set to find whether the existing design of jobs could be improved upon. As 23% of lost time was accounted for by item 8, in the above list, Luijk's remarks concerning it is worth noting:

"From these figures it becomes quite clear that the greatest importance must be attached to fighting against the flood of interruption".

More recent evidence, from Wilke and Young's (1972) study on Managing Directors in the Timber Industry, is also suggestive of time wastage. The data of Wilke and Young in their own words, suggests:

"that managing directors spent many hours acting as highly paid clerks".
and, later:

".... routine clerical work accounted for 26.8 per cent of episodes but only 11.8 per cent of time".

A note of caution, at this point, might be in order. In the Job Design study by Dumas and Muthard (1971), the researchers found that some of the low level tasks (e.g. clerical) might be embedded in sequences of high level tasks, in the total work flow of the system. Under these circumstances artificial splicing would add further interfaces which themselves might be more dysfunctional than the original problem - a high qualified person undertaking low-skill work. The Dumas and Muthard study is discussed in Section 3.4 of this chapter.

Model 1

As to what actually goes on in the offices of senior management, Luijk presented a classification composed of morphological and functional elements, which along with the time spent on each element is:

1. Contacts by telephone	15%
2. Dealing with correspondence	6%
3. Conferences with staff and visitors	26%
4. Making plans	3%
5. Interviewing prospective employees	3%
6. Giving instructions	9%
7. Reading through files	5%
8. Attending conferences and making business calls (away)	15%
9. Sundry	18%

The above classification is presented mainly on account of the time analysis. The use that can be made of it would be similar to previously discussed morphologies and functional classification.

Model 2 is a content classification based on the problems faced. Altogether there are 36 elements in the classification; these elements are fused into 6 main categories. On account of its length, instead of presenting the whole list, its six main categories are enumerated:

1. Financial matters
2. Technical matters (also see Model 3)
3. Sales matters
4. Business economy and administrative matters
5. Personnel matters
6. Sundry matters

The above classification could be used in analysing the skills required in a job, or as class headings for the work flow type of analysis as proposed by Chapple and Sayles.

Model 3. A classification of result areas. (Luijk presents this as itemisations within technical matters, however). As the items are of the same type as those present in Section 3.1.1. under the heading 'results areas', it is being discussed as a separate model. The 10 items within this classification are:

1. Profitability
2. Market research and development, possibly after preparation by an external expert
3. Important purchasing policy decisions
4. Trade relations
5. Price fixing
6. Stocks policy
7. Budgeting
8. Promotion of senior executive staff
9. Working conditions
10. Representations and public relations

The above list of items are of the type related to areas of important decision making. The importance of this classification, for Job Design, lies in its potential use for formulating questions related to the individual manager's experience-in-job. For example:

1. If profitability is falling, it is possible that tighter controls are experienced, and this is being resented.

2. External experts may be deemed by internal employees, especially at the lower levels in the hierarchy, to be riding rough shod on previous policies possibly devised with their own participation.
3. Purchasing decisions made at high level may adversely affect the work of staff who later have to use the products purchased through the application of these policies.

Only the first three items from the Model have been discussed; similar types of questions could be formulated from item 4 to 10 in the list above.

A remark from another authority, Scholefield (1968), bearing on the subject at hand - time loss - would be worth interjecting at this point.

Scholefield writes:

"The failure of the executives to use their available time effectively often lies at the root of poor business performance. However, it is one thing to observe the generality of the complaint and quite another to suggest a general remedy. The problem tends to be quite specific to each executive and can be analysed fully only in terms of the unique combination of circumstances which structure the working life of a particular individual".

The above quotation suggests that the analysis and synthesis of managerial jobs may require that each position be separately analysed.

Dubin and Spray Models

Dubin and Spray (1964) presented the results of another study. The class descriptions used by them are similar to those already mentioned in connection with models already discussed. The only new category is one labelled "Complex", into which are placed behaviours incorporating elements of more than one of the other 10 categories. Also presented is a morphology on contacts, and within this a classification by rank of contactee.

Horne and Lupton Model

Horne and Lupton (1965) report a study in which a new classification model was presented. A Horne and Lupton classification model has been presented in Section 3.2.1. Other models of analysis were essentially replications of the models already presented in this section: they used classifications based on:

1. Functional areas
2. Methods of work
3. Purpose of activity

Since neither are the models new, nor were the analyses conclusive or direction giving, no further discussion is presented. However, the purpose of making a reference to the study is to indicate that the author finds a reinforcing value in mentioning the importance of analysing the job in terms of the above three items.

Stewart Models

Stewart ((1967), (1972)) reports the most comprehensive study using the time spent method of analysis. Apart from presenting 36 different models for analysing the way managers spent their time, the study attempted to capture the contrasting qualities of jobs - characteristics - by collecting data on:

1. Specialisation in job
2. Extent of necessary co-working
3. Nature (i.e. kind) and forms of contacts involved
4. Type of work patterns composed
5. Variety in job (i.e. cycles of activities, periodicity of cycles, routine and non-routine elements)

All the above characteristics could form a basis for designing questions to elicit the individual's experience-in-job.

Stewart also presents a model, based on time-spent analysis, of classifying jobs. The classification scheme consists of the following items:

1. The emissaries
2. The writers
3. The discussers
4. The trouble shooters
5. The committee men

For job design the above classification could be used to break up the job into the above constituents. This would involve mapping each activity onto the above framework in terms of the demands of the job. Where necessary, the job could then be synthesised to create a new alignment between the nature of the job and the skills, personality etc. of the incumbent. Here, of course, care has to be exercised because to a certain extent the job would have been given its current shape through operationalisation by the incumbent. This operationalisation itself may have made the job lop-sided, as if it were, - i.e.

the job should be of "trouble shooting" nature whereas the incumbent has designed it to be a "committee man" job. So the importance of any analysis in job design in accordance with the above model lies in determining:

- (i) The shape of the job as currently defined by
 - (a) the position incumbent, and
 - (b) the role-set
- (ii) the shape the job should have in the eyes of
 - (a) the position incumbent and
 - (b) the role-set

3.2.2.1. Summary of classification and time-spent models

A number of models have been presented from various research sources. There are few hard measures that could be applied in the study of the nature of managerial jobs. Time spent on activities, provided the classification of activities makes sense to those whose jobs are being analysed, could be a measure on the effectiveness of the design. The kinds of question that could be asked, on the basis of time spent analysis, are of the type:

- is the concentration of effort, in as far as that can be indicated by time spent, correct for the position being analysed, and is this effort justified
- is the time spent on certain activities by the incumbent justified, or should it be done by somebody else - at a higher level, at a lower level, or in a lateral position to the position incumbent
- is the job fragmented to an extent where a large portion of time is wasted. Could this wastage be reduced?

An important weakness of the time-spent model for purposes of Job Design is the model's narrow basis of a single parameter. Handy (1980) analysing jobs in the context of job contracts writes:

"Fees are paid for work done, for output; wages are paid for time spent, for input".

This weakness will have to be borne in mind, if use is made of the model for

job design purposes.

None of the model builders had indicated any special application of their work. The basic aim, and this was sometimes stated in as many words, was to increase knowledge of the nature of the managerial job.

The author's search in literature was for ways of analysing the managerial job which could form the basis for purposive synthesis. Whilst time-spent analysis undoubtedly produces evidence (not always accurate!) of what managers spend their time doing, it gives no aid to purposive synthesis designed to make a more effective use of time. An interruption may be a nuisance to Manager A, but be vital to the manager who caused the interruption by asking for help, advice, etc. Additionally, it is not absolutely known whether interruptions do in fact result in loss to total productivity. If an interruption is interpreted as resulting in deflection of attention then the findings of Weinstein (1977) may be of import. Weinstein found that when individuals experienced distraction they became aware of their lowered rates of work. This awareness impelled the workers to work faster thereby compensating for the natural lowering of speed due to the distraction.

However, a note of caution with respect to Weinstein's work would be in order. Weinstein's data pertained to distraction resulting in lowering of concentration rather than total deflection of attention.

Classification models offer scope for synthesis if the incumbent and his colleagues are asked to specify satisfaction with present balance of time within categories and the desired balance for themselves and those with whom they interact. For the conclusions to be of relevance to Job Design, however, the research would need to be "open system", balancing individual and group perception of what constituted a "better" use of time.

3.2.3. Dimensional Analysis of the Managerial Job

In Section 3.2.1. the author made an attempt to delineate dimensions onto which the constructs proposed in the literature could be mapped. That

no such effort was made in Section 3.2.2 was due to the nature of the classifications proposed. The researchers who developed them were essentially not interested in classification but in finding out how managers spent their time, i.e. in arriving at conclusions which expounded on the nature of the managerial job. This section presents results from studies where discovery of the dimensions was the main concern of the reporting researchers. More often than not, through the definition of these dimensions, the researchers were attempting to accomplish something else, e.g. appraisal of performance.

Kay Model

Kay (1959) presented a model based on Critical Behavioural Requirement. The model defines three fundamental dimensions covering sixteen behavioural requirements, as follows:

I. Competence in administrative matters

1. Planning operations
2. Following instructions
3. Attention to detail
4. Adherence to company policy
5. Selection of work for active supervision
6. Willingness to assume responsibility
7. Tact and discretion

II. Competence in supervising subordinates

8. Development of subordinates
9. Correction of undesirable behaviour
10. Giving credit where due
11. Equality of treatment
12. Concern for employee's welfare
13. Keeping subordinates informed

III. Relations with equals and superiors

14. Adherence to chain of authority
15. Acceptance of criticism and suggestion
16. Communication with equals and superiors

The model could be directly used, in analysing the job situation, for formulating questions so as to determine whether:

1. The individual's own performance is in any way ill-affecting the potential performance of the role-set
2. Whether the role-set's performance is ill-affecting the job performance of the incumbent.

Kay developed these dimensions for measuring performance.

Sayles Model

Sayles (1964) presented a model describing the managerial job in terms of relationships within the organisation. The seven essential relationships enumerated by Sayles are:

1. Work flow relationships
2. Trading relationships
3. Service relationships
4. Advisory relationships
5. Auditing relationships
6. Stabilising relationships
7. Innovation relationships

The relevance of the above model to Job Design is that in the dynamics of organisational life the relationships come under pressure, and unless the job relationships are constantly attuned so as to maintain a satisfactory balance, subpar performance and unpleasant experience-in-job can result.

According to Sayles, typical problems associated with the above relationships are:

1. Work flow problems - which arise due to mutual pressures to optimise own performance, even at a cost to other departments within the firm. The reason for this Sayles alleges to be:

"Because most organisational controls reward a group for meeting small group criteria rather than larger organisational goals, each is induced to short-cut unmeasured (and unrewarded) areas that help only the outside group".

2. Trading problems - arise essentially due (a) to the potential buyer and potential seller not knowing about each other, i.e. lack of contact; (b) to the buyer not knowing the actual price of the service or product being offered; (c) the buyer and seller being mutually suspicious of each other and working under the assumption that the other is getting a better deal.
3. Service problems - Sayles notes that:

"We have noted that service relationships incorporate a maximum of intra-organisational friction".

There are two kinds of causes to the service problem:-

- (1) Too much demand on the service, leading to service managers 'rewarding' their friends and 'punishing' their supposed foes.

(2) Not enough use made by the line functions of the service being offered by specialist groups, who think their help could alter the situation for the better. Here the service may not be used for fear, by line management, of the loss of control.

4. Advisory problems arise because

"Advisory managers offer too much advice and because they do not offer enough, that is, they do not take over a problem and actually solve it".

Further, the manager may be getting contradictory advice from different sources. This state of affairs may lead to role ambiguity being experienced by the position incumbent.

5. Auditing Relationships are based on the auditing manager tapping the work flows of other managers to ascertain whether their activities are consistent with specific organisational rules or standards. The problems in auditing relationships is that lack of time on the part of the manager exercising auditing duties may compel him to adopt a managerial style that is considered inappropriate by those being audited. Further lack of specific standards against which the audition should be conducted makes for extremely inconsistent decisions, which may offend those being audited. In non-technical areas the auditing may be even more hazardous; Sayles writes that in considering:

".... how effectively certain policies concerning employer relations, public relations or consumer relations are being met, we can anticipate a hundredfold increase in the possible disputes between auditors and the audited".

6. Stabilising problems arise because of incomplete analysis of a situation with respect to which a decision is made. The decision then creates an imbalance on certain other variables and the stability of the whole system may be shaken.

7. Innovation problems arise because the managerial attention is deflected from its task of "looking into the future" to that of "fire-fighting" operations. Analysis on this relationship would enable Job Design to

shift the focus of attention, where this has been deflected, to its proper place.

Sayles' model of analysing, dealing with potential problem areas as it does, is likely to serve well in a diagnostic framework: it would be possible to find out what the prevailing situation is or even what the desired state is. However, it offers no guidance as to how best to reach the desired state. One could look at it as a situational/contingent framework, of the kind which says: "Such problems are known to exist in organisations; if they do in yours, sort them out, for their existence is dysfunctional." Relating the problem to the cause and resolving it would have to be done contingently, by the Job Designer, the job-holder, or the role-set.

Mintzberg Model

Mintzberg ((1970), (1971), (1973), (1978)) presented a model describing the managerial job in terms of roles managerial position incumbents play, in the course of working. Mintzberg proposes a framework of 3 basic roles which are further defined in terms of 10 fundamental roles, as follows:

I. Interpersonal roles

1. Figurehead
2. Leader
3. Liaison

II. Informational roles

4. Monitor
5. Disseminator
6. Spokesman

III. Decisional roles

7. Entrepreneur
8. Disturbance handler
9. Resource allocator
10. Negotiator

The above method of role analysis offers a device for evaluating the design of the job as well as providing a method through which redesign may take place. By capturing the situation extant and finding out the experience-in-job of the job holder and the role-set, the job could, where necessary, be modified to improve the match between the wishes of the job holder and that of his role-set.

Mintzberg himself suggests 15 ways in which the above suggested analysis of a managerial job could help the job holder to improve his performance.

More recently, McCall and Segrist (1980) have used Mintzberg's gestalt to analyse different managerial jobs where they found some inconsistency between theoretical consideration and actual managerial work situations. The researchers suggest that while theory supports the most important managerial role to be the leadership one, managers themselves rate the entrepreneur role to be more important. These findings could, therefore, be regarded as supportive of the above suggestions regarding the uses to which this model can be put.

Morrison Model

Morrison (1977) presents a role model developed in the context of career adaptability, but which could be used to capture the state/status of a job at any particular time. The suggested six roles are:

1. Technical-professional role - consisting of behaviour requiring an awareness and application of management process technology, such as computer application, planning techniques and cost analysis.
2. Interpersonal role - consisting of behaviour related to dyadic and small group relations, such as leadership, peer, subordinate, superordinate, and linking-pin contacts.
3. Formal organisational roles - consisting of behaviour performed as part of formal organisation structure, including policy and procedures administration and reporting relationships.
4. Political roles - consist of use of power structure to develop, test and implement proposals and the identification of useful personal sponsors.
5. Boundary roles - consist of behaviour required of a manager to interact with the environment outside his organisation.
6. Personal role - consists of behaviour unique to the individual and represents the person's individual contribution as a manager.

For job design an analysis of the job extant could reveal whether the jobs were correctly designed; analysis could reveal areas where re-design might improve either performance or satisfaction of either the job holder or his role-set. This model has been tested for eliciting information on career adaptivity. Morrison's basis thesis is that:

"Career roles interact with other life roles during the life span of the individual".

For Job Design the importance of the above statements is that unless the job roles parallel the personal life roles, conditions of mismatch may obtain, and the mismatch would militate against high performance.

Wellin Model

Wellin (1978) presents yet another role model. The model suggests the seven roles comprising the managerial job to be:

1. The co-ordinator
2. The ideas man
3. The critic
4. The implementor
5. The team builder
6. The external contact
7. The inspector

In analysis for job design purposes this method of analysis may reveal whether certain roles are being emphasised, by the incumbent, to a degree greater than necessary, while perhaps other roles are not being given the attention they deserve. The study is important from the group-job-design perspective. As individuals may be high in ability to perform one or more of the above roles, and often not all of them in the proportion necessary to the work situation, Wellin suggests that a team approach, where the ability to perform (the above roles) is summed up for the group, would help in generating effective performance.

Wellin (1978) could be regarded as suggesting that when analysis is being conducted for the eventual purpose of re-design, where the situation extant demands so, the basic unit of analysis should not be a job but a group of jobs with respect to which re-design might be attempted. The rationale for this deduction lies in the fact that an individual may be

performing certain roles which, studied in isolation, may not make sense; but their juxtaposition with the roles undertaken by others who form the role-set of the incumbent, completes the roles gestalt, and therefore permits better overall assessment. The concept of 'unit of analysis' is important from the methodological standpoint adopted by the author. This concept will be discussed at length in Chapter 8.

Summary of Dimensional Models

It is noticeable that dimensional models are frequently designed in terms of roles rather than jobs. At the extreme, the term seems almost to be used in the play acting sense i.e. distinguishing 'Hamlet' from the actor who is a real person at home but not at work. Many of the role classifications seem superficial generalisations about ways in which jobs could be approached by the role-incumbent rather than dimensions of what the managerial job actually is, yet the generalisations have relevance in real life and it is questionable whether everyone in a team can be a team-leader! Equally the decision to be a team-leader could scarcely be taken successfully, unilaterally by one member - for the role to be effective it must be accepted by most if not all colleagues in the team. Dimensional models reinforced the author's view that job design needs to be iterative and interactive.

3.2.4. Factorial Descriptions of the Managerial Job

The descriptions of the managerial job presented in this section have been arrived at through statistical techniques. The starting point of most of the studies reported here are the studies that have been reported in Sections 3.2.1 to 3.2.3. Typically a number of questions which stand as descriptors of the job are drawn and subjects asked to indicate whether these descriptors do define their jobs and, if so, to what extent the concept contained in the question is an important element of their job. The dimensions along which the items are classified is already known. By rotating the axis, so as to explain the highest, second highest etc. least, amount of variance, the factors are defined and given names according to the concepts that have contributed most.

The importance of these factorial models for Job Design is their potential two level utility:

1. The descriptor statements could be used for detailed diagnostic purposes, where job design failure is suspected.
2. The factors derived, or the dimensions from which the factors are derived, could be used for profiling the job at any moment in time.

Fleishman Model

Fleishman (1953) extending the work of the Ohio Leadership Behaviour Studies (reported by many including Shartle (1949) mentioned in Section 3.2.2) abstracted 150 items, i.e. descriptor statements, from over 1,800 original items and had then classified by 'expert judges' into nine apriori dimensions:

1. Integration
2. Communication
3. Production emphasis
4. Representation
5. Fraternisation
6. Organisation
7. Evaluation
8. Initiation
9. Domination

The respondents were Armed Forces personnel describing the behaviour of airplane commanders. Factor analysis produced the following two major factors:

1. Consideration
2. Initiating structure

Further, two minor factors were:

3. Production emphasis
4. Social sensitivity

Follow up studies in business/industrial environment indicated the stability of the factors. The final instrument containing only 48 items providing maximum but independent loading on the factors were drawn out. These 48 items could be used for finding the managerial orientation prevalent as well as that desired. Job Design could then attempt to bridge the variance between "is" and "should be", by adjusting the job elements so that the individual was allocated the tasks that suited his personality, rather

than being given job elements which are at variance with his style.

Blake and Mouton (1964) based the concept of the 'Managerial Grid' on these two major factors discovered by Fleishman; and the grid has subsequently been popularly used for training purposes.

The theoretical basis of the managerial grid concept, is that the two dimensions - consideration and initiating structure - are orthogonal. Kavanagh (1977) on the basis of a study conducted to check on this orthogonality reports that his data indicate that these dimensions are not perceived to be independent dimensions. Kavanagh's study suggested that these two variables might be the end-points of a bi-polar continuum.

Saunders Model

Saunders (1956) presented a factor model for describing and clarifying engineering jobs. His main concern seems to have been the derivation of a questionnaire which could be used for improving the selection and placement of engineering graduates. The factors of this model are:

1. Employment of basic scientific skills.
2. Application of developed technical skills to major current problems.
3. Provision of various supportive technical services.
4. Preparation of detailed plans for future use.
5. Provision of diverse non-technical functions.

The questionnaire itself contains only 24 items, and is claimed by Saunders to "provide for fine differentiation". The author doubts whether the model offers any incremental knowledge which could be used for Job Design.

Hemphill Model

Hemphill ((1959), (1960), (1967)) presented a model that could depict 'similarities and differences in managerial positions'. Hemphill drew up a list of 575 descriptor items, which he called 'job elements'; the respondents were asked to indicate, on a scale 1 to 7, how 'significant a part' of their position it represented. If a given descriptor did not describe the respondent's position, an escape option was provided. For the execution of the study Hemphill (1967) writes:

"The plan for the selection of executive positions for the final study called for securing 96 positions".

The questionnaire was completed by only 93 persons.

The factors delineated by Hemphill were:

1. Providing a staff service in non-operational areas.
2. Supervision of work.
3. Internal business control.
4. Technical aspects with products and markets.
5. Human, community and social affairs.
6. Long range planning.
7. Experience of broad power and authority.
8. Business reputation.
9. Personal demands.
10. Preservation of assets.

The above factors could be used either for profiling a job so as to determine its existing design and also for finding out the desired design; moreover, questions could be formulated to ascertain the experience-in-job of both the job holder and the role-set, especially with the help of the descriptor items.

Pheysey (1972) used some of the descriptor items from the Hemphill questionnaire to differentiate between jobs from different functions. A typical example of the contrasts presented by Pheysey is shown in Figure 3.6a.

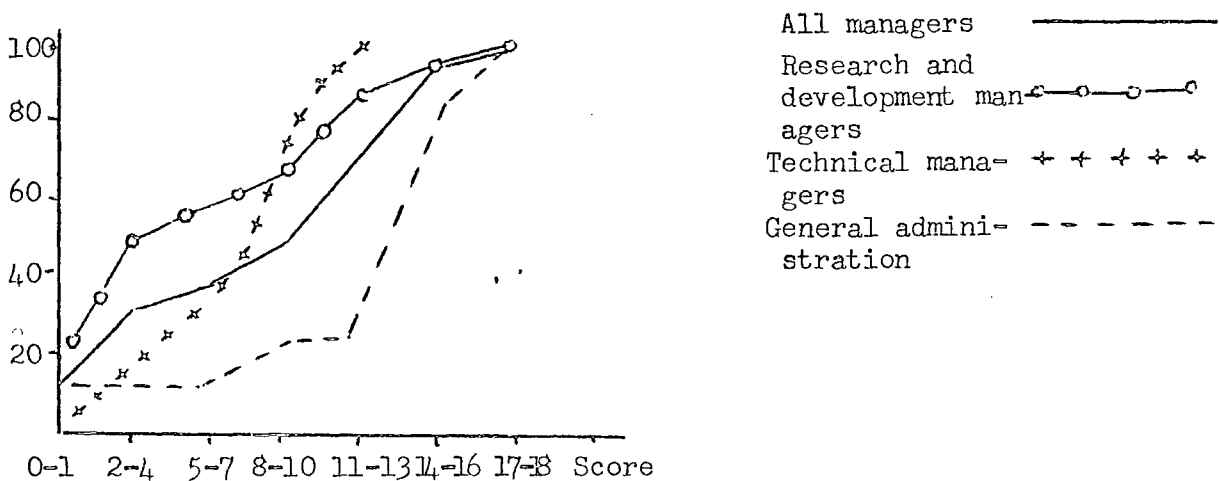


Figure 3.6a. Discrimination between functionally distinct jobs, on the basis of activities related to reviewing subordinate program

Pheysey also found that the three items of importance in managerial jobs are:

1. Trouble-shooting
2. Forward planning, and
3. Briefing subordinates

In Job Design Pheysey's list could be important: if the individual lacks the skills on these dimensions and these skills are necessary, then either the job would have to be redesigned or training arranged for the individual concerned.

McCormick, Jeanneret and Mecham Model

McCormick et al ((1959), (1972)) presented a "worker-orientated" factors model describing the managerial job. McCormick et al saw the use of their factor model in recruitment and determination of pay scales. The 1969 reference is to the Position Analysis Questionnaire (PAQ) itself; in the 1972 paper the researchers report their derivation of the factors. In the factor derivation study are two streams of descriptor items: one based on job elements from PAQ and the other based on a collection of job attributes. The attribute requirements pertained to constructs of an 'aptitude' nature. The study was, then, about "given a job to have a certain profile, what attributes link up with it". The PAQ consists of 189 job elements; the chosen attributes were 68 in all. The factors affecting each of the classes in PAQ were found to be:

1. Overall dimensions

- JO-I Decisions/communication/social responsibility
- JO-II Skilled activities
- JO-III Physical activities/related environmental conditions
- JO-IV Equipment/vehicle operation
- JO-V Information processing activities

2. Dimensions of information input

- JA-1 Visual input from devices/materials
- JA-2 Perceptual interpretation
- JA-3 Information from people
- JA-4 Visual input from distal sources
- JA-5 Evaluation of information from physical sources
- JA-6 Environmental awareness
- JA-7 Awareness of body movement/position

3. Dimensions of Mediation Processes

- JB-8 Decision making
- JB-9 Information processing

4. Dimensions of work output

- JC-10 Machine/process control
- JC-11 Manual control/co-ordination activities
- JC-12 Control/equipment operation
- JC-13 General body activity
- JC-14 Handling/manipulating activity
- JC-15 Use of finger-control devices vs. physical work
- JC-16 Skilled/technical activity

5. Dimensions of interpersonal activities

- JD-17 Communication of decisions/judgement
- JD-18 Job related information exchange
- JD-19 Staff related activities
- JD-20 Supervisor-subordinate relationships
- JD-21 Public/related contact

6. Dimensions of the work situation and job content

- JE-22 Unpleasant/hazardous physical environment
- JE-23 Personally demanding situations

7. Dimensions of miscellaneous aspects

- JF-24 Business work situations
- JF-25 Attentive/discriminating work demands
- JF-26 Unstructured vs. structured work
- JF-27 Variable vs. regular work schedule

The above dimensions and factors could be used to profile the jobs and formulate pertinent questions regarding the goodness of fit of the individual/organisation interface.

Dunham (1977) used the method of McCormick et al to perform Job Analysis in his study to determine Job Value through "Relationships of Perceived Job Design Characteristics to the Job Ability Requirements".

Frieling, Kannheiser and Lindberg (1974) report on the German translation of the PAQ. They tentatively suggest its use for job profiling in job design.

Tornow and Pinto Model

Tornow and Pinto (1976), building on the work of Hemphill, developed a Management Position Description Questionnaire (MPDQ), consisting of 505 descriptor items, and tested with 489 top, middle and first line managers. The responses were factor analysed. The plots of Eigen values indicated breaks at 7, 10 and 13 factors. The 13 factors are:

1. Product, marketing, and financial strategy planning
2. Co-ordination of other organisational units and personnel
3. Internal business control
4. Products and services responsibility
5. Public and customer relations
6. Advanced consulting
7. Autonomy of action

-
8. Approval of financial commitments
 9. Staff service
 10. Supervision

-
11. Complexity and stress
 12. Advanced financial responsibility
 13. Broad personnel responsibility

The above factors could be used for measuring the job and some of the 505 items used to formulate questions to draw out the experience-in-job of the job holder and his role-set. The author's personal communication with Tornow and Pinto elicited the CDC printed 505 descriptor items questionnaire, which along with the acquisition of Hemphill and McCormick et al instruments proved invaluable in framing questions in the Job Design study reported in Chapter 9.

Summary

Factorial descriptions of the managerial job in their detail and complexity are in stark contrast to the elemental simplicity of Fayol's model, yet each end of this spectrum offers insight into the managerial job. The number of factors potentially affecting any managerial job is clearly enormous yet it seems unlikely that all of them will ever affect one job. The author was, therefore, led to the belief that the rapid identification of the key contingent variables affecting any one job or group of jobs was an essential requirement for practical job design, i.e. it must be a facility offered by the information gathering system available to a job designer.

This point is taken up and developed in Chapter 8.

3.2.5. Characteristics Models

In this section are presented research works which have attempted to describe the managerial job on some characteristic or a set of characteristics which could be regarded as intrinsic composites of the managerial job. The

author has attempted not to present those models which are essentially depictive of the experience-in-job; however, it appears to be the case that in the past researchers have made no attempt to differentiate between the "levels" of the constructs. Modern behaviourists e.g. Argyris (1964) and Kornhausen (1965) have tended to suggest the domain or level of a construct to be important. Kornhauser (1965) for example suggests the following resolution of constructs:

<u>Stimulus condition</u>	<u>Perception</u>	<u>Affective response</u>	<u>Behavioural response</u>
Short-cycle	Monotony	Boredom	Absenteeism, turnover,

However, reports on the nature of the managerial job or description of the managerial job have not attempted to maintain their differentiation in compiling lists of characteristics. Where necessary, in the presentation of models to follow, this anomaly has been pointed out.

Jenkins, Nadler, Lawler and Cammann Model

Jenkins et al (1975) presented a model of job characteristics. They presented the model in terms of 19 dimensions - or characteristics. These 19 dimensions are:

1. Variety in job.
2. Autonomy in job.
3. External feedback - received by job holder from others.
4. Task feedback - possibility of evaluating own performance.
5. Rigidity/lack of adaptation (as perceived by others) in the job holder.
6. Certainty - job holders experience of predictability (or lack thereof) in demands on performance.
7. Conflicting demands.
8. Interruptions - both work and non-work related - while working.
9. Skills and abilities - high level, complex, intellectual demands.
10. Pace control - control over end-dates for work accomplishment.
11. Dependence, in work, on colleagues and boss.
12. Co-operation necessary with role-set for successful accomplishment.
13. Pressure for improved performance, or acceptance of excessive amounts of work.
14. Effort or hard work required in job.
15. Meaningfulness of work.
16. Ready availability of resources required for doing the job well.
17. Comfort/discomfort (physical or mental) experienced.

18. Locus of pace control (whether by boss, role-set, machinery, other departments, or outsiders, e.g. customers, clients, etc.).
19. Task identity - the degree to which the incumbent considers the tasks allocated as "entire piece of work", and could possibly experience a sense of ownership.

The above characteristics can all readily be used for formulating questions to draw out the incumbent's experience-in-job. However, the author feels that essentially three types of variables are included in the model. These three types are:

1. Job characteristics
2. Job holder's experience
3. Other's opinion

The only scale from the Jenkins et al list which belongs to the third of the author's suggested categories is number 5; scales numbered 13, 15 and 17 would fall into the second of the author's suggested categories; the rest of the scales would belong to the first of the author's suggested categories.

It is to be remarked that the job would be evaluated, on the scales categorised as characteristics, by the position incumbent, subjectively. An implication of this subjective measurement is that, in a given job situation, while a person may measure the job to be lowly endowed on a particular characteristic, say that of variety, others may rate the same job to be highly possessive of the same characteristics. Successful job design, then, is very much dependent on obtaining more than one view of the situation extant. Readers' attention is drawn to judgemental viewpoints discussed in Chapter 1.

Stewart Model

Stewart ((1974), (1976), (1977A), (1977B), (1978), (1979)) through a series of studies presented a number of characteristics descriptive of the nature of the managerial job.

A morphological typology based on "contact" type, gave a twelve cell classification of jobs as follows:

	Internal	Internal/ External	External
Hub			
Peer dependent			
Man management			
Solo			

It is possible to envisage that this typology, if explored systematically in the context of particular jobs, could produce indicators of the "best" way of performing a particular type of job. Such an approach to Job Design would have the drawbacks of proposing general solutions for specific problems and therefore run contrary to the contingent relevance of individual skills and experience. It would, however, have the advantage of putting the job designer in the position of having to explain which contingent variables made the "recommended" typology for a particular type of managerial job unsuitable or inappropriate in a given situation.

Another method of classification is by work pattern, based on the following constructs and characteristics:

1. Duration of activity
2. Time span of problem or decision
3. Periodicity of recurrent work
4. The occurrence of the unexpected, the urgent and the crisis
5. Time deadlines
6. Responding or self generating

Analysis by work pattern would only be of use in Job Design if linked to analysis of role incumbent's attitudes towards and aptitude for different work patterns. Again if such analyses were to be operationally relevant it would have to be a group exercise. If an individual lacks the personality factors which lead an individual to enjoy meeting tight time deadlines it is no good excising such items from his job unless there is someone in the group who thrives on such an environment.

Stewart deals at length with the concept of "exposure" with the broad meaning ascribed by her: "the exposure is a situation where the job holder

can make and must run the risk of making, mistakes or a poor performance, either of which can be unmistakably identified as his". She suggests that some jobs which score highly on the traditional measure of responsibility are not exposed by her definition. In job design, then, the implication would be to ascertain whether the individual shuns responsibility or whether he wishes to decline situations of exposure.

Stewart suggests the analysis of jobs in terms of a gestalt of three primitives: constraints, demands and choices. In these analyses, the underlying approach seems to be contingency based, in that Stewart does not explicitly state whether choice is good or bad. However, the overall impression created is that Stewart believes choice to be something good. In studies reported in Chapter 7, attempt was made to find out how practising managers view choice in their jobs to be affecting their satisfaction, contribution to organisational purpose or utilisation of personal potential.

Stewart proposes that choice, as a multifaceted variable, is measurable along the following dimensions:

- choice in delegation
- choice in supervision
- choice in technical matters
- choice in work for one's boss
- choice in participation in the management of the wider unit
- choice in external contacts
- choice in roles
- choice in output
- choice in altering boundary of job

The framework offers some advantages for analysing the jobs for redesign purposes. However, both in evaluating the design and the redesign effort, careful situational analysis is called for. This proviso is stipulated because the exercise of choice, say, that of delegation, has both the propensity for job erosion at the lower level as well as the capacity for job enrichment/enlargement at that level. If the senior manager decides to delegate something to his subordinates on the basis of his own dislike of, or inability to do, something, then the process viewed from the angle of the subordinate could be one of imposition from the top. The junior position

holder loses 'his choice' whereas the senior position holder has exercised his choice. If the basis of delegation were mutual understanding and the choice of delegation, held by the senior, increased the choice in job contacts at the lower level, it might be constructive for the whole organisation.

In like manner, 'choice in altering boundaries' arbitrarily exercised may result in altering other jobs in a dysfunctional way, from the viewpoint of the other job holders. Further, two or more jobs which are supposed to be different, may through the exercise of choice in altering boundaries, result in these becoming similar. If this reduction to similarity is prima facie considered dysfunctional, the jobs could be analysed for similarity/differences between them by some such method as the differentiating checklist developed by Dunnette and England (1957).

Summary of Characteristics Models

There seems to have been a shift over time (most notably in the work of Stewart) from generalised typologies, and research aimed at producing normative postulates about managerial jobs, to contingent analyses predicting choice on the part of the job-holder and thus raising the critical question of "Whose choice?"

In Job Design the choice could be the unilateral right of the job-holder (which Stewart implies but does not say) yet that would appear to be bound to affect others - quite possibly adversely.

Since co-ordination is clearly a key for managerial success, choice could be exercised as the result of negotiation or consensus within a group.

There do appear to be some ways of doing managerial jobs which are more highly regarded than others and if that is so, there could be a useful role for a managerial job designer who would put in the broad guidelines and support contingent interactive negotiation of the detail.

Certainly the diversity of models available to analyse the managerial job gives scope (and some need) to develop specialised knowledge and

understanding of how managers currently synthesise the elements in their jobs. The characteristics models give us insight into that process and the results of a field study into the "initiating" role in Job Design are presented in Chapter 9.

3.2.5. Effectiveness Models

Many researchers have investigated the behavioural patterns associated with performance effectiveness. It has to be borne in mind that effectiveness is a situational variable - what is effective in one situation may not be effective in another. A number of models - with their construct composites - are presented; the models convey the idea that effective individuals are involved in particular sets of activities. However, it is not to be assumed that those involved in activities other than those enumerated must therefore be ineffective. The suggested use of the models for Job Design would be to investigate reasons for the otherwise than known effective behaviour patterns. This investigation would then be a diagnosis of the ways the job needs modification.

Flanagan Models

Flanagan (1954) proposed models describing effective managerial performance. In complementary studies with Air Force officers and industrial research personnel he endeavoured to find out whether concepts of effective and ineffective behaviour differed. The method involved collecting item descriptors typical of effective and ineffective behaviour. The descriptors were grouped together to give dimensions. The dimensions of effective behaviour proposed in this model are:

1. Handling administrative detail
2. Supervising personnel
3. Planning and direct action
4. Acceptance of organisational responsibility
5. Acceptance of personal responsibility
6. Proficiency in military/research occupational speciality

The above dimensions of effective behaviour could be used to formulate questions to ascertain the views of the role-set as to how the position incumbent is performing - and thence to determine the degree of success/

failure of the existing design of the job.

Brooks Model

Brooks (1955) proposed a model for evaluating effectiveness of managerial behaviour. The model consists of 84 descriptor items divided into 10 dimensions. The dimensions together with subdivisions and the number of descriptor items indicative of effective behaviour are given below:

1. Planning	7
2. Organisation	4
3. Delegation	3
4. Initiation	6
5. Communication receiving	6
6. Communication giving	14
7. Relationship with others	20
(a) Association	8
(b) Co-operation	4
(c) Understanding	4
(d) Support	4
8. Utilisation	5
9. Control and co-ordination	9
10. Development of people	10

The descriptor items could be used in Job Design to ascertain the fit between the individual and the organisation.

Roach Model

Roach (1956) proposed a factor model for rating effectiveness. Roach used a 390 item questionnaire, and the response set precipitated 15 factors, of which he writes:

"These consisted of a general factor, a sub-general factor and 13 group factors. Three of the group factors are oblique to the sub-general factor".

The organisation of Roach's factors is shown diagrammatically in Figure 3.6b.

The explanation given by Roach for the bias or halo factor on the basis of item loading on factor is interesting and is reproduced:

"This factor is probably reflecting the tendency which is inherent in all rating scales, that of rating an individual high on all favourable statements and low on all unfavourable statements. If the rater has a favourable overall impression of an individual he tends to say that he is good in everything. This would tend to make all items or statements inter-correlate. In other words, there would be a positive correlation between all favourable items and a negative correlation between all favourable with all unfavourable items. As pointed out

by Wherry in a factor analysis of rating scale items a principal general factor will tend to emerge and will represent the bias component of ratings. This factor seems to be such a factor. It has moderate to high loading on all of the favourable statements. This, of course, is not a basic characteristic of supervisory performance but is rather a characteristic of raters. This may be considered as an artifact of measurement".

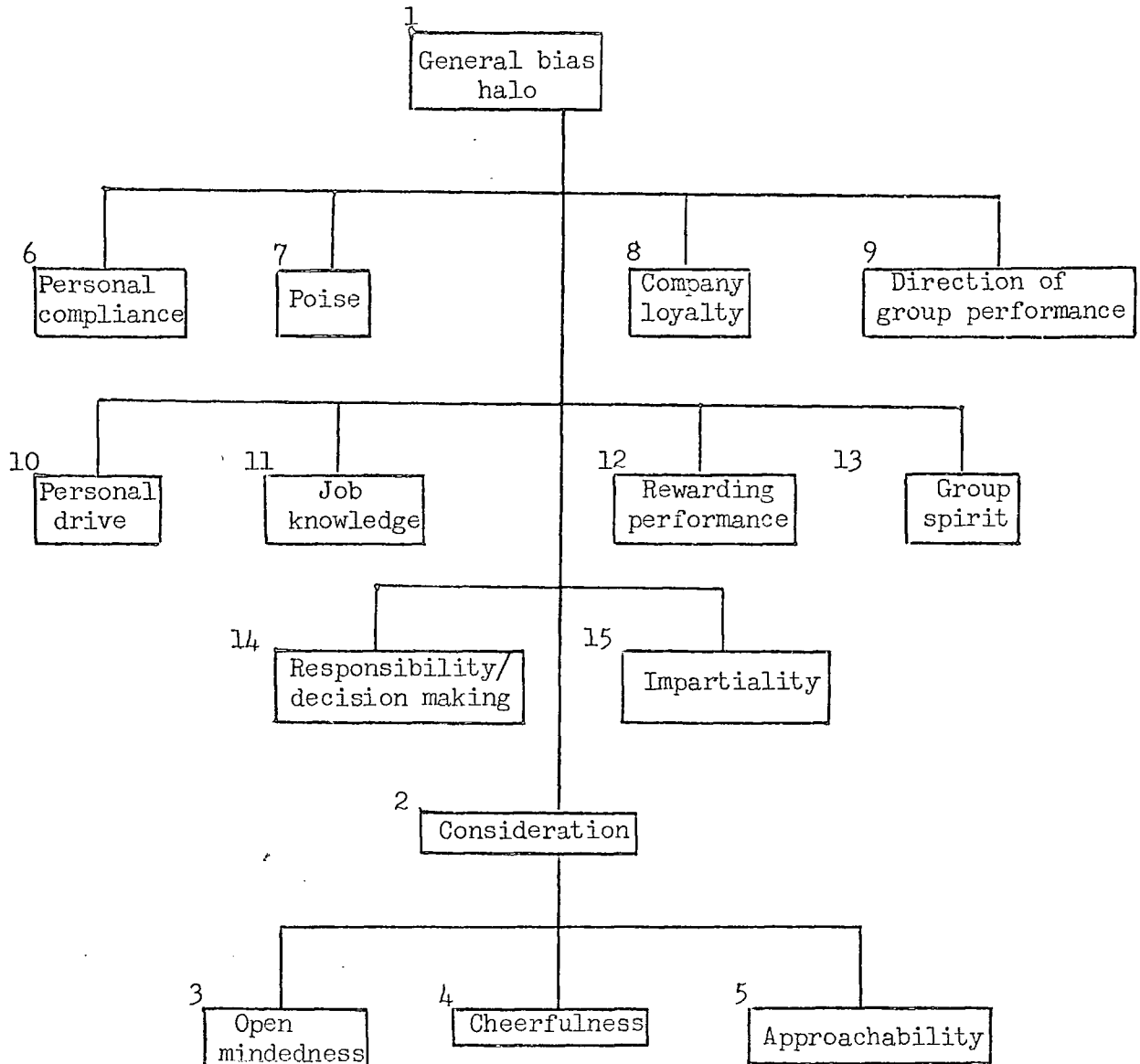


Figure 3.6b: Basic factor structure of Roach's Model

The thing that stands out in Roach's model is its personality or attitudinal orientation. The model could be of use in Job Design in determining the organisational experience-in-job. The role-set could state how well the incumbent is fulfilling their expectations of him; where these expectations are not being fully met, attempts could be made to link up failure to meet expectations in terms of the constructs delineated by Roach.

O'Neill and Kubany Model

O'Neill and Kubany (1959) conducted a study, the purpose of which was:

"to determine if the job content of effective production foremen could be differentiated from less effective foremen using the direct observation technique. Since the foreman activities were not rigidly defined, it was thought that good foremen, in effect, might be performing different activities, or activities in different proportions, than less effective foremen. If these differences could be identified, it would be possible to formally restructure the job on the model provided by effective foremen and then train all foremen in its performance".

The classification system adopted is quite unique. Each activity was simultaneously assigned to a class on two dimensions, one labelled "Function" and the other "Topics". These two dimensions and the classes within these dimensions are shown in Figure 3.7.

<u>Functions</u>	<u>Topics</u>
A. General contacts	1. Cost and salvage
B. Receiving information	2. Equipment, tools, jigs and fixtures
C. Giving information	3. Grievances
D. Giving orders	4. Housekeeping
E. Taking orders	5. Layout
F. Making requests	6. Material
G. Resolving differences	7. Methods
H. Training	8. Personnel
I. Emergency helping	9. Quality
J. Holding line job	10. Safety
K. Inspection - observing	11. Meeting production schedules
L. Inspection - repairing	12. Work standards
M. Chasing transport	13. Work status
N. Clerking	14. Others
O. Decision making	
P. Problem solving	
Q. Planning	
R. Others	

Figure 3.7. O'Neill and Kubany Model for classifying activities

Note that in this model, function could be regarded as micro-level coding while the topic classification would then be at the macro-level.

The model could be useful in job design for finding out the actual operations performed by the individual and linking these up with the macro-level activity like personnel, safety, etc. Statements of whether or not the incumbent is fulfilling the expectations held by the organisation could then be ascertained.

Kay and Meyer Model

Kay and Meyer (1962) report a study which attempted to:

- (a) Find out the nature and contents of the job.
- (b) Find out which behaviour patterns are effective and which ineffective.
- (c) Find out the differences in reports on performance as reported by the individual himself and as reported by boss.

Kay and Meyer delineated 8 dimensions, 7 specific and 1 general, on which the more effective production managers received higher ratings. These dimensions are:

1. Ability to handle employees
2. Ability to communicate to employees
3. Technical knowledge of equipment and methods
4. Cost reduction
5. Ability to plan and organise to meet production schedules
6. Quality
7. Co-operativeness with related functions
8. Overall ability

The interesting thing about Kay and Meyer's study is that the participants, although production personnel, when rated as effective, 'tended to report that they deal with fewer production problems'. An implication of this report is not, although it could be the case, that if a production manager is seen to be strongly involved in production problems then he must be inefficient. Rather it would be the function of the job designer to attempt to ascertain the reasons for the production problems. The logical argument here is that since it is the production manager's responsibility to ensure smooth running, and the fact that he is involved in such problems should be regarded as evidence of their grave nature.

Scholefield Model

Scholefield (1968) suggests a model of managerial work based on the following classification of the nature of work:

1. Operating activities
2. Innovating activities, and
3. Stabilising activities

Scholefield suggests that the view that led to this classification is based on consideration of the necessity to maintain a dynamic equilibrium

and development, as suggested by the General Systems Theory.

The advantage of this model of analysis arises from Scholefield's hypothesis, supported by evidence from Simon and March (1958), on how an individual manager is likely to behave. Scholefield writes:

".... executives choose to get involved in activities that the executive knows he can do well. They are things that he learnt to do years ago and that he is confident that he can bring to a successful conclusion. The chief engineer, for instance, immerses himself in design detail - to the intense annoyance of his competent design staff -"

"March and Simon argue particularly that tasks which have clearly defined objectives are usually the most rewarding. Coupled with this is a tendency to engage in activities which have immediate and definite 'deadlines'. Consequently, they predict that 'when an individual is faced both with highly programmed and highly unprogrammed tasks, the former tend to take precedence over the latter even in the absence of strong overall time pressures'".

Analysis of performance on the Scholefield suggested dimensions is, then, likely to suggest whether or not the incumbent is fulfilling the total responsibilities of his job or whether some aspects are not being correctly tackled.

Morse and Wagner Model

Morse and Wagner (1978) presented a model which is interesting in many ways. The researchers, from Mintzberg's gestalt of 10 roles, built a complex of 9 roles, namely:

1. Strategic problem solving
2. Resource managing
3. Conflict handling
4. Organising
5. Information handling
6. Motivating
7. Providing for growth and development
8. Co-ordinating
9. Managing the organisation's environment

These roles are different from those of Mintzberg. Two roles look deceptively similar to items on Mintzberg's gestalt; however even here there are differences as noted below:

<u>Mintzberg term</u>	<u>Morse and Wagner term</u>
1. Resource allocator	Resource managing
2. Entrepreneur	Providing for growth and development

Morse and Wagner, through literature and interviews with 'top level' executives, developed role descriptive items which clustered around the above-mentioned 9 derived roles. On the basis of test runs with 105 executives, 96 discriminating descriptor items were chosen for the final test on the 406 participants. From this data 6 factors were deduced. These six factors are:

1. Managing the organisation's environment and its resources
2. Organising and co-ordinating
3. Information handling
4. Providing for growth and development
5. Motivating and conflicting handling
6. Strategic problem solving

A replication study with 420 subjects was carried out and the above six factors again emerged with Eigenvalues exceeding 1.0.

The contingency perspective adopted by Morse and Wagner suggests the following two considerations for Job Design:

1. Managerial jobs are by nature such that in the dynamics of work, while one of the above listed 6 factors may absorb the attention of the job holder at one point in time another may do so at another moment - the cycle is unpredictable. The methodology adopted for building the descriptions of the job must be robust enough to capture the total job rather than the job at one moment in time.
2. The factors which do not, for a specific duration of time, receive the attention of the job holder, provided these are important enough on their own right, may be undertaken by members of his role-set. This would bring to focus the earlier discussion on unit of analysis. This would suggest that the unit of analysis should be such that total responsibility for some specific objectives must be spaced over the number of people whose jobs are being analysed; take-over on permanent or temporary basis of certain aspects of a job belonging to one person by another would be regarded as permitted, desirable or even legitimate. As mentioned earlier, the 'unit of analysis' question will be discussed fully in Chapter 8.

3.2.7. Concluding remarks on Section 3.2

A large number of models describing the managerial job have been presented. Some of these models could be used to profile jobs so as to compare and contrast between what exists and what should be. This would be the basis of diagnosing where job redesign could be gainfully initiated. Some of the models and the item descriptors which form the basis of many of the models presented would be the basis for formulating questions to be asked the job holder and his role-set for the purpose of diagnosing what is undesirable and what is good with respect to the design of a job. Such an analysis would then form the basis of a redesign effort, once the undesirable aspects of the current design have been ascertained. Some models define the components of the job which would be the building blocks, as it were, for the synthesis effort, once it is determined that synthesis would be desirable.

The material presented, although extensive, is by no means exhaustive - neither has the author presented all the material he has studied nor has he read all material that might be available. What does emerge clearly, however, from a study of this material is that the ways of looking at the managerial job are literally unlimited. Implications for experience-in-job could be drawn by measuring the job with respect to any job related construct. Take the case of the biographical writings on the doyens of business and enterprise. Dale's (1957) publication on how Henry Du Pont, the man who took on an ailing firm with debt of half a million dollars (and that in 1850!) and turned it into a leading company in the chemical trade also presents an insightful analysis on how he operated. To indicate its relevance and utility to Job Design the following extracts, to be regarded as typical, on Du Pont's behaviour are presented:

1. "He gave a good deal of advice but took little himself".

Under such circumstances of superordinate behaviour what kind of experience-in-job will a subordinate have?

2. "At meetings with department heads he received information in answer to his questions but gave little or none in return".

The above sketched attitude, applied not only to internal relationships but gave shape to external relationships too, as is evident from the following quote:

3. "We are every day dictating to our agents as to prices, terms, and conditions to govern them; we do not allow anybody to depict to us as to what prices, terms and conditions we shall dictate. We do our own dictation".

From the above two quoted passages, were the conditions represented to exist in a set of dyadic relationships, derivation regarding experience-in-job could be made. For example, in an analysis of the job of a manager, it might be found that the ill design is relateable to over centralisation, where the individual is being deprived of decision-making with respect to problems he faces every day.

4. Comparing a facet of managerial style - acceptance of innovation,

Dale depicts two Heads of the House of Du Pont as follows:

"While Henry worked by candle light and wrote laboriously by hand", (having rejected electric power and the typewriter), "the newest was none too modern at Repauno", (a factory run by one of the younger Du Ponts).

The above described situation juxtaposed in the context of boss changeover, does have implication for Job Design, for the possible experience-in-job that the subordinate managers may undergo at changeover.

Only four snippets are presented while the whole article is replete with situation descriptions which have implications for Job Design.

Holbrook's (1954) book, "The Age of the Moguls", is in similar vein. The author was unable to discover within the literature any particular model of describing the managerial job which seemed pre-eminently suitable to a basis for managerial job design. However, the search for a suitable model, i.e. a model which would lend itself to synthesis, was not stopped here; in the action research undertaken by the author, reported in Chapter 9, a further attempt was made to find a suitable model to analyse the managerial job for

Job Design synthesis purposes. A tentative conclusion would be: Any model that helps the job holders whose jobs are being analysed to understand and critically evaluate their jobs will do .

The Utility of Generalised Inferences on the Nature of the Managerial Job

The models presented in this section are suggested frameworks for the analysis of the managerial job. However, if a particular model is adopted for the analysis of specific jobs the model may prove insufficient in its coverage or in its level of resolution. These models could, therefore, be regarded as universalistic approaches. Marples (1967) in fact takes these aggregating tendencies to task. To show the weakness inherent and lack of consistency between models, two cases of derivable conclusions from these models will be discussed briefly.

Horne and Lupton (1965) whose model is presented in this chapter arrive at the following conclusion:

"Middle management does not seem on their showing to require the exercise of remarkable powers to analyse, weight alternatives and decide. Rather, it calls for the ability to shape the person-to-person channels of communication, to influence, to persuade, to facilitate".

This is a typical example of a universalistic conclusion, and that based on a respondent sample of 65 subjects only. Cross-checking the above cited assertion with another study, the one conducted by McLennan (1967) but one not fully presented in this chapter so far, throws doubts on at least the second half.

McLennan on the basis of a 65 item questionnaire completed by over 500 respondents at 3 managerial levels in 3 functions found that skill-items these respondents thought "highly-extremely necessary" could be classified as:

1. General (as opposed to functional)
2. Could be split two ways

In the analysis, communication was way down on grade of importance whereas decision making and analytic abilities were right on the top of importance grading.

The argument in this subsection lead to the conclusion that when analysing specific jobs more than one of the models discussed in this chapter, and perhaps even other models, may be necessary for analysis that would suit the purpose at hand.

Incidentally, there is empirical evidence to suggest that job analysis is affected by the sex of the analyst. Avery et al (1977), using the PAQ questionnaire, found that female analysts gave lower scores than male analysts across 22 PAQ dimensions. The differences although marginal were consistent. Implication for Job Design could be that if external job designers are involved, there might be differences in shapes of jobs designed by males and female job designers.

3.3. Methodologies Used

In the research reported in this thesis, the author was concerned with both theoretical standpoints and means of applying the theory - a theory without foreseeable implementation potential, where support for this criteria could be established through application on some other suitable means, not being the objective, the methodologies used in building the models describing the managerial job (those models reported in the foregoing section), were critically examined to ascertain their practical viability as well as cost and time effectiveness, for usage in Job Design.

In the context of the analysis which produced the models presented in the foregoing section of this chapter, methodologies can be conceptually differentiated by breakdown into components as follows:

- methods of data collection
- methods of deriving models
- purposes and possible uses of the derived models

In this section these three components will be discussed.

3.3.1. Methods of data collection

During the course of research reported in this chapter, the following 9 data collection methodologies were found to be used:

1. Diary - the subject manager keeps a record of his own activities
2. Interview - the researcher chooses the topic and discusses it with the subject manager
3. Observation - the researcher attaches himself to the subject manager and compiles notes on what he sees - 'live seeing'.
4. Archive - the researcher wins access to historical documents
5. Research partici- the research becomes part of the group whose acti-
pation - vities he then mentally notes and later reports
6. Radio transmission- the subject manager carries a voice transmission device and the researcher notes the broadcasts on a reception device
7. Films - the subject manager performs his tasks in front of a 'scene recording' device. The research then analyses this recorded data.

8. Questionnaire - the research produces a document listing questions to which the subject manager is asked to respond
9. Written statements - the researcher stipulates the subject to be discussed and the responding manager writes down statements/essays on the subject.

Each of the above listed methods will now be briefly discussed.

3.3.1.1. The Diary Method

The diary method of data collection requires study participants to record their own activities in a systematic manner. This methodology has been applied in a variety of ways. Some researchers, e.g. Carlson (1951), Horn and Lupton (1965) and Stewart ((1965), (1967)) provided participants with precoded data collection diaries and required respondents to record all episodes. Other researchers, e.g. Hannaway (1978), whilst also providing a precoded collection diary have only sampled, i.e. requested the participants to code activity only at certain times - Hannaway provided a special clock which sounded an alarm randomly, with a mean value of 15 minutes, and the respondent noted whatever activities he was involved in when the alarm sounded.

The diary method, using precoded forms, offers little potential for practical synthesis of the kind required for an operational system supporting proactive job design. The data generated using the method produces a rich and detailed picture of what the manager does, but denies the manager the opportunity to use his own language - the manager is forced to map all his activities, no matter what he regards them as, onto the vocabulary of the researcher. The different levels of abstraction at which individuals operate, and at which the same individual operates with reference to different aspects of his work, is lost. A further difficulty with the method owes to its lack of suitability in defining groups of jobs and individual jobs at the same time, and the sets of relationships which bind the jobs together. With regard to this last discussed point, the method could well be of use, as an adjunct to job design.

It would be helpful to use the diary method, before and after the process

of designing to assess whether the process had actually given rise to intended changes in either elements or process in the job. Linked to one or more models described in Section 3.2, the diary method using pre-coded instruments would offer these managers involved in job design a self assessment methodology. This assessment, which could be either voluntary or required, would provide a measure of the effectiveness of job design process in achieving the goals established for that particular job design programme.

3.3.1.2. The Interview Method

The interview method requires the researcher to induce study participants to spend some time responding to questions or engaging in conversation concerning topics of interest to the researcher. Variants on the main method are due to three factors:

- structure
- time domain of reference
- reportage requested

Structure refers to the degree of prior ordering that the researcher imposes on the way the interview is conducted, i.e. the particular strands, and the order in which the topics would be discussed. The purpose is to avoid deflection of attention to other issues, interesting as these might be.

Although the degree of structure can be visualised as a continuous variable whose extreme values are 'full' and 'none', it is possible to classify interviews on the following trichotomous classification

- open
- semi-structured
- structured

The time domain of reference alludes to whether the topic under discussion is past affairs, current affairs or future affairs. A note of caution is added by Dill (1960) on interviewing with respect to past events: retrospective studies rely too heavily on:

"The executive memories and understanding of events that took place
... years ago".

The reportage requested refers to whether the interviewer covers a range of details of the managerial job or whether, like Kay (1959), Flanagan ((1953A), (1953B)), for example, the items are those best described as critical incidents.

It is difficult to envisage managerial job design taking place without any form of discussions with the job holder concerned; a structured interview or discussion is likely to offer a psychologically supportive means of eliciting the job holder's reaction to the existing design-of-the-job, and to the process of job design. Since job design involves the fit between the individual and the job and between the job and the work group, there may well be information which the job holder would not write down or acknowledge publicly, but which may be vital for job effectiveness.

The interview is likely to follow up a questionnaire, in order to elicit information which the job designer has either not yet sought or which has evaded him thus far.

If job (re-)design is to be successful the job holder must feel that the redesigned job fits better and the fine tuning of such a process requires an understanding of the priority and relevance of detailed situational information which could really, and in a practical way, only be obtained by discussions with the job holder and the role set.

3.3.1.3. The Observation Method

The observation method is used when the researcher wins the permission to follow, unobtrusively, the activities of his subject(s). The observation, and noting of detail itself, is done by either the researcher or his appointed (and perhaps trained) agent. In the context of observation on the managerial job, the agents are sometimes employed by the researcher and sometimes are in the employment of the organisation where the study is being conducted (Carlson's (1951) use of secretaries and Stewart's (1978) use of trained observers).

The difficulty with observation lies in coding what is observed. Some researchers have attempted to code everything that is observed on pre-coded checklists. This approach was taken by the following:-

Burns (1954), (1957)
 Kay and Meyer (1962)
 Dubin and Spray (1964)
 Jenkins et al (1975)

Other researchers have sought to note everything which has been observed and developed the model either during or after the observation period. Key researchers to take this approach are:

- Luijk (1963)
- Mintzberg (1970), (1971), (1973), (1978)
- Stewart (1978)

Within this method further possible variations are due to:

- structure
- sampling

Sayles (1964), Hodgson, Levinson and Zalezink (1965)

and Dalton (1959) used unstructured observation;

O'Neill and Kubany (1959) and Mintzberg opted for structure.

Sampling variant was used by O'Neil and Kubany (1959) while others used total observation.

Whilst it is hard to envisage synthesis by observation, it is easy to envisage observation of synthesis. The author used observation as one of the methodologies in the action research on job re-design, described in Chapter 9. The importance of observation of the synthesis process lies in the understanding it can produce vis a vis why the results of some syntheses work while that of others do not; but a prior condition in arriving at conclusions regarding the results of synthesis - i.e. whether it works or does not, or what statements regarding the job constitute improvement, is a requisite theory of job design. As this last stated item is an important point, an example will be given. Supposing it is observed that the job incumbent and a third party are involved in a discussion on what, how and when the incumbent should undertake. The job design theory should state what possible causes are linked to this behaviour. Is it that the incumbent is attempting to

(i) define a role for himself; or

(ii) increase role clarity; or

- (iii) ascertain whether or not the work he does continues to be useful to others; or
- (iv) reduce/increase his job load.

That observation alone of the synthesis process may not produce the right answer should be clear from a consideration of the above list of reasons. The hazardous nature of divining cause from human behaviour is well illustrated by Luthan (1977) who, commenting on the simple scene of an individual dining in a restaurant, writes:

".... the man's eating behaviour in the restaurant may not be based upon the hunger motive. Maybe he was having an extra-marital affair (sex), and the restaurant provided an out-of-the-way meeting place. Another possibility is that the restaurant has a prestigious reputation and he wanted to be seen there (status). There are numerous other possible motives behind the eating behaviour in the restaurant".

Just the same as only a theory of motivation can help explicate behaviour, a theory of Job Design would be the prerequisite for explaining observations noted/beheld in the process of synthesis.

Nevertheless, observation of the process of synthesis would be helpful in theory building itself. The noting of behaviour followed by questioning the participating individual as to the reason for behaviour would be useful for theory building.

3.3.1.4. The Archive Method

In this method the researcher organises permission to access the individual's/organisation's records. The documents could be investigated on an ongoing basis, i.e. as they arrive, as was done by Mintzberg (1973); or it could be the case that the researcher has access to historical, i.e. past documents, for example, the investigator in 1980 has access to records from 1979. Dale (1957), and Halbrook (1954) followed this latter procedure.

For purposive synthesis, this method seems to offer very little. Where jobs have evolved over time, whereas it might be helpful to find out how the jobs acquired their extant form and shape, it might well be just as instructive to get this information from the current job holders. This argument is,

additionally, based on the fact that (1) historical job descriptions may not always be available, and (2) those historical position descriptions that may be locatable could be intended for previous occupiers working with a different role set. The greatest potential use of past information would be to find out whether the positions being analysed have undergone technological or demand changes that affect individual or organisational experience-in-job. This information, the author believes, could be acquired by interviews with present incumbents.

3.3.1.5. The reporter as participant or theoretician reporting

Often, and some of the most insightful, material on the nature of the managerial job is published under the authorship of individuals who have themselves participated in management. Examples of this are the works of Fayol (1916/1971), Barnard (1938).

For some, experience gained in field management leads to consulting/academic appointments. The following authorities would fall under this category:

Gulick (1937), Urwick (1943/1961); Brech (1960);
Wilfred Brown (1971)

Those basing their argument on theory, at least in the reports, (which does not preclude prior experimentation and consulting) are:

Scholefield (1968)
Chapple and Sayles (1961)
Giglioni and Bedeian (1974)
Wellin (1978)
Lowe and Puxty (1979)

The parallel of this method for Job Design would be the case of the position incumbent himself contributing to designing. The paucity of literature reports on how this happens prompted the author to investigate the phenomenon as an aspect to the Job Design survey reported in Chapter 6.

The literature reported study which comes nearest to self-design is the Strauss (1962) paper entitled, "Tactics of Lateral Relationships: The Purchasing Agent". In this paper Strauss, on the basis of interviews with 142 purchasing agents, is led to the conclusion:

"... the work behaviour of the agents is strongly influenced by 'lateral' negotiations. The ambitious purchasing agent skilfully uses formal and informal techniques in order to influence the terms of the requisitions that he receives. Thus he introduces a two way flow and in this way raises his own status".

This study gives a clue to the process used in operationalising the job, within the job description - the negotiation process. This concept is important and will be taken up again in Chapter 8, where the objective is to define the process characteristics for a managerial job design methodology.

3.3.1.6. The radio transmission method

This method is in operation when the subject managers agree to carry transmission equipment so that even when the researcher and subject are not in visual contact, one way, oral contact can be maintained. Of course, the transmitted voice could then be recorded for later analysis.

This method was successfully adopted by Beishon and Palmer (1972). The way they describe the study organisation seems a bit unwieldy but the researchers say:

"Initially people were of course conscious of the presence of the microphones, but it was evident that after a day or so most people took no notice of it".

However, even Beishon and Palmer decided to:

"Supplement the tape record of the verbal activity with observer's notes".

The observer's note taking itself was, however, recorded in a novel way.

The observer used two techniques:

1. Pre-prepared form filling
2. A running commentary of subjective impressions which was radio transmitted

Chapple (1949) reports the invention of a very interesting device, called the chronograph, a modern substitute for which might well be the tape recorder. Although the recordings were interpreted by Chapple in the psychological frame of reference, these could just as well be analysed from other viewpoints. The inventor, in fact, used the machine for other applications; later he recommended the machine for time and motion type of studies.

For both job analysis and purposive synthesis, this method seems to offer the least. This direct, first hand, method of data acquisition would be excessive in application to most managerial jobs.

3.3.1.7. The film method

Mintzberg (1973) reports the use of videotape camera on managers while the latter were at work, by Radomsky. The collected tapes were reviewed the next day with the subject participating; this permitted Radomsky to ask specific questions regarding the reasons involved in certain decisions taken.

This method, for both job analysis and synthesis, appears to offer little. The only purpose filming could serve would be in: (1) post mortem analysis; (2) providing records in instances where future contention is suspected, or (3) in cases where the film could be used for teaching purposes. This last mentioned use does have development prospect: if an ideal, or at least operationally successful, method of designing managerial jobs could be devised, then filming it may help in teaching others how to conduct the job design process.

3.3.1.8. The Questionnaire Method

This involves the researcher winning the co-operation of subjects to complete, by giving answers to, question items formulated by the researcher. This method is increasingly being used by researchers. A pre-requisite for questionnaire design is a reasonable knowledge and understanding of the subject (topic) under investigation. The popularity may, in part, be due to enhanced understanding of the nature of the managerial job.

This line has been used; among others, by:

1. Shartle (1949), (1957)
2. Fleishman (1953)
3. Saunders (1956)
4. Roach (1956)
5. Dunnette and England (1957)
6. Hemphill (1967)
7. McCormick, Jeanmeret and Mecham (1972) and Dunham (1977)
8. Pheysey (1972)
9. Turnow and Pinto (1976)
10. Morrison (1977)
11. Morse and Wagner (1978)

In Job Design this method appears, to the author, to offer the most for confirming diagnosis once the initial propositions on Job Design failure have been delineated. Its use for deriving the initial job description (or the initial experience-in-job), on the other hand, appear to be small - for to draw up a questionnaire is to know what is in the job (or the types of experience-in-job that one is attempting to elicit).

3.3.1.9. Statements/Essays written by the subjects

In this method the subjects are asked to participate by writing essays on the topic(s) given by the researcher. This method was used by:

Roach (1965)

For Job Design purposes, considering the fact that job design and re-design are ongoing processes, this method, especially for synthesis purposes, appears to be labourious. Probably the effort required to write essays would be more than necessary for job design. The author speaks from his own experience of attempting:

1. To write clearly
2. To mark scripts from his students

For building models, where the basis of model building is aggregation, it would be difficult enough to separate out the themes to be aggregated but for getting the individual experience-in-job, the cause and effect relationships might be completely missed out. Even if the method is used it might have to be supplemented with interviews.

3.3.2. Choice of method for data collection

A possible tentative conclusion from comparing the above methods of data acquisition could be that the final choice may depend on:

- how much the researcher already knows about the nature of managerial job
- how much data he requires, or will suffice for him to conclude his work, given the constraints of:
 - necessity of seeking co-operation
 - funds and time available

3.3.3. Comparison of Methods

With the exception of two methods - namely the filming and the radio transmission methods - researcher comments on the merits and demerits of the various methods are well documented in literature. Here are presented only a small selection of comments.

According to Bieshon and Palmer (1972):

"Diary and self recording techniques suffer from bias introduced by the man under study, and this will occur no matter how well intentioned he is. Hesseling (1970) has provided convincing evidence of this by showing that two or more people record quite different accounts of their interactions. Horne and Lupton (1965) also report that inaccuracy occurs with retrospective diary keeping and that even immediate self recording gives biased data. Burns (1957) and Stogdill (1956) report similarly".

Discussing methodological problems arising from the use of observations

O'Neil and Kubany (1959) write:

"The broad claims made by proponents of direct observation as an appropriate measure of supervisory behaviour do not appear to be justified"

Kay and Meyer (1962), although not as categoric as either of the above quoted sets of authors, appear to favour the self-reporting method:

"Although the observations revealed data which were extremely interesting and valuable, the direct observation approach was quite time-consuming and expensive".

and, later:

"The pilot investigation revealed that self report as to how" (individuals) "spent their time or how much emphasis they gave to general areas of job responsibility did not agree well with the data collected by observers in the period they spent with the same men. It seems probable, however, that a self-report form which would focus on more detailed activities might be subject to less distortion".

To a certain extent there are variations in the pace of work in most organisations. Burns (1957) found in his seven organisation based study, that patterns of behaviour deviated from the expected, over specified periods of work overload. This fact might explain the above quoted remark.

On the other hand, Jenkins et al (1975) on the basis of a comparative study - company observation against self report - conclude favouring the observation methodology over self report.

The questionnaire methodology offers the possibility of increasing the number of participants in the study. Its main drawback, however, is that it requires the researcher to have reasonably developed knowledge of the subject he is about to study - to make the questions as specific as possible. This method is often used in conjunction with statistical procedures for analysis.

The interview methodology makes high demands on researcher's time. Reduction in time spent can be obtained by structuring the interview, but the act of giving structure demands that the researcher already knows a reasonable bit about the subject in hand. Structuring of either the interviews, (Kotter and Lawrence (1974)), or the observation, (Mintzberg (1971)), has been successfully used in research projects.

The archive methodology has been used by Dale (1957) in the biographical perspective; by Machiavelli (15??) for prescriptions for "The Prince" and in the "Discourses"; by Mintzberg (1973) as an additional source for his study on the nature of the managerial job.

Flanagan (1951) who popularised the use of critical incidents methodology (CIM) writing on the advantages of its use, states the technique:

".... tends to substitute data for impressions and opinions. It provides a relatively precise and comprehensive definition of effectiveness on the job in terms of what people actually do on their job. The critical incidents are reported by qualified observers of things people did which were especially effective or ineffective in accompanying important parts of their job. The vague hunches, the stereotypes, and the poorly defined traits such as character, imagination, and foresight are replaced by reports of observed incidents which are detailed and specific".

Flanagan had applied the CIM to study effective and ineffective behaviour.

Fineman (1975) gives a detailed report on the progress of a field experience, from which the following excerpt is reproduced:

"We had a considerable wealth of information on disagreement between the job holders and their supervisors on what was considered an effective behaviour. Some of the disagreements were dramatic, where the foreman considered a specific aspect of behaviour as

very effective, and the superintendents and/or production manager saw that some behaviour is very ineffective.

The two above quotes suggest that 'criticality' within the incident is a subjective matter and without cross checking the preceding circumstances and post-ceding circumstances judgements on negative or positive may not be possible. Then again, it could be the case that really two equally effective ways exist - from the principle of equifinality in GTS - and the individuals promote only their own viewpoint. Nevertheless, on the basis of the above contradictory evidences on the methodology, it could be suggested that its use would probably weaken any deductions arrived at.

A general methodological consideration would be the correlations between the items within any specific classification. Fleishman (1975), while discussing criteria for the evaluation of classifications suggests that the criterion could be the requirement that classes within the system be mutually exclusive and exhaustive. None of the models presented in the chapter could stand up to this rigorous demand could be indicative of the excessiveness of the criterion - on the other hand it does make the author wonder as to what effort the researchers involved did make to derive criteria before attempting classification.

3.3.4. Methods, Models of Analysis

The models descriptive of the nature of the managerial job have been presented in Section 3.2. Here will be presented a summary of the methods of analysis. The author sees a number of different methods being used by the researchers whose work has been presented in Section 3.2, and these are summarised in Figure 3.8.

$J=1 \dots 5$ $i=1 \dots 4$	Elements 1	Classifi- cation 2	Dimen- sional 3	Factorial 4	Characteri- stics 5
1. enumeration					
2. time-spent	-			-	-
3. input-output	-			-	-
4. linking of concepts	-		-	-	-

Figure 3.8. Methods of data analysis

The tabular arrangement of Figure 3.8 indicates that the methods of analysis could be classified by assigning indices i and j , where i confirms position with respect to the vertically listed class and j confirms position with respect to the horizontally listed class.

1. (1,1) = Fayol (1916/1971); Gulick (1937); Urwick(1943/1961); Brech (1960)
2. (1,3) = Kay (1959); Sayles (1964); Mintzberg ((1970); (1971); (1973); (1978)); Morrison (1977); Wellin (1978)
3. (1,4) = Fleishman (1953); Saunders (1956); Hemphill ((1959), (1960), (1967); McCormick et al (1972); Tornow and Pinto (1976)
4. (1,5) = Stewart (1978); Jenkins et al (1975); Stewart (1976); Dummett & England (1957)
5. (2,2) = Carlson (1951); Burns ((1954), (1957)); Chapple & Sayles (1961); Luijk (1963), Horne & Lupton (1965); Stewart (1967)
6. (2,3) = Shartle ((1949), (1957))
7. (3,2) = Kay and Meyer (1962)
8. (3,3) = Scholefield (1965)
9. (4,2) = Lowe & Puxty (1979); Giglioni and Bedeian (1974)

3.3.5. Use of the Analysis of the Nature of Managerial Job

The researchers whose work is reported in this chapter have sometimes stated the use to which their work could be put, but sometimes have failed to do so. In this latter case, the study is attributed to be phenomological and the purpose assumed to be the reader's 'increase in knowledge' of the nature of the managerial job.

A classification of the purpose and uses of the studies reported in Section 3.2 is as follows:

1. Phenomenological (increase in knowledge)

Fayol (1916/1971); Gulick (1937); Urwick (1943/61); Lowe & Purty (1979); Giglioni & Bedeian (1974); Carlson (1951); Burns ((1954), (1957))

2. Classification and measurements of effective behaviour and ways of improving performance

Luijk (1963)
Fleishman (1953)
Flanagan (1954)
Kay and Meyer (1963)
O'Neil and Kubany (1959)
Scholefield (1965)
Morse and Wagner (1978)

3. Organisational purposes

- (i) recruitment: Shartle((1949, 1957); Saunders (1956)
- (ii) job description: Chapple & Sayles (1961)
- (iii) job design, self: Stewart ((1967), (1972)); Mintzberg (1973)
- (iv) job design, group formation: Wellin (1978)
- (v) job design, suggested ways: Sayles (1964); Jenkins et al (1975)
- (vi) performance evaluation: Kay (1959); Brooks (1955); Flanagan (1954);
Roach (1956)
- (vii) adaptation to job modification: Morrison (1977)
- (viii) placement/selection: Roach (1956); Hemphill ((1960), (1967));
Stewart (1976)
- (ix) job evaluation: McCormick et al (1972); Stewart (1976)
- (x) salary determination: Tornow and Pinto (1976)
- (xi) training/management development: Flanagan (1954); Roach (1956);
Blake and Mouton (1964);
Phasey (1972); Stewart (1976);
O'Neill and Kubany (1959)
- (xii) career planning: Stewart (1976)
- (xiii) job designation: Dunnette and England (1957)

3.4. Concomitants to the Design of a Job

The managerial job, as described so far in this chapter, has been a static entity or, at best, like a cine-still freezing the dynamic activity at a single point in time. Any study of managerial Job Design must seek to set "the managerial job" in the content of the organisational processes and events which cause a job to come into existence, develop, change and then, when appropriate, cease to exist: The material in this section, like that in the previous sections, is drawn from extensive research through the literature on managerial jobs. During this research the author developed a pictorial model of key organisational processes and events which shape a managerial job; this model is depicted in Figure 3.9.

The processes and events shown in Figure 3.9 serve to condition the experience-in-job of both the job holder and the organisation. The remainder of this section discusses the different items, and some of the important relationships between the items of Figure 3.9.

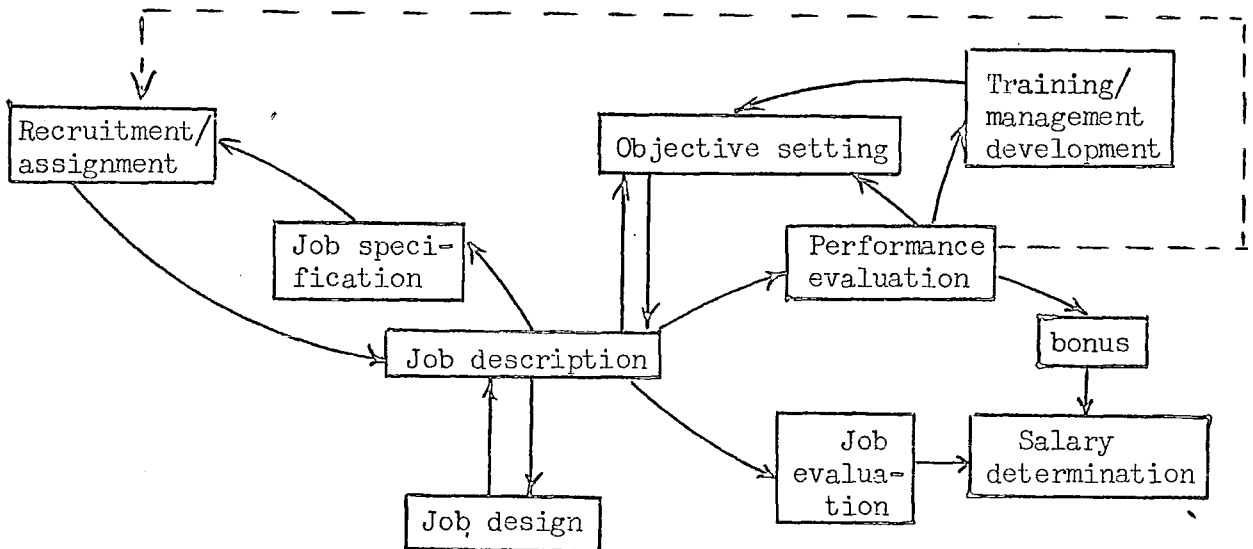


Figure 3.9: Organisational process, events and entities linked to the design of a job

The existence of the description of a job does not indicate, per se, whether or not the job has been designed, or whether "the design" meets the need of the current situation. This contention is derived from the concepts, of systematic and systemic growths, internal to General Systems Theory (for GST see Emery (1969)), and the notions of formal and informal work patterns coming from Organisational Theory (see March (1965)).

The events and processes discussed in this section either give form to the job or take the duties, tasks, responsibilities and roles of a job as given, and affect the job holder's experience-in-job. The conceptual linkage of these processes and events is their dependence on some form of job description based on analysis. Some of the processes and events that are discussed in this section were the reason for the development of some of the models describing the managerial job presented in Section 3.2 and as discussed in Section 3.3.5.

The author's acquisition of material, through personal contacts, from the HAY-MSL (1966) consulting group, suggests that the same job description could be used for many purposes, some of which are:

- Job evaluation
- Organisational analysis
- Performance appraisal
- Selection
- Management development

Tait (1965) in his documentation for the British Institute of Management also indicates multiple uses for the same job description.

However, and with specific reference to analysis of jobs so as to perform synthesis, Dumas and Muthard (1971) suggest that special techniques for analysis may be necessary for Job Design. These researchers wanting to analyse the physical therapists' job, with the view to shift some of the duties to technicians, attempted to adopt the well established task-inventory approach for analysing jobs, but rejected it because:

".... it does not provide a description of tasks as they occur sequentially. Thus, it would not enable the data to be used for such purposes as determining extent to which specific tasks can be separated from the other work of highly trained professionals and reassigned to technicians. Further, it would not enable simulation models to be prepared that would provide administrators with information regarding the impact of various changes on other aspects of the total system."

In view of the material presented earlier in this chapter - specifically the Lowe and Puxty framework for viewing the connectivity between constructs, and the Chapple and Sayles work flow analysis, the author favours the Dumas and Muthard suggestions that, at least for Job Design, special methods for analysing the managerial job are called for.

3.4.1. Job Specifications

The philosophy and underlying purpose served by job specification according to Fayol (1916/1951) is that for each group of activities there exists a corresponding special ability, which can be identified, e.g. technical ability, commercial ability, financial ability. Further, Fayol suggests, each of these abilities is based on a combination of qualities and of knowledge which may be thus summarised:

- physical qualities
- mental qualities
- moral qualities
- general education
- special knowledge
- experience

Stewart (1956) suggests that a specification serves the recruitment/ placement process by giving an outline of the kind of person to be recruited, in terms of education, experience, etc. Pursuing, as it were, this line of thinking Denerley and Plumbley (1968) quote Alec Rodger as having suggested that:

"If matching is to be done satisfactorily, the requirements of a job must be described in the same terms as the attributes of the people who are being considered for it".

One of the main targets, then, for job specifications is that the job should be analysed within a framework which allows interpretation in human terms, i.e. qualities to be possessed (or attributes for exclusion) by the individual to be recruited.

One of the earliest efforts at preparing job specifications through analysis that the author was able to trace is that done by Viteles (1922), who noted the rather vague nature of job titles. He found that jobs given

similar titles often required different skills, and jobs with different titles often required the same skills, experience, knowledge or competencies on the part of the job holder. For job specifications to be useful to potential candidates, these must include as much information on the job content and context as incumbents would require to perform well.

Although some authorities, e.g. Boydell (1970), suggest a limited focus for preparing job specifications, others suggest a broader focus. Of the broad focus frameworks for analysing the job for the purpose of preparing job specifications the two most commonly used, according to Armstrong (1977), are those due to Munro Fraser (1954) and Rodgers (1952). These two frameworks are often referred to as the five point and seven point plans respectively.

The five point plan covers the following factors:

1. Impact on other people
2. Qualifications
3. Brain and abilities
4. Motivation
5. Adjustment

The seven point plan is based on the following factors:

1. Physical make up
2. Attainments
3. General intelligence
4. Specialised aptitudes
5. Interests
6. Disposition
7. Circumstances

Randell (1975) suggests that job specifications should be composed under the following headings and sub-headings:

1. Job capacity analysis
 - 1.1. Essentials
 - 1.2. Desirables
 - 1.3. Disqualifiers
 - 1.4. Undesirables
2. Job inclination analysis
 - 2.1. Sources of alienation
 - 2.2. Sources of conflict
 - 2.3. Sources of motivation

Randell's approach appears to offer advantages, not the least because he also suggests tests that could be used for objective assessment of the candidate.

The preparation of job specifications draws a circumference within which the person recruited can operationalise his job from the time he starts to do it.

3.4.2. Recruitment

In the course of normal work, organisations recruit people with varying degrees of knowledge and experience. The recruits could crudely be split into those who are envisaged to progress to more definitive positions after experience and learning and those recruited to discharge specific duties. Obviously people in the latter category may subsequently have to be moved, either for reasons of employer necessity or at employee request. For the moment, the concern is focussed on those who fall into the first category. Jobs for these individuals would have to be designed in such a way that it both suits the individuals and serves the company purpose. For recruiting the younger person, companies often prepare literature, typical of which are the Rowntree-Mackintosh (1980) brochures for graduate entrants, which depict the opportunities available in the organisation. However, important defects in the design of jobs can be related, according to Penzer (1973) to:

".... at application level, overzealous recruiters search for the most talented without considering how long these 'hi pos' will remain in entry jobs well below their level. While such standards may be appropriate where rapid company growth and an abundance of promotional opportunities are anticipated, they do not make sense in business suffering the back lash of recession and a manic-depressive economy".

Bowman (1977) labels the above phenomenon, i.e. the difference between the individuals abilities and the utilisation of his abilities, as the 'expectations gap'.

The problems are further complicated because, whilst obviously no test used in recruitment is infallible, some tests are not even properly designed (see Higham (1975)). Raubenheimer and Tiffin (1971) and Hine (1962) assess that typically the empirical psychologists' conclusion regarding assessment prediction are of the type: relative reliability as opposed to 100% reliability. This then suggests that even if a person were recruited for a specific position, experience may indicate the desirability of modifying the job

(or transferring the individual) so as to use more fully the potential that the individual does possess. While focusing on this aspect of Job Design, notice is drawn to the work of Shartle reported in Section 3.3 which indicated that Job Design adjustments may involve the realignment of the work patterns of the role-set.

As the cost of turnover is high, Watson (1978), it benefits organisations to be discerning in recruiting the right people. Decker and Cornelius (1979) discuss job survival rates from various recruiting sources. Wanous (1978) suggests that a job preview helps to increase job survival and is, therefore, of value in recruitment. An explanation of why the job preview works may be the following:

"Applicants referred from employment agencies and newspaper advertisements may tend to get only positive information about the job and hence receive a less realistic picture of the job and the organisation".

This view is offered by Decker and Cornelius as a possible cause for the high rate of non-survival from respondents recruited through employment agencies and newspaper advertisements.

The cost of recruitment also being high, techniques for raising job acceptance rates are a subject of research (see Ivancevich and Donnelly (1971)). One technique is to hold the attention of the prospective, desirable candidate by conveying positive impressions. However, the image conjuring may come to nought, if on joining the individual discovers the reality to be different from what he had been made to believe. Muna (1980) discusses problems of retaining employees, in a competitive environment, once they have been attracted. The likely sources of dissatisfaction are the job context and content factors.

Above, it was noted that transferring the individual may be an alternative. Transfer itself may or may not be successful in terms of achieving a fit in the new position. At a certain stage redesign may still be necessary.

3.4.3. Job/Position Descriptions

According to Famularo (1971):

"A position description should provide a full understanding of the contents and objectives of a job by defining and clarifying its responsibilities, authority, relationships and accountability. The important thing is to come up with a concise description of what the job requires and what the employee should do".

Job descriptions can be of help in personal selection and assignment. In situations where a number of staff are jointly responsible for some activity, and a member of the team leaves, the following situations may obtain:

1. The job patterns of the individuals fitted well into a whole. In this case recruitment of an individual who would fit well into the existing pattern would be desirable.
2. The work pattern situation needed adjustment. In this case, the criteria for selection would be with respect to the new, desired work pattern.

Although the concept of job description as a single person document is well entrenched (Overend (1974)), the foregoing argument suggests that having group job descriptions would be of benefit. The accrued benefit is in terms of knowing exactly how one job fits into a set of related jobs. This knowledge could be of help in Job Design since it defines the effectiveness of the Job Design for one role-incumbent as being partially dependent on the outcome for those with whom the role incumbent interacts - which is one of the key individual/organisation interfaces.

Well defined position documentations could be useful for training purposes. Once the training needs of an individual have been defined, search could be made on the position description to locate positions where the individual would be more likely to be faced with work which would give him the required knowledge and confidence. An organisation-wide system of job descriptions would help in the running of job rotation schemes, which have the purpose of providing the requisite variety to release individual energy, (Boyce (1973)), as well as to gain valuable "integrating" experience.

Training by rotation can build "back-up" coverage for the organisation. This back-up provides resilience so that the organisation can smooth over

transactional situations caused by individuals getting fired, quitting or having to be transferred to other jobs.

Job descriptions can help the process of manpower planning in determining succession plans for individuals on the basis of ability requirements of the various jobs and the individual's tested abilities, and opportunities provided in the various positions held by the individual so far.

Job descriptions would help in job design in defining the situation extant with respect to which the organisational and individual experience-in-job could be used to ascertain the degree of individual/organisation fit.

Opinions on the generation of job descriptions are by no means unequivocal. Britton (1974) writes:

"Writings and maintaining job descriptions for all positions in the company is non-productive".

Later, Britton (1975) attacks job descriptions again, when he writes:

"One of the largest banks in Chicago has 2,500 job descriptions. There is no way in the world that anyone can get on top of such a pile of paper".

The arguments are not very convincing, given the potential uses that have been suggested in the foregoing paragraphs. One of the fallacies of Britton's argument lies in his assumption that job descriptions should help in salary determination - an area where he is a specialist.

A second (and in the context of purposive managerial job design, possibly more important) fallacy lies in the assumption implicitly underlying the phrase "... anyone can get on top of such a pile of paper". The assumption here is clear. One or more people should be "on top of" the job descriptions of others.

This autocratic, centralised, hierarchical view of the job designer may or may not be the "most appropriate", or "best" way of running job design, but the quotation raises for the first time in this chapter a topic which was to become central to the author's consideration of who is currently involved in job design in organisations (the results of the author's survey are

discussed in Chapter 6) and who should be involved in facilitating, or implementing, a corporate job design policy (the views of the author on this are presented in Chapter 12).

Another critical view of job description comes from Jenkins et al (1975). On authority of two studies, conducted respectively by the two sets of authors Hackman and Lawler, and Turner and Lawrence, Jenkins et al question the extent to which the job descriptions available in an organisation reflect what the individual job holder in fact does. Jenkins et al write:

"Employees who hold the same 'jobs' may in fact perform very different 'jobs'. Thus if objective ratings of jobs are to be maximally useful for predicting individual behaviour and attitude, ratings of job characteristics must be made for each holder".

Given the nature of the managerial job, in particular Stewart's (1976) concept of choice in the job, discussed in Section 3.3, the organisation-provided job description usually only helps the job incumbent in operationally defining the things he has to do. Both the things the individual does and how he does them may be related to the particular circumstances in which he finds himself. Suffice it to say, in an investigation which could result in a re-design effort, the official document may not prove of much utility. Jenkins et al's point of view is important and will be taken up later in Section 3.4.5.

The argument of Jenkins et al revolves around the purpose of job descriptions, and the method of generating these descriptions, provided the purpose is defined to be the facilitation of performance and help the organisational processes discussed earlier in this section. Towards these ends, Farnworth (1971) suggests that the description be stated in three parts with the following contents to each part:

Part 1: Job details

- Job title
- Department
- Location
- Reporting to
- Supervisor of
- Date written
- Approved by name/title

Part 2: Job responsibilities

- Overall objectives (itemised list)
- Key tasks (itemised list)

Part 3: Current working targets

- Itemised list of targets, with dates for completion and where possible quality and quantity of defining the targets

It is noticeable that there is a differing degree of permanency regarding the three parts. Other ways of generating job descriptions may or may not differentiate between job descriptions and target plans, this one does.

A good job description needs to be available to the managerial job design practitioner, for it would define the situation extant with respect to which the organisational and individual experience-in-job could be used to ascertain the existing degree of individual/organisation fit, and which would then facilitate the redesign where necessary. The critical points to which the author returns in Chapter 6 are "What is a good job description?" from the point of view of purposive managerial job design, and "How does one develop a good job description?"

3.4.4. Job Evaluations

This is the organisational process of determining the content of the job in terms of 'compensatable' factors. The process involves firstly, the determining of the factors on which the organisation thinks it would like to pay and which are acceptable to those whose pay will be determined by these factors; secondly, arriving at an acceptable consensus on how much relative importance the factor should be given in arriving at the actual determination of salary; and, thirdly, estimating the load on each factor internal to the jobs, which are to be compensated. It is an orientated process, where notionally only the job and neither the job holder nor his performance enters the evaluation.

Bradley (1979) states the purpose of the process to be primarily one of:

"... determining the value of the jobs within the organisation. By measuring the relative importance of individual jobs to the company as a whole, it can provide data for the establishment of a systematic job grade structure".

Bradley concedes that the process is never totally objective and is heavily subjective. However, in one sense subjectivity is with respect to the establishment of a framework and as the basis of any scheme is employee involvement (often through representatives) this often stands as a positive item in the implementation rather than a handicap. This advantage is with respect to the first two items mentioned in connection with how schemes operate; with respect to the third item the subjectivity can be a problem. However, problems in another sense can also arise: when an attempt is made to grade jobs which are similar dimensionally, there seems to be no trouble, but when jobs which are dimensionally dissimilar are compared, Bowey and Eccles (1975) reveal that the:

"Evaluators frequently resort to equating 'amounts' of totally different job characteristics, which can lead to bizarre and unconvincing results".

As the process of job evaluation takes the performance requirements of the job as given, and only attempts to evaluate them for compensation purposes, implications for job design would be that:

1. Individuals may attempt to operationalise and, to the extent they are able to, to extend their jobs along the compensable factors.
2. Individuals may attempt to emphasise the greater importance of the dimensions of their job, relative to those dimensions on which their jobs are not loaded, and suggest greater inherent compensation for some of those dimensions.

Although the use of job evaluation started in 1909 (see De Jong (1972)), by 1971, (see Akalin and Hassan (1971)) 65-75% of U.S. companies were using job evaluation as a method of arriving at salary scales. Coverage for the managerial positions was around 62%. Bradley's (1970) survey for British companies indicated 64% of participating organisations to be using job evaluation scheme of some sort.

Many different schemes are being used. Armstrong (1974) suggests that the four main methods are:

1. Ranking
2. Grading or classification
3. Factor comparison
4. Points rating

Some of the more recently developed methods are the:

1. Hay/MSL method (see Bowey (1975))
2. Job profile method (see Bowey (1975))
3. Decision band theory (see Paterson (1966), (1972))
4. Time span of discretion (see Jaques (1961), Fox (1966))

Job design practitioners must check whether or not the individual's sense of fair play is being violated.

Britton's (1974) argument, for castigating the factor comparisons system, being based on the judgements involved in any evaluations, could be extended, to some measure, to the newer systems, listed above.

Given the above discussed importance of job evaluations, in determining the shape of the job which in turn could be related to the experience-in-job (see Chapter 7), the survey reported in Chapter 6 contained items to find out organisational practices in the area of job evaluation.

A typical example of how organisations set up their job evaluation based salary administration system is provided by the Handbook by Wilson (1975) prepared for Coles Cranes Ltd., Sunderland; similarly, the way job evaluation schemes are set up is provided by the Lucas (1974) handbook.

3.4.5. Interaction effects of job description and job evaluations

Large regionalised organisations which attempt both to provide job descriptions to their employees and evaluate jobs sometimes fall into the following kind of trap reported by Machin (1979) to the author verbally:

A regionalised organisation gave the same job description to all their distribution managers. This, of course, facilitated the job evaluation. On the other hand, the regions themselves had certain peculiarities which made the pattern of work for each individual distribution manager always slightly different, and sometimes significantly different, from that of the others.

Machin's above remark, the Jenkins et al's remark quoted in Section 3.4.3, which are both based on empirical-clinical research, serve as caution for the

researcher attempting to derive experience-in-job in the case of Job Design, and attributable value in the case of job evaluation, with reference only to the organisationally provided job description. The authorities quoted above are simply reporting what was observed by them. That these statements are not value judgements is important for Chieris (1977) and Herbst (1966) before him, have argued in favour of organisations making minimum critical specifications in job descriptions. The advocacy is based on the notion that job holders should be able to translate the description into operational and action plans, thereby exercising freedom. Precision in defining would still be required but the precision would be with respect to 'what' rather than 'how'.

In the light of the above material, a job design imperative would be to check if two or more job holders doing different jobs but having the same job description are in fact achieving the objectives the accomplishment of which was the purpose of the job description. On the other hand, an equally important check would be related to finding out whether individually operationalised job descriptions owe the difference in operationalisation more to the circumstance surrounding the job than to individual personality; in the event of the circumstances being different this should be reflected in job evaluation on the jobs. For job design and for job evaluation, the fact that jobs are differently accomplished, is not in, and of, itself important from theoretical consideration stemming from systems theory principle of equifinality (see Katz and Kahn (1966)).

For job design considerations stemming from minimal critical specifications are related to whether or not the individual is able to operationalise the job fully to his satisfaction, and accomplish the tasks intended by the organisation and whether the experience-in-job, related to 'how', is satisfying or not, to the job holder and his role-set.

3.4.6. Job Objectives

Inconceivable as it might seem, the setting of objectives for individual

managerial position holders, in any form way is a recent phenomenon, given impetus by the crusading efforts of Drucker ((1955/1977), (1964)) and Humble ((1965),(1968)).

Humble (1965) suggests that the individual job holder's objectives should be derived from the objectives of the unit of which he is a member; moreover, the unit plans should be synchronised with those of the bigger unit of which it, in turn, is a part, and so on until the whole organisation is covered by different levels of objectives.

Perrin (1972) depicts this derivation of objectives diagrammatically as shown in Figure 3.10:

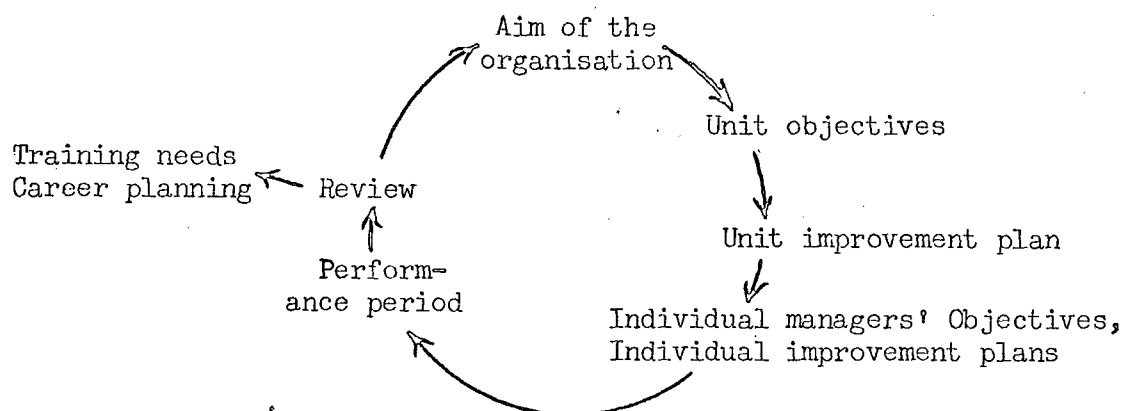


Figure 3.10: Perrin's diagrammatic representation of objectives cycle

The objectives, however determined, give orientation to a job. There is, per se, no effort to design the job. This is not to deny that at the level of individual practice, the job holder's experience-in-job may be given recognition and regard. But then in practice other difficulties might obtain. For example, Johansen (1978) reports the slight difference between 'What should be' and 'What is' with regard to the setting of objectives.

As to what 'should be' is suggested by McConkey (1962) who recommends that objectives along with being jointly determined by the individual and the boss should fulfil the following criteria:

- They should be compatible with overall company objectives
- They should represent sufficient challenge to the managers
- They should be attainable through the manager's own effort
- They should be clearly defined according to actual tasks necessary for accomplishment
- They should include methods for estimating how well they have been accomplished

That this might not happen, in practice, is evidenced from Johansen (1978).

A more fundamental difficulty with the objective setting process as operationalised by Humble and as given diagrammatic representation by Perrin is that the job becomes upwards orientated. Any measures of performance would be based on the extent to which the individual fulfils the responsibilities agreed with his boss. Managerial job as discussed in Section 3.3 is at the crossroads of organisational systems and processes - the performance would be more dependent on colleague interaction. A system for objective setting which fosters colleagues involvement, rather than boss dependence, would seem to be more appropriate. Advocating, and perceiving this, Machin (1973) suggests that measure of effectiveness should be:

'the extent to which an individual meets the expectation of his role-set

The extent to which Job Design has to do with improving the individual/organisation interface, so as to facilitate the attainment of objectives, would then involve evaluating the degree to which the individual's performance facilitates the targets and goals of his role-set.'

3.4.7. Difference between Job Descriptions and an Objective Plan

Although definitions can be produced for job descriptions and objective plans which show clearly the fundamental distinction between the two, the differences can become obscured in practice if only one document is used operationally, in organisations, to document the results of the two very different processes.

A job description pertains to a position. It often shows a broad class of activities that the incumbent can be asked to perform or should perform

periodically. It is a static document in that it attempts to give a photoview of the whole job.

An objectives plan attempts to fix targets for achievement; these targets must, of course, lie within the domain covered by the job description. The process of objectives setting concentrates on specific elements from the job description and attempts to define in greater detail the things that must be accomplished within a specific time.

In Section 3.2 of this chapter were presented a number of different abstractions of the nature of the managerial job, as developed by different researchers. All these, in their own way, constitute a description; Mintzberg even claimed to have contrived a "gestalt" for describing jobs.

In his analysis of methodologies for data collection and documentation the author was led to believe that purposive job design would require job descriptions which were documented in a semi-permanent manner (such as in writing, typing or on a computer data file), which is capable of access by a variety of people (job holder, role set, job designer, etc.), and capable of regular and easy updating. Whilst this may seem as obvious to the reader as it does to the author that both job descriptions and objective plans should constitute documents, it is important to recognise that this may not always be the case. Indeed the author's survey of current practices in this respect (discussed in Chapter 6) showed that documentation is not always practised. Further, the survey showed that where both these documents are available they may be less than adequate as guides to job performance, let alone purposive Job Design.

Targets may not always end in results from which the organisation benefits immediately (or even eventually). It can be the case that a job description expects a position holder to be involved in activities that the incumbent cannot, with confidence, currently undertake. A possible objective, then, could be for the position holder to acquire the necessary skills and experience that would give him that confidence. The objective here would be to extend the job holder so that he could meet the requirements of the current job

description. Development can take a number of forms. Where an incumbent with potential is "filling" his current job description, he may be assigned targets to prepare him for future appointments. These, however, are targets of a different sort. Targets within job description areas means taking specific aspects of the job as worthy of concentrated effort.

Job descriptions provide the incumbent with information on the totality of his job while targets act as conduits for channelling effort over relatively short spells of time.

Objectives, therefore, build on and presuppose the existence of, description but are in no sense a replacement for them.

3.4.8. Assessment/Appraisal/Selection

The judgemental process of assessment or appraisal is applied in a number of situations having implications for the design of a job. Some of the assessment requiring situations are:

- the recruitment interview to ascertain the potential fit between the individual and the job
- the assessment of performance
- the assessment in job evaluation
- the assessment of the design of the job
- the assessment of potential, when evaluating for promotions/reassignments
- the assessment of training needs, so as to facilitate improvement performance in the current job or so as to facilitate movement into some other job

The interview is the most common mode employed for assessments, although the interview data may be supplemented by psychological or other tests. A recent, specialised institution called the Assessment Centre has also come to the fore (see Byham (1975)). The correlations between Assessment Centre results and subsequent findings range between 0.27 and 0.64. These findings although higher than the results from many other selection techniques are not high enough for complete decision making.

Causes of inexactitude of the kind alluded to, more often present in an interview situation have been pulled together analytically and are discussed

below under three sub-headings.

1. Objectivity and psychological distance

Parker et al (1959) set up an experiment to find out how individuals evaluate performance. The researcher sought evaluation in the following three ways:

1. The boss of the individual grading the performance (rater)
2. The individual grading his own performance, as he thinks it is (self).
3. The individual grading his own performance, as he thinks his boss would grade it (estimate).

The research instrument used two types of scales - job and personal - and the results are shown in Figure 3.11.

Extending the results of the above findings to the Job Design situation, it could be hypothesised that there might be some contention on the degree of fit obtaining on the individual/organisation interface. A derivable hypothesis could be that the individuals will judge their own abilities (both in range and intensity) more highly than those whose opinion is relevant from the organisational side. This was earlier suggested in Section 1.3.2., in terms of the lens model.

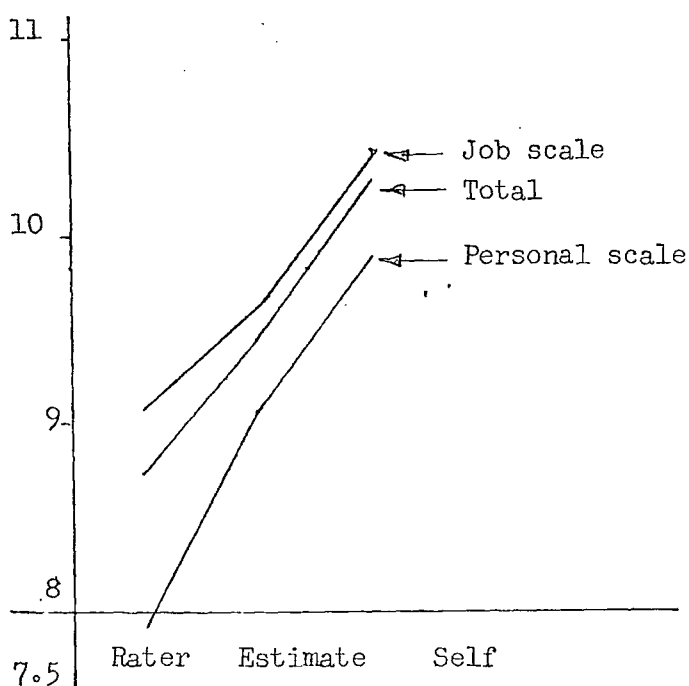


Figure 3.11: Differences in rating from three perspectives

Prien and Liske's (1962) investigation on the effect of perception on job dimensions, enabled them to draw some tentative conclusions regarding how different levels may view performance on the same job. They found that the incumbent and boss viewed performance in similar terms; however, there was a significant dispersion with respect to incumbent - grandfather (boss's boss) viewpoints on performance. They concluded:

"From these relationships, then, it appears that perception of performance criteria are in some way a function of status, or a proximity to the actual performance being evaluated".

Discussing the above conclusion, Prien and Liske suggest that this difference in viewpoint may be related to the judgemental frame of reference: the hierarchically higher people judge more in terms of organisational goals at this level while the incumbent judges at his level.

Prien and Liske's study also provides support for the Parker et al study discussed earlier: the agreement between the incumbent and his boss was the greatest on the intellectual dimensions of performance; the disagreement was mainly on the social aspects.

Thornton (1968) shows that the greatest disagreement between the individual and his boss on rating performance is likely to be on the dimensions of perceptions, analysis, accuracy, adaptability, and responsibility.

Levine, Flory and Ash (1977) from their empirical study report convergence of assessments between self-scoring, supervisory score and written test scores. The study was, however, based on clerical subjects where the output was measurable and any assessment could be proved invalid. Outputs from managerial jobs being softer and intangible, the absence of objective criteria may make it more difficult to get the above referred to concurrences.

Hall (1976) conducted a study with a slight twist - instead of asking the superordinates to assess their subordinates, he asked the subordinates to assess their bosses; the bosses rated themselves as well. Altogether 1,691 managers and 1,884 subordinates participated in the study. The study was based on the

Personal Relations Survey (PRS) instrument which measures the way interpersonal processes are conducted.

Splitting the derived PRS scores into groups, low, average and high,

Hall found:

".... subordinate appraisals of competence levels for the three groups are almost identical to those provided by managers themselves".

Job Design would have to ensure that no vast differences in assessments do arise, and given that there might arise an arbitrage system - Job Design ombudsmen(?) - to set matters right, may be recommended.

2. Stereotyping

Stereotyping itself is neither good nor bad; it simply implies having preconceived notions (Biesanz and Biesanz (1969)). If the preconceived notions deflect attention from the objective reality thereby biasing judgement, it can be dangerous and it is this aspect of stereotyping which is under focus in this subsection.

Rosen and Jerdee (1977) report that organisations are somewhat reluctant to select the older worker. Rosen and Jerdee (1974) report that male administrators tend to discriminate against female employees, on the basis of stereotyping, in personal decisions, involving promotions, development and supervision. They also report discrimination, based on stereotyping, against male employees in personal decisions involving competing role demands stemming from family circumstances.

Stereotyping leads to myths being created regarding placement of people. Greenberg and Greenberg (1980) conducted a study to find out whether some of the myths prevalent in the sales function could be supported by data. The study involved comparison of performance on the following criteria:

1. People under 40 versus over 40
2. Men versus women
3. Whites versus blacks
4. Individuals with 2 or more years of sales experience versus those with no experience
5. High education versus low education
6. Those hired through the traditional system versus those hired through a job matching scheme

While the data on performance could not support differentiation on the first five of the above listed 6 comparisons, Greenberg and Greenberg could generate support for the sixth comparison.

Stereotyping for sex (i.e. male versus female) is also discussed in Chapter 4. Job Design would have to ensure that individuals neither suffer nor get undue advantage as a result of stereotyping by the hierarchical superordinates, subordinate and the peer group

3. Information

One of the troubles with an appraisal is that attempting to make it relatively free from errors entails making them comprehensive. And comprehensiveness has a price tag to it. For example, the use of behavioural expectation scales (BES) offers a possibility of making fairly accurate judgement on performance (Blood (1974)). Its disadvantage, in use, is brought to notice by Schneier (1977):

"Although BES aid the rater by specifying several performance criteria and performance level in concrete behavioural terms and offering precise standards for comparison, they burden the rater by requiring many specific judgements and fine discrimination in the perception of complex and numerous job behaviours".

In other words too much information can be prejudicial to judgement making.

A derivable conclusion from Tucker and Rowe (1977) would be that no matter how much prior information the selector is provided with he still takes the same amount of time/effort to come to a decision. A corollary to the above would be that each individual has his own 'hesitancy factor' which is prominent in the decision making process - the total amount of information possessed matters nought.

Another empirically supported viewpoint is that 'cueing' helps improve decision making; on their study in recruitment, Langdale and Weitz (1973) write:

"We can conclude that interviewers who have been provided with job details display greater interrater agreement than those given only a job title".

and, later:

"The practical implication of the results here seem clear - by availing the interviewer of rather extensive information about the job to be filled, such as that provided by detailed job description and job titles, reliability of employment selection decisions can be increased".

Langdale and Weitz are discussing improvements in decision making through creating conditions where a consistency - between rater and for the same rater on different occasion - is raised.

Finally, there is evidence to suggest that individual decision making may not be dependent on any preconceived notions on what information should be used for that particular judgement. Sasser and Leonard (1980) write:

"Despite the difficulty and challenge of the first level supervisor's job, many upper level managers fail to appreciate its merits or its requirements. Although most agree that the human relations aspect of the job is important, they often promote a supervisor for such skills as record keeping. Although the use of skills needed for each position varies from situation to situation, managers often fail to perceive the particularity of the task required, the type of people being supervised, or the stage the organisation is going through".

Above are presented only a minute sample of perspectives on how information is used, abused, and disregarded in decision making. Many other perspectives are found in literature, e.g. Crosby (1969) correctness of discussion; Raia (1968) on interviews perspective; Blackeney and MacNaughton (1971) on placement of unfavourable information; Barrett et al (1958) on the scales for rating; Taylor et al (1958) and Parket et al (1959) on the content of rating scale, etc.

Job Design implications for the above would be to:

1. Ensure that for each purpose assessments are to be made, the purpose of the assessment is well understood by the rater and the ratee; there is some consensus between the rater and the ratee on the dimensions used for evaluation.
2. The policy having being devised (as in 1 above), this is consistently followed through.

The information provided may have to be modularly designed, so that those wanting greater detail, (e.g. when performing a particular type of assessment

for the first time), can have access to it and those not needing it may ignore it.

3.4.9. Performance Appraisal (PA)

As appriasing the performance is only a subset of appraisal in general discussed in the foregoing section, only a brief note will be added here. However, it should be noted that performance appraisal is to be regarded as a very important aspect of the managerial job design paradigm - an individual's whole career within an organisation depends on favourable performance appraisal. Having suggested that designing jobs involves contriving of the individual/organisation interface to be as friction free as possible, the organisation measure on the interface would have, to a major degree, to do with the performance of the individual.

The important thing about appraisal of performance is that it involves judgement of how well the individual has done in the things he was asked to do as well as how successful he was in not doing those things he was expected not to do. Sins of omission and commission are equally important, in other words.

Differing viewpoints will be presented, followed by implications for job design.

Britton (1974) believes that PA is a ritual that serves no purpose, for:

"Bright, energetic individuals are readily identified and become well known to the claim of authority through the normal course of daily communication".

The word ritual was purposively used in describing Britton's viewpoint. He is not against appraisal as such but against formal and periodically contrived implementation of the concept. He simply suggests that it is, and perhaps should remain, an ongoing process. The question arising from Britton's viewpoint is whether the individuals themselves know how well they are performing. The question, then, is: What is the purpose of the appraisal? Here views differ. Braddick and Smith (1979) give a reasonable coverage in the following list of purposes:

1. Feedback on performance
2. Control on achievement of objectives
3. Remuneration
4. Career counselling
5. Succession planning
6. Maintaining equity
7. Handover between managers
8. Creating necessary proof on sub-par performance for dismissal purposes

Lefton et al (1977) taking a process view, suggests appraisal to be (1) a formal discussion between superordinate and subordinate; (2) for the purpose of discovering how and why the subordinate is personally performing on the job; and (3) how the subordinate can perform more effectively in the future; so that (4) the subordinate, the superordinate and the organisation all benefit.

From the above referenced documents it is not clear as to whether the purposes mentioned are potential uses or 'as used in industry'. For this viewpoint Johansen (1978) surveyed 25 organisations and produced a list, where the order in the list indicates priority specified by the organisation, reproduced below:

1. Improvement of current performance
2. Indication of training needs
3. Assessment of promotability
4. Indication of future potential
5. Mutual feedback system
6. Indication of transfer
7. Locate talent available in the organisation
8. Manpower planning
9. Identification of work - what prevents people from being more effective
10. Salary adjustment - method of rewarding

From Johansen survey data, a positivistic tendency is apparent: when PA is approached from a mutual feedback perspective for the purpose of locating reasons for sub-par performance can it be ascertained whether the job does, or does not, have sufficient challenge for the job holder. For, as has been suggested by numerous authorities, e.g. Argyris (1959); Broad (1970), Cheem (1977), people perform better when the job uses and develops their abilities but not under conditions of perpetual overload which militate against performance excellence. In the above list are detectable seeds of job design appraisal.

To fulfil the above list of purposes, what is the conduct of the process? From the process viewpoint of Lefton, referenced above, it could be deduced that the boss is doing the appraisal. But the nature of the managerial job is such that incumbents interact with, are heavily dependent upon and produce outputs, for the peer group. The boss may not be even involved in, or come to know the details of the operations performed by his subordinates. This fact has prompted some authorities, e.g. van Boeschoten to question the validity of PA conducted on a one-to-one, boss-subordinate, basis.

A strong case can, thus, be argued for group appraisal of performance (GAP). By this is meant, the members of the role-set evaluate the contribution that the individual makes to their performance, and the individual appraises the contribution others make to his work. Such a system has been tested in experimental situations by Tai (1975).

PA, nevertheless, assumes the design of the job as given. In Johansen's list of objectives for appraising performance the sixth item is "indication of transfer", and the list contains no mention of a job re-design objective. The author regarded this as further evidence supportive of the hypothesis - that organisations use the recruitment/placement process rather than attempting to redesign the jobs, as a method of achieving fit at the individual/organisation interface - that was increasingly becoming confirmed in his mind. Formulation of research propositions in this way has been recently described by Martin (1979) as 'majority consensus of current literature' method. The hypothesis that organisations do indeed use the recruitment/placement process rather than job design is tested in the survey reported in Chapter 6.

There is a growing body of literature on the topic of PA. Some of the many publications found by the author to be of value for his own understanding of the subject are:

- A handbook on Performance Improvement, By R. Wilson (1975)
- A step-by-step method-procedural, by Parkinson (1977)

- A process reducing subjectivity but avoiding mathematical rigidity, by Patton (1960)
- A MBO based appraisal system, by C. Hughes (1972)
- The importance of truth in feedback to job incumbent, by Huttner and O'Malley (1962), Fisher (1979)
- Feedback-Performance relationship, by Cumming, Scharab and Rosen (1971)
- How the appraisal interview should be conducted, by Margerison (1976) and Carlson (1971)
- How it should not be done, i.e. not to be based on modalities of personality, in Luthans (1979) and the same item in Sunday Times (1970)
- The types of information that PA system should yield, by Cumming and Schwab (1978)
- Dimensions of appraisal, on which consensus can be, and may not be, attainable, by Taylor, Barrett, Parker and Martens (1958), Watson (1978), Crosby (1969)
- The design of reporting formats for information collection, by Pitts (1977)
- A comparative study on appraisal systems, by Braddick and Smith (1977)
- An appraisee view of PA, by Rais (1965)

Job Design consideration of PA

Fisher (1979) reports an earlier experiment in which it was found that there is a difference in appraisal ratings depending on whether or not the ratings were going to be shown to the appraisees. When the ratings were not to be shown to the ratees, the mean of the ratings was lower and the standard deviation large (mean = 60, SD = 21); compared to when the ratings were to be shown to the appraisees (mean = 80, SD = 14). Fisher built and extended these research findings. One of the propositions she tested was that:

".... it is likely that initial low performance ratings were inflated the most. However, the huge increase in the mean suggests that even ratings that were originally above average were distorted upwards before feedback was given".

From the data support for the proposition, an inference is that appraisees are given a false opinion of their own performance, verbally. But when rewards like promotion and raises in salary do not come their way they might become disenchanted with the system - the organisation, the boss, or the appraisal system.

Fisher in fact tested a number of hypotheses, another one of which was:

"Supervisors who gave feedback to low performers would think their subordinates liked them less than supervisors who gave feedback to high performers".

This hypothesis was also supported by data. As unfavourable information in feedback causes tension, it might be surmised, superordinates pass only positive, some of which is thereby of necessity inflated, information.

The individual job holder, on the basis of inflated feedback, could legitimately form an opinion that any friction that does obtain at the individual/organisation interface is, therefore, the fault of the other side. Under such a system, errors in the design of the job may not even come to the surface. For the individual may feel discouraged to bring his problem up for discussion when the organisation has no problem at all.

Conclusion to Section 3.4

The processes and events covered in this section are often referred under the rubric 'Manpower Planning'. Manpower planning is a subject of intense reportage if not research; some of the material is at the level of banal prescriptions, but some prescriptions although unsubstantiated with empirical data do have a logical ring about them.

Burack and Gutteridge (1978) on the authority of Casel state manpower planning to be:

"A mechanism for resolving a set of simultaneous decisions concerning recruiting, and screening methods, hiring standards, job structure, and mobility, quality and quantity of training, compensation, and related personnel factors which have traditionally been considered to be a series of separate, unrelated decisions".

The emphasis is due to the author and not the reporting researchers. The purpose of underlining is to indicate that previously the activities were considered unrelated but a point of view is now developing where the relationship is becoming recognised. The author gave the process and events, shown in Figure 3.8, the relationship which he was able logically to discern from literature. From the above quote, a logical conclusion would be that organisations regarding this area a key decisions area would have policies and

statements regarding their presence and events. Attempt was made to find out whether organisations do have policies in these areas in the survey study reported in Chapter 6.

An alternative, but on the authority of Burack and Gutteridge (1978), "most commonly accepted" definition of manpower planning is:

"A process concerned with providing the right number and kinds of people, at the right place, at the right time doing things which help to fulfil organisational as well as individual objectives".

The whole quotation, but especially the last part, parallels what the author has indicated to be the area of Job Design. The two quotations from Burack and Gutteridge taken together is how the author has developed his line of thinking on Job Design.

The theoretical standpoints developed in this chapter, as well as those in Chapters 2, 4 and 5, led to distillation and convergence of thought with regard to the material of Chapters 8 and 11, and prompted the studies reported in Chapters 6, 7, 8, 10 and 12.

Other source material in Manpower Planning which helped the author to develop his thinking are:

- Bowey (1974)
- Bell et al (1969)
- Bennison (1979)
- Dulewicz and Keeney (1977)
- Dunham (1977)
- Department of Employment and Productivity (1968)
Manpower Planning Report
- Howard, Bramham, Cannon and Johnston (1975)
- Morris (1972)
- Kennay and Morgan (1977), (1979))

The connectivity of the various organisational manpower planning practices to Job Design comes out clearly from Lorsch's (1979) analysis of "Situational frameworks and their fields of application". Lorsch discusses 8 fields of application on the basis of his personal knowledge. Each framework ranges in its applicability to between 2 and 4 fields. The eight fields of application were:

1. Leadership
2. Management selection
3. Career planning
4. Measurement of performance feedback
5. Compensation
6. Job Design
7. Division and co-ordination of activities
8. Organisational change

The diagram of Figure 3.12 shows the above-listed fields of application (these are referenced by their number), and each arrow joining two fields indicates that the two fields can be tackled by the same framework.

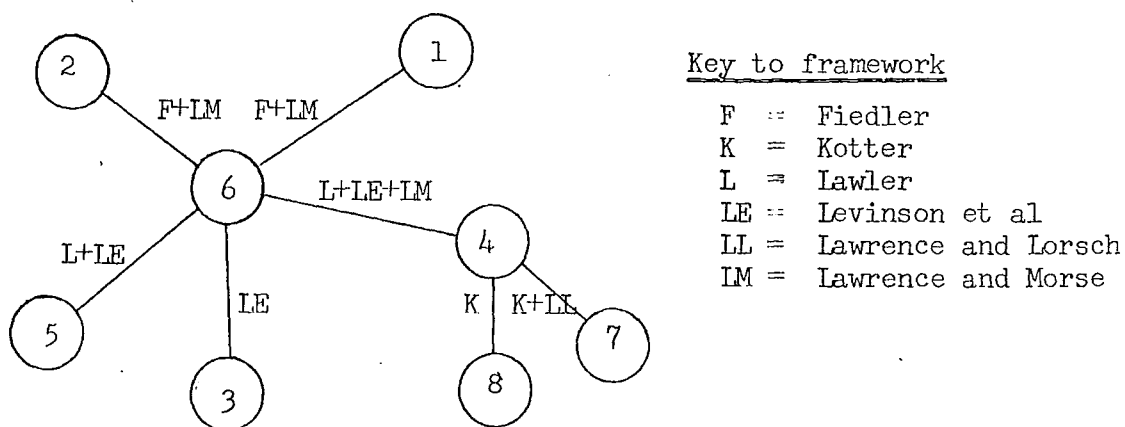


Figure 3.12: Connectivity between organisational practices in selected fields

The figure shows that two frameworks, the one of Fiedler and the other of Lorsch and Morse, can be applied both the Management Selection and Job Design. The reason why this is so is because some of the underlying variables under focus, in both the cases, are the same. Similar commonality of the variables also obtain with respect to other fields of application and the situational frameworks shown in Figure 3.

Chapter 4

CHAPTER 4ORGANISATIONAL COMPONENTS AND CONCEPTSIntroduction

This chapter will explore the ecology of the organisation - an attempt will be made to describe the setting in which the managerial position-incumbent operates. The substantive ingredient, i.e. what the individual does has been presented in Chapter 3. The purpose of this chapter is to discuss major organisational level variables - the ecological features of the habitat in which work takes place. The features are many; only those which are directly relevant to the purpose of Job Design will be examined. Just as ecology of the land determines the development of a species, it is implied that managerial jobs evolve, develop and perhaps demise as consequences of the ecological balances within the organisation. The organisation in turn operates in the ecological balance of the demands for services and products, as well as materials, and its own requirements for manpower, and this forms the higher order ecological balance.

Therefore, some of the features discussed are those that bridge the organisation to its environment and some are those that have internal relevance to the organisation; both affect the shape and form of jobs.

Since both the work the individual does, and the experience-in-job he draws as a consequence thereof, are determined within the ecology of the organisation, the focus will be on the conceptual components of the organisation which are correlates, moderators or determinants of the shape of the jobs. The shapes of jobs and manifest individual behaviour in turn are related to the organisational experience-in-job. Thus is the link between experience-in-job, of both the individual and the organisation, and the ecological feature established.

Sutton and Rousseau (1979) report that their:

".... findings indicate that both organisational and environmental characteristics are related to individual responses and job perception. Further, job perceptions mediate the relationship of both organisational and environmental characteristics to individual responses".

Thus the environment affects the organisation and the organisational attributes affect the individual job holders; and the process also works the other way round. Figure 4.1 is an attempt to depict this multi-faceted influence cycle.

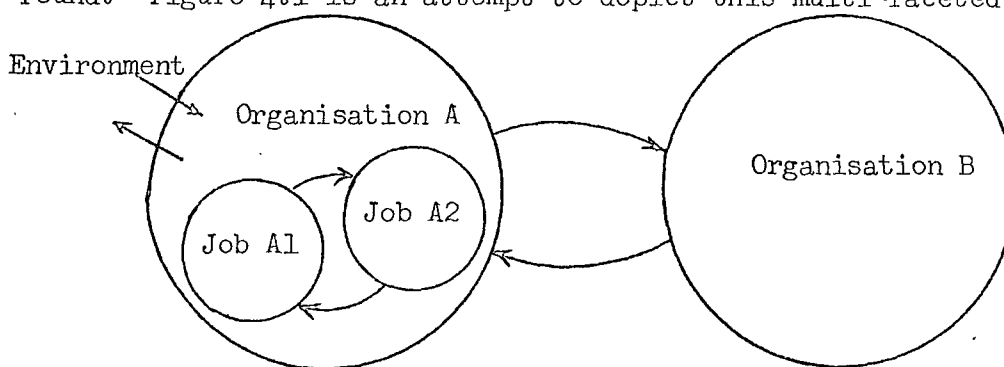


Figure 4.1: Influence cycles between organisation-environment, organisation-organisation, organisation-in-job(s) and job-job

This chapter will discuss two distinct sets of variables - the organisational content, and organisational structure, cf. Child (1972B).

Still deriving from Child (1979B), it has been pointed out that although some researchers (e.g. Woodward (1965) and Lawrence and Lorsch (1969)) have attempted to analyse the relationship of the contextual variables with that of the structural; this has only been done by disregarding the concept, defined by Child as "Strategic Choice". Delving into this concept leads to the conclusion that a further new construct, to explain organisational behaviour, may be necessary. This new concept is that of "strategic necessity". Essentially, this concept plays a role at two levels:

1. The organisation as a *de jure* entity must fulfil certain environmental requirements(3).
2. Once the main goals are defined, the heuristic goals, for units within the organisation, get defined (in the sense of reduction in choice), and these give rise to the necessity for co-ordination and control.

The thirteen sections of this chapter are:

- 4.1. Status of the organisation
- 4.2. Uncertainty and rate of change in the environment
- 4.3. Goals
- 4.4. Authority
- 4.5. From principles to practice
- 4.6. Linkage of variables models
- 4.7. Style
- 4.8. Determinants, Moderators, Correlates and Predictors
of Job Outcomes
- 4.9. Job mobility
- 4.10. Work schedules
- 4.11. Treatment of women in organisations
- 4.12. Global variables of organisational health
- 4.13. Effectiveness and efficiency

4.1. Status of organisation

Organisations in most countries are legal entities which exist defacto and dejure. This dejure and defacto distinction although very fine is an important one, for it helps in understanding the behaviour of organisations. The dejure status begets the organisation legitimacy and is their licence to operate; the licence separates the desirable and tolerated from the sub-rosa. Legitimacy is acquired by the organisation through the implied acceptance of submission to the aims of common weal; the degree to which the organisation is seen to be serving this common weal is the degree to which it is held desirable or tolerated.

The implicit responsibility, stemming from the dejure status, is that the organisation should behave like a law-abiding citizen. Atkinson and Atkinson (1980) state this standpoint thus:

"In law, an organisation is treated much like an individual. It has rights and duties, can own property and so on. However, to attribute rights and duties in this way is clearly not the same thing as to attribute them severally to the individual members. A limited company, for example, can be bankrupt without each of its shareholders being bankrupt".

For the organisation, the responsibility is collectively held and discharged. If malpractices are suspected - e.g. a violation of the terms of licence - the organisation, collectively, is expected to present its case. The misdemeanour may have been the act of a person acting on his own accord but his functionary status is taken to signify the act to be at the behest of the organisation, especially if the organisation as a whole stands to gain as a result of the misdemeanour.

Everton's (1978) treatise on U.K. law of competition illustrates how the corporation is expected not to stifle competition.

The U.K. legislation on industrial safety has recently been updated resulting in the Health and Safety at Work Act, 1974. Bamber (1977) writing on the repercussions of this Act states that the:

".... legislation means that the responsibility for safety now rests squarely with management, which could well face criminal prosecution, leading to imprisonment for failure in this area. The change in regulation has placed still greater emphasis on the need for general management to get involved"

Regarding the quality of the products or services that the organisation offers, the responsibility nearly always resides with the organisation, and not with individual managers. Vandivier (1972) presents a very illuminating case on research and development falsification of results leading to criminal prosecution of the company.

Of course, in court actions as well as public explanations, it is the functionaries of the organisation who defend the charges against, and explain the policy to, the public.

Job Design implication arising from the dejure status of the organisation are:

1. Individual functionaries should be made aware of legislation relating to areas within their decision-making authority.
2. Effort should be made to ensure that company policies, rules, regulations and bye-laws do not contravene any of the laws in their areas of operation. This will ensure that individuals who know the law will not be put in contradictory situations, where the choice may be between company policy or the law.
3. It is essential that prohibited activity should be made clear to individual managers. Drucker (1955/1977) expresses the difference between permission, and prohibition, in terms of what it should not be - the Prussian idea - what it should be, thus:

".... the opposite of the old Prussian idea of a citizen's right: everything that is not expressly allowed is forbidden! In other words, the decisions which a manager is not entitled to make within the extent of his task should always be spelled out; for all others he should be supposed to have authority and responsibility".

The dejure existence is linked to legal responsibility of the organisation. Included in this set of responsibilities are some legally recognised social prohibitions. Bartolome and Evans (1980) present a very perceptive argument

on the ill effects on the individual of being constantly involved in activities he considers unethical. The ill effects obtain not only when the individual himself is involved in unethical behaviour but also when he knows that others in the organisation are thus involved. Bartolome and Evans write:

"The negative spill-over created by going along with unethical business practices (such as bribing foreign officials) has two additional twists to it. The person fears potential legal consequences and he cannot vent his feelings by expressing them to others because the position dictates secrecy".

While de jure status imposes essentially punitive conditions, the de facto status brings about both internally based as well as externally based social and moral responsibilities. Within this sub-section will be discussed those responsibilities for which the organisation's responsibilities lie in the environment.

Baur and Penn (1973) discuss the subject under the heading "What is a corporate social audit?". In democratic societies, public opinion is the moral force which attempts to influence organisational behaviour. As stated in Chapter 1, it is the force of public opinion which, in the end, leads to legislation. In the area of social responsibility, a job designer's interest would lie primarily in the negative spill-over that organisational involvement in activities may have on the individual, or individual's involvement may have as a throwback on the organisation. Social responsibilities change with time. Currently, according to Baur and Penn:

"Pollution and hiring and promotion of minorities receive a roughly consistent priority, but after that things are fairly wide open. Some auditors virtually ignore corporate giving and community programs; others include them. Quite a few stress consumerist issues of various kinds, others go heavy on munitions manufacturing, or investments in "non acceptable routines". Still others focus on employee wellbeing - fringe benefits, promotions opportunities, safety and so forth".

To prevent throwback type of activities, the individual should know the consensus opinion within the organisation. On the other hand, the organisation would be expected to pay some heed to the minority views on current issues.

The defacto existence of the organisation is indicated by the freedom it has to organise its own activities. A substantive discussion on this topic would be better conducted on the heading of goals, which is the next conceptual component to be discussed. Before discussing the next topic, however, it is worth noting one point of observation. For a person inside the organisation it becomes less meaningful to state that he 'expects the organisation' to behave in a certain way. For the insider it would be more meaningful to say that the corporate policy regarding specific areas, or individual actions regarding certain specific areas, should be in a certain image (see Machin 1980)). The normative model of organisation behaviour arises from the de jure status. Through the process of reification the organisation is attributed human qualities of 'having goals' and 'doing this and that'. The organisation itself does not do anything; praise or blame are affixed on account of its legal status.

The organisation: Changes in status

This section deals with the organisation in the context of other organisations. Pfeffer (1972A) deals with mergers as an organisation option to deal with other organisations. Three types of mergers are identified, those which:

1. Reduce symbiotic interdependence
2. Reduce commensalistic or competitive interdependence
3. Diversify and avoid previous interdependence

The first of the above options often leads to some form of vertical or horizontal integration; effects on job could be expected to be minimal, but there will be some at certain levels, even if changing the integration patterns from those of interfirm to those of within firm.

The second of the above is likely to have a more drastic effect on the organisation. As the new firm reduces "common" tasks, there is a likelihood that certain tasks which were necessary in the old firms are now regarded as duplication of effort, and therefore unnecessary. Job Design would in most cases be a necessary element of the re-organisation following mergers

initiated to reduce competition. Further, unless redundancies, or personal reduction through attrition are also involved, the energy that is saved by the elimination of common items may be absorbed in new ventures, which themselves would require some commitment to Job Design.

The third of the above listed types of mergers would also entail job design commitment similar to that discussed in the preceding paragraph.

The organisation would have to offer employee benefits (see Murlis (1978) for comparative variables), which accord with a specification and are comparable to those offered by the other organisation (see Chapter 3).

Pfeffer (1972B) empirically established that there is a critical element to an organisation board size and composition: organisations that deviate more from the industry standards on this variable performed more poorly than organisations that did not deviate as much. Building from this, a Job Design consideration might be to ensure that individual productivity for similar jobs compares with that of the other organisations, and to ensure that deviations in structure and system do not unduly hamper this.

The above is not to suggest the reduction of variety; but that differences should be justified in terms of improvement these beget the organisation or individuals.

4.2. Uncertainty and rate of change in the environment

Burns (1957), from his comparative study of eight organisations, draws the following conclusions:

1. Organisations that operated in an environment susceptible to external change needed greater effort at co-ordination. This co-ordination was achieved through managers spending a greater amount of time engaged in dialogue with peer groups, than managers who worked in companies whose environmental conditions were not so turbulent.
2. The rigidity of authority structure is reflective of static environment while autonomy of function is encouraged by increasing rates of change in the environment.

Burns and Stalker (1966) report on an investigation on the relationship between organisational structures and the capacity of organisations to accommodate needed innovation. On the basis of data collected they argued that those firms with mechanistic management systems were likely to be much less successful in adopting needed innovation; firms with an organismic management system were better placed to accommodate required innovation.

Job Design deductions from the above studies would be:

- Individuals should have access to, i.e. be provided with, or be facilitated in organising for themselves, information that they need for carrying out duties assigned to them. The role-set members dependent on the job holder for their own performance should have mutually agreed levels of, and in terms of substantive contents, information flows between them.
- Communication networks should be checked to ensure that individuals are satisfied with the information technology being provided.
- That any theory of managerial job design must be as relevant for a member of the "dominant coalition" as for a member of the "dominated". A manager is a manager whether he is a Managing Director or a supervisor and thus a "useful" theory of job design must help a "goal formulator" as much as a "goal implementer".

Lawrence and Lorsch (1969) dealing operationally with uncertainty inherent in product demand, suggest structure to be related to this variable - uncertainty. Their research includes the following findings:

1. The degree of informality, in the relationships between membership of groups, is related to the degree of uncertainty faced by the working group.
2. A hypothesised curvilinear relationship between managerial orientation and prevalent environmental uncertainty; with both very high and very low uncertainty it was predicted that orientation would be towards the product rather than person (see Blake and Mouton (1964)).
3. A hypothesis that the greater the degree of uncertainty, in the environment, faced by a particular unit in the organisation the longer its time-span of orientation. For example, research and development would be expected to have a longer time-span of orientation than production.
4. The more the differences between the nature of problems faced by groups the more the goals are likely to be unit specific.

From these, and other conclusions, they arrived at a number of recommendations, of which only those closely linked to Job Design will be presented.

Centrifugal proclivities, due to differentiation, may obtain in organisations and have a dysfunction effect. To check these, integration must be purposively pursued. Lawrence and Lorsch (1967) suggest a 'New Management Job: The Integrator' for achieving this. The characteristics profile for occupiers of such roles is well documented and need not be presented here; suffice it to say that Job Design would have to ensure that job holders assigned to such positions do possess the requisite qualifications and understanding of their roles, and that their credibility is perceived by those whose work they are attempting to integrate.

The author regards the major findings of Lawrence and Lorsch, for Job Design, involve ensuring that the functional splitting of work, however

contrived within the organisation, should not be injurious to the overall work goal integration that the situation demands.

It would be pertinent at this point to inject a note of caution. Later research, by Tosi, Aldag and Storey (1973), evidences some methodological inadequacies in the instruments used by Lawrence and Lorsch. However, this in no way detracts from the central thesis of Lawrence and Lorsch.

Tosi et al's criticism stems from the different ways in which uncertainty can be measured. That uncertainty can be operationally measured in different ways is evidenced from Duncan (1972) who identifies two dimensions :

1. Simple-complex: i.e. the number of facts are few or many
2. Static-dynamic: rate of change in the above factors

Methods of achieving integration are many, Galbraith (1973). Job Design would attempt to ensure that the methods of integration are perceived by job holders to be adequate, non-excessive and amenable to self-control.

Galbraith explains the effects of uncertainty thus:

"The ability of the organisation to successfully co-ordinate its activities by goal setting, hierarchy and rules depends on the combination of the frequency of exceptions and the capacity of the hierarchy to handle them. As task uncertainty increases the number of exceptions increases until the hierarchy is overloaded".

To prevent and overcome this state of overload, he suggests four design strategies:

1. Creation of slack resources - through reducing the level of required performance.
2. Creation of self contained tasks.
3. Investment in vertical information system.
4. Creation of lateral relationships.

Galbraith says that, of the four strategies the organisation may purposively choose one or more (even all), but if no purposive choice is made the default choice is number one in the above list. To the extent that job underload is undesirable, job design should endeavour to ensure that this default option is not exercised. By the same token, and to the extent that managerial job performance is dependent on the peer and subordinate performances,

job design evaluation should be in terms of how well the individual job incumbent fulfils the expectations of these two groups of people - the peer group and the subordinate group. The creation of self-contained tasks, for job design, means the judicious delineation of unit of analysis with respect to which there would be some wholeness of goals, tasks and roles. The derived concomitant of this would be that the unit of analysis is concerned with goals, tasks and roles - i.e. with work, and not with the number of job holders currently performing the task, nor with their current levels of skill-utilisation-in-job. This latter set of variables is the one that would be the object of design effort, subject to experience-in-job of the job holders and the organisation.

Another perspective on the work of Galbraith suggests that in evaluating the individual/organisation fit for managerial jobs, especially in situations where the job holders are involved in complex work, it would be pertinent to find out whether:

1. Some job slack exists - i.e. whether the target dates for completion are too tight.
2. The tasks have 'self containing' properties - un-self-contained tasks require effort at co-ordination; a re-delineation of boundaries around jobs may make the jobs more self-contained.
3. The information received is sufficient for doing the current work or whether projective information is also available - this would help the job incumbents to plan not only the current work but for their future as well.
4. The lateral relationships necessary for task performance exist and have been cultivated to the degree satisfactory to the work group. A check on these may entail finding out whether sufficient resources are being invested in establishing and maintaining these relationships.

Information Systems

Although, in the preceding section, Galbraith was quoted to suggest:

investment in vertical information systems

authorities, e.g. Higgins (1976), in information science would recommend not only vertical but omni-directional systems.

Ackoff (1967), however, points out that these information systems often:

- (i) Do not fulfil the real requirements for which they are intended.
- (ii) The underlying behavioural model assumed by the system is mechanistic.

Job Designers then have to ensure that the individuals feel adequately (quality, quantity and timing) supplied with correct and relevant information.

Traditionalism

Child and Ellis (1973) found "industry membership" to affect the work role characteristics among managerial job holders. Industrial membership is an attribute of the type of product offered by the organisation, e.g. parts for automobiles, electronic instruments. Child and Ellis found that where low rates of environmental change obtain, "traditionalism" in attitude sets in. The traditional mentality, related to the homeostatic tendencies of organisms, as predicted by General Systems Theory, result in organisations rejecting to adjust and change when the necessity for this latter state of affairs does arise.

McRae (1971) relates low environmental change as leading to rigid and detailed control systems being set up inside the organisation. This, claims McRae, breeds a "closed" attitude of mind. He suggests that control systems, even in organisations not facing too high a degree of change, should be adaptive. An example of traditionalism and the effects begotten by it, at least in the short run, could be closure of, or reduced activity in, some Swiss watch making firms.

Job design should therefore endeavour to ensure that, within key groups interactions with the environment are constructed and maintained; this would dispell, to some degree, the onset of traditionalism in the organisation as a whole.

Effects of uncertainty on organisational design

The work of Burns and Stalker (1961) showed that organic forms of organisations are better able, and placed, to cope with uncertainty.

Brown, Gay and MacMillan (1979) write:

"... variations in organisational form are actually variations in the strategies of organisation to:

1. Increase their ability to preplan
2. Increase their flexibility to adopt to their inability to preplan
3. To decrease their level of performance for continued viability by the manipulation of other organisational factors".

A deduction from O'Shaughnessy (1976) would be that where uncertainty is high leading to a greater need for co-ordination, a project type of organisation is recommendable. Miller and Rice (1967) looking at the situation from the viewpoint of the organisation simultaneously having to satisfy individual needs and adapt continually to technological change, also recommend project based organisation.

Project or mission based organisational forms are temporary (Cleland and King (1975)). When the project or mission is accomplished the organisation, at least in theory, finishes. Some form of basic (where necessary hierarchical) structure is necessary for organisations that wish, through a series of project based reorganisation, to continue to operate. Such a project based resuscitation of the organisation would be possible by superimposing a project organisation onto a functional structure. This is how, according to Luthans (1977) matrix organisations are formed.

Luthans (1977) defines seven dimensions:

1. Line-staff organisational dichotomy
2. Scalar principle
3. Superior-subordinate relationship
4. Organisational objective
5. Unity of direction
6. Parity of authority and responsibility
7. Time duration

along which functional and project based organisations are different. Either organisational form can lead to its own specific problem, which are essentially authority and relationships based. For example, Peters (1979) alludes to the

following situation which can arise in a matrix organisation:

"the intersection of the engineering mentality and the Civil Service mentality"

Building his case against the Matrix form, Peters goes on to suggest that in this engineered situation:

"the result is a blizzard of plans, committees, 'interfaces to be checked out', and papers justifying everything"

and the logical end to the argument would be that in such circumstances execution is impossible.

Job Design considerations of structure

Functional structures are defined by specialisms (O'Shaughnessy (1976)). These are designed to accommodate specialisms but to a certain extent, perpetuate specialisms (Walter and Associates (1975)). To the extent that senior managerial positions require managerial, as opposed to functional, talent (see Katz (1974) and Burgoyne (1976)), organisations could improve their own potential for performance by placing junior and middle executives into positions that are designed for executives to learn and acquire the requisite talents. Further, to the extent that functional organisations tap only certain specific energies, especially at the lower organisational levels, structural innovations which help the individual to contribute to organisational purpose along a number of dimensions may be advantageous for both the individual and the organisation.

Specific Job Design suggestions are not possible, save for one; in general the Job Designer should be aware that certain job related difficulties may have their source in the structure of the organisation. The one specific requirement is that, given that many organisational forms exist, a managerial Job Design methodology (the process) should be developed in such a way that it is useable in any organisational form.

Behaviour and uncertainty

Hannaway (1978) found that upper level managers when faced with uncertainty are more likely to initiate interaction, i.e. solicitation, while lower level

managers are more likely to get absorbed in some activity where they know uncertainty to be low. These above results are indicative of statistical direction. Statistically significant results were obtained only for the lower level managers.

The above results, interesting and pertinent to job design as they are, are not sufficiently developed for job design deductions to be drawn. If further support for this hypothesis could be generated, and additionally, if the hierarchical effect is due to authority, then deduction regarding Job Design would follow.

4.3. Goals

This subject will be discussed at two levels: the level of the organisation and the level of the job. Within the level of organisation discussion is, implicitly, covered unit and sub-unit level goals.

4.3.1. Organisational goals

The very word 'organisation' connotes, form, shape and purpose. In this section the focus is on purpose or goals of organisation. The fact that the organisation exists (defacto entity) indicates that it must have been created for some purpose; and the fact that it continues to exist is indication of its continuing to serve some purpose - some goals. What goals and whose goals, however, continues to be a topic of research. In this section are presented a number of perspectives of goals and this presentation is followed by a number of deductions for Job Design.

Cleland and King (1968) discuss goals in terms of 'claimants' to the organisation. The class of potential claimants being: employees, stockholders, consumers, suppliers, etc., the organisation is supposed to have goals with respect to each of these class of claimants; of course, the necessary condition being the organisational recognition of these claimants.

Drucker (1963) began to advocate long-run survival, as opposed to profit maximisation, as the goal of organisations. The rationale for this being: firstly, non-profit seeking organisations could be covered and, secondly, with respect to profit seeking organisations, if the firm survives it must have fulfilled its profit motive to some extent. Along the same lines of thinking, but with a discernable difference, a justifiable derivation from Machin and Wilson (1979) would be that organisations may have survival and suprasurvival goals. In times of adversity the survival motives is the driving force and in times of plenty the suprasurvival may take over. The notions of survival and suprasurvival could also be derived from General Systems Theory, with analogy to the plants and animals building up resources and growing during one period of and lowering their consumption and fighting for survival at another.

Thinking regarding how organisational goals may be located seems to have undergone change. Whereas Shartle (1949) claims that goals may be located:

"Most formal organisations have written statements regarding goals. They are found in the by-laws, minutes of meetings, reports of progress, financial statements and the like"

and again,

"Statements may be obtained from the members of the organisation, or from non-members who have observed it, indicating what they consider the goals to be and to what extent such goals are being or have been achieved".

Warriner (1965) and Perrow (1970) believe that goals may not be so easily locatable, if at all. Warriner's (1965) study in fact leads him to the following categoric and assertive inference:

"Statements of purpose, must be treated as fiction produced by an organisation to account for, explain, or rationalise its existence to particular audiences rather than as valid and reliable indicators of purpose".

Perrow (1970), on the other hand, suggests that organisational goals may be discerned. The examples he presents, however, indicates the use of a 'post-mortem like' inductive process. Nevertheless, Perrow's categorisation of the areas with respect to which the goals may be logically deduced, being important, is listed herewith:

1. Output goals - the kind of outputs produced
2. System goals - characteristics such as growth, stability, profitability, etc.
3. Product goals - characteristics like quality, quantity, styling, uniqueness, etc.
4. Derived goals - social goals assumed by the organisation.

Goal setting

The organisation being a collective, a matter of concern to organisational analysts and to job design, as will be discussed soon, is who sets the organisational goals. The current prevailing view, derived from Cyert and March (1963) appears to be that the 'dominant coalition' sets the organisational goals.

Child (1972) suggests that the adjective 'dominant' refers to the power and influence exercised by individuals and groups of individuals, i.e. the dominant group is dominant because it exercises greater power and influence than other groups and individuals. According to Handy (1976) the bases of power are:

1. Physical
2. Resources
3. Position
4. Expertise
5. Personal

From these bases individuals and groups can exercise influence. In the business organisation, in most societies, the use of physical power could be regarded as taboo. Resource power refers to the individual's or group's access to scarce resources which others need. This category does not include information or 'know-how'. The position power refers the rights of individuals or groups to exercise authority. Power based on expertise is based on know-how the individual possesses. Personal power is based on individual attributes, and is often referred to as charisma. Thompson (1957) taking a process viewpoint, made the operational definition of power to be:

"... the ability to determine the behaviour of others regardless of the bases of that ability".

The importance of Thompson's operational definition is the recognition that the influence exercised may be at variance with the power possessed. The conclusion from this viewpoint is that individuals exercise influence in proportion not to the actual power they possess but in proportion to what others perceive them to possess.

Kotter (1977) argues that individuals (and the argument could be extended to groups) should not attempt to exercise influence based on the same power source, all the time. Kotter's argument on the contingent use of power bases makes intuitive sense.

The actual power exercised determines the dominant coalition, and the dominant coalition determines the organisational goals. There are, however, certain restrictions on the goals that can be arrived - there are domains

within which the goals can be set. This domain is defined by the exigencies of the environment (see Child (1972B)) and the fact that members of the dominant coalition keep the interest of other organisational claimants in view.

That the environment acts as a modifier and determinant of organisational goals, both internal and external, should need no stressing, but to reinforce and support the point of view adopted, consider the statement of Sadler and Barry (1970):

"An organisation cannot evolve or develop in ways which merely reflect the goals, motives or needs of its members or of its leadership, since it must always bow to the constraints imposed on it by the nature of its relationship with the environment".

Ackoff's (1972) notion of environmental perturbations due to discontinuity, i.e. sudden change, having affect on the goals of the organisation is worth mentioning in this context.

Safeguards of the goals of individuals not having membership of the dominant coalition is also necessary or else the organisation faces internal dissension which may precipitate non-achievement of any goals that might otherwise be set.

Bakke (1950) suggests that the injection of the individual goals into that of the organisation leads to legitimisation which in turn affects organisational identification. Walter et al (1979) report that organisations seek to promote individual identification with organisational goals, because identification acts as a moderator of performance. Positive identification increases not only the individual's motivation to work but also the sense of belonging in the work place and their pride in the organisation's total achievement. So, identification affects not only performance but also satisfaction, and the means of generating this positive identification in the fusion of the individual's goals, and safeguard of his interests, in decision making with respect to definition of organisational goals and means of achieving these goals. Argyris (1973) supports this contention when he writes:

"Individuals are themselves complex organisations. They produce the energy for an organisation if there is some gain for them. The gain individuals seek can be understood by understanding their needs".

Primary and heuristic goals

To build up an argument illustrative of the difference between primary and heuristic goals, an example will be used. Take the case of an organisation formed to offer employment to a special category of underprivileged person - e.g. physically handicapped. For implementation purposes the primary goal(s) must beget equally important heuristic goals. For example, the goal of creating employment for the handicapped begets the goal of selling the product or service which the employees will turn out. The market goal is, in this instance, a heuristic goal.

Organisations can be classified on the basis of their primary goals. An organisation founded on the basis of creating employment for the handicapped would be regarded as a welfare organisation; an organisation founded to make monetary profit would be classified as a business organisation. For each type of organisation there will be heuristic goals. The primary goal serves as a constraint on the heuristic goal. To illustrate this, the marketing director of the employment-for-the-handicapped organisation would not be interested in attempting to meet obvious market demands for products the handicapped are unlikely to be able to produce; so his search for products would be limited by the primary objective.

Decisions are necessary not only for goal delineation but also for ensuring that task execution leads to the attainment of the set objectives. In the day to day work in the organisation, the unfolding situations themselves create tasks. Cyert, Dill and March (1965) suggest that in practice:

1. Resource allocation within the firm reflects only gross comparisons of marginal advantage of alternatives.
2. Commitment to action often takes place before exhaustive search - the repercussions on other parts of the organisation are not fully considered.

Effects on job design

All those who receive or provide services and products to the organisation are candidates for consideration in goal determination. The extent to which the dominant coalition can incorporate the wishes, or personal need fulfilment, of organisational claimants, is the degree to which the organisation will be successful in its operation.

Job design implications of the discussions on organisational goals revolve around the following two concepts:

1. (i) Knowledge and acceptance of goals (of each and by each party to the job contract)
- (ii) Fusion of individual and organisation goals into the job.
2. (i) Ability to perform.
- (ii) Availability of resources to do the work.

McConkey (1962) suggests that job objectives be jointly (individual and organisation) set and they fulfil the requirements

1. They should be compatible with overall company objectives.
2. They should represent sufficient challenge to the manager.
3. They should be attainable through the manager's own effort.
4. They should be clearly defined according to actual tasks necessary.
5. They should include methods for estimating how well they have been accomplished.

The job designer should attempt to find out what the individual's primary and heuristic goals are. If possible, and where necessary, alternative goal patterns should be suggested. In the same way as long term survival may be taken as an organisational goal, an individual may have a survival plan. As the organisation can change its goals over time, however, the job should be so designed that the individual develops his talent through learning and the net gain in experience is of a transferrable variety. This would provide the individual with freedom to contract out if his own needs do not at any future time appear to be realisable. Maintaining an element of freedom in

the job contract could be regarded as important to both the individual and the organisation - but for different reasons!

Of course, organisations may not be able to offer individuals promotion to higher and higher levels, nor can salaries be made higher and higher. In such areas the goal would be one of fair treatment. Campbell (1970) reports a study by Miner where in one department the promotion decisions were positively related to performance while in another department of the same company the odds were:

"in favour of promotion for below average performance", approximately 2 to 10 for above average and nearly 4 to 10 for below average. Such a state of affairs is likely to hurt individual satisfaction and there is a distinct possibility that the negative psychological arousal may regress upon performance. A suggestion in Chapter 2, where it was posited that the individual joins an organisation to fulfil certain immediate needs and build resources for the fulfilment of future needs, it may not be amiss to stress again.

Job Design should attempt to ensure that the individual has access to the resources he needs in the fulfilment of duties, and that the work assigned is within the incumbent's abilities, and that the work involvement extends him to the extent he wishes to and at a pace he is comfortable with.

Integrity of power

The corrupting influence of power, the pervading, manipulative interplay, based on power, in superordinate-subordinate relationship is part of folklore as well as documented in literature, e.g. Kipnis (1972). Logical derivation from this standpoint is the Neilsen and Gypen (1979) hypothesis:

"If one admits that hierarchy can corrupt superiors but assumes that hierarchy is necessary to organisational life, one must accept the premise that subordinates are justified in becoming self protective".

Taking the above premise, Neilsen and Gypen explore the possible effects of, and ways of overcoming, the resultant behaviour, which they suggest would, by and large, be dysfunctional to organisational, as well as the individual's own, wellbeing. In their listing of ways of preventing or reducing self

protective behaviour, they mention job design as a possible remedy. The way these researchers see Job Design as helpful in such situations is:

'Clarifying Expectations vs. Second Guessing'.

Neilsen and Gypen state that although at times,

"Second guessing the superior's changing expectations and avoiding direct clarification may be seen as the best available strategy",

but overall this approach results in misunderstanding that lead to poor performance and misgiving on the part of all concerned.

Neilsen and Gypen have formulated their argument in terms of subordinate's advantage in seeking these clarifications, the author also sees superordinate's advantage if he were to pursue the same goals, i.e. seek clarification of what the subordinate wants; for were the superordinate to continue second guessing, he might behave in ways that are at variance with the subordinates concept of his own wellbeing, who in reflexive action may attempt to undermine the boss.

From the above, it would be legitimate to surmise that Job Design should endeavour to create some form of power equilisation. But to create some form of equilisation two necessary conditions are:

1. Finding out, in specific situations, the power bases most appropriate for each individual and groups of individuals.
2. The ability to measure the influence exercised by each individual, or groups of individuals.

Investigations by Warren (1970) and O'Brien, Biglan and Penna (1972) threw some light into these two areas respectively; the study by Dalton (1959) on actual influence as opposed to formal power, remains a classic in this area, according to Luthans (1977).

4.3.2. Goals and performance at individual level

From three experiments on determinants of performance and satisfaction, White, Mitchell and Bell (1977) report the following results:

Job performance was affected as follows:

1. Specific and difficult goals may be necessary but not sufficient conditions to raise performance maximally.
2. The individual must perceive that the performance will be evaluated.

3. When the above two are combined with social cues the highest productivity should result.

Job satisfaction as an overall-level measure was unaffected by manipulation of the above three variables, but facet satisfaction with respect to job pressure, boredom and performance satisfaction fluctuated with favourable (or unfavourable) variations on the manipulatable variables as follows:

1. Goal setting increased perceived job pressure and satisfaction.
2. Positive social cues increased perceived job pressure but decreased boredom when compared to neutral and negative social cues.

White et al concluded with the following Job Design suggestion:

"It appears from our research results that assigning goals, evaluating performance, and inducing social cues to perform well among peers leads to stimulated, highly productive workers who are satisfied with their performance on the job".

The social cues essentially consisted of proaganda: directed at either morale boosting or morale lowering. In the actual studies a neutral condition of social cues was also tested. The goals being discussed here pertain to task structure. Goal structure and performance evaluation will now be briefly discussed.

Goal setting, goal internalisation and goal properties

In the foregoing it has been suggested that goal setting helps improve performance and satisfaction. However McCaskey (1979) discusses situations in which the precision with which goals can be defined is limited. Typically of these situations is the research and development activity. McCaskey writes:

"Our commonsense understanding is that to be rational, actions should be guided towards predetermined goals. Yet goal is a highly elastic concept and can refer to everything from broad global purposes down to highly specific, quantified measures of operation. The literature has strongly favoured movement towards goals that are specific, objective and measurable. In many ambiguous situations, however, managers are unlikely to have, or to be able to define, such specific and consistent goals. To the extent that goals exist under such circumstances, they are likely to be vague and general. As March has argued, managers should not expect themselves or their subordinates always to be able to state explicit, specific goals before acting. In fact, acting may be the means by which goals are discovered".

So in any practical goal setting, even when purposively undertaken, the environmental situation may preclude complete definition - resulting in a given degree of vagueness and exactness prevailing, in goal definition, at the same time. Support for this last assertion comes from Tanaka, Okuda and Asai (1977) who state that even an infinite amount of information cannot and could not lead to complete definition. The last mentioned researchers split the global concept of vagueness into two primitives: randomness and fuzziness. While fuzziness is associated with the degree of precision that can be brought to bear on the definition, randomness is related with the chance of accomplishment.

The importance of the above concepts in managerial job design lies in that:

1. Goals are set for future accomplishment - unpredictability of the future will always be present.
2. Current understanding of the existing situation may not be correct.
3. The boundaries of managerial jobs are so flexible and intertwined that targets set for one individual may not be accomplishable through his own effort alone but be dependent on the efforts of others as well - and if these latter set of individuals do not perform according to schedule the individual may not be able to perform.

Once again, the foregoing suggests that goal setting and goal attributes are important to Job Design.

While some researchers e.g. Reia (1965) suggest that participation in goal setting helps goal accomplishments, others, e.g. Latham, Mitchell and Dossett (1978) say that participation, per se, does not help. Analysis of results indicate that the important thing is the internalisation of the goals. The degree to which participation brings internalisation is to be encouraged. On the other hand the degree to which internalisation depends on the goal structure, this should be improved. That internalisation may be facilitated by participation is evidenced from Raia (1965) who found his study participants, as a result of participative goal setting, to experience a greater sense of

of job ownership and authority over work, than was the case otherwise. To support this, is presented the following quotation, in which the reference to the headquarters is to the boss with whom the goals had been jointly determined, which was the response given to Raia when he asked one plant manager how he experienced greater authority:

"Because I don't have to check with Lakewood (corporate headquarters) on the telephone as much as I used to".

From his experience with Management by Objectives, Ivancevich (1972) found that job satisfaction experienced increased as a consequence of participation.

Latham and Saari (1979) suggest that conditions under which performance related to goals may be set require the existence of supportive relationships between the parties engaged in goal-setting, especially the superordinate supportiveness towards subordinates.

Latham, Mitchell and Dossett (1978) found the knowledge of results from previous results not exerting control on the level of goal setting, were obtained by Locke (1968) and Locke and Bryan (1969). To Erez (1977) these results suggested the possibility of knowledge of results not be a sufficient condition but all the same a necessary condition for goal setting, and thence of performance itself. Her experimental data led her to accept this hypothesis.

However, earlier findings by Cumming, Schwab and Rosen (1971) may have a bearing on the sufficiency condition. These researchers, in an experiment which used knowledge of results as a manipulative variable found certain attributes of knowledge of results to effect the goal setting behaviour. Cumming et al treated knowledge of results as a four valued variable with states as follows:

1. Correct knowledge of results
2. No knowledge of results
3. Incomplete knowledge of results
4. Erroneous knowledge of results

Data indicated that when participants were given correct information, they set significantly higher goals; when incomplete information was given the goals set were higher but not significantly so;

when erroneous information was given them, they set low goals. These findings could be relatable to the sufficiency conditions discussed by Erez.

However, the setting of higher goals does bring to the fore another problem: whether the goals are realistic or over-optimistic. Larwood and Whittaker (1977) found, subject to the person's self-esteem, individuals tend to set over-optimistic goals. The possible outcomes of this are greater individual effort to start off with, which either results in achievement or failure to achieve. Achievement would have to ensure that the rewards in alignment with the effort. Failure of achievement, on the other hand, could end in experience of stress (see Chapter 2) unless performance evaluation itself takes into account optimistic estimates.

Goal characteristics

Cooper (1973B), basing his argument on the instrumentality model of motivation, delineated two goal characteristics which would make the task intrinsically motivating. These two characteristics are: goal clarity and difficulty.

Quick (1979) researching into goal properties delineated 5 dimensions having a bearing on job performance and job holder experience-in-job. These five dimensions are:

1. Difficulty level of the task goals
2. Clarity level of a task goal
3. Quality of performance feedback
4. Amount of performance feedback
5. Subordinate participation in determining task goals

Goals set in situations where high regard was given to the above items were found, in the subsequent trial by Quick, to induce improved job behaviour.

Of even greater importance for job design is Quick's support for earlier findings by Invancevich (1976), that in organisations which do attempt to set goals for their staff, even in dyadic mode required attention may not be given to the above five dimensions. And this happened even when staff had previously been told of the importance of the above characteristics. Quick

suggests that some learning/reminding mechanism should be initiated, to ensure that the appropriate level of attention is always given to the five dimensions. Carroll and Tosi (1973), dealing with goal setting from the objective setting (see Chapter 2) viewpoint, also stress on the value of reminding those involved in goal setting of the characteristics desirable in a goal. Carroll and Tosi bring to notice:

1. The goal characteristics of 'relevance'.
2. Within a whole job situation, the number of goals and their priorities.

But the above two points although related to goals are more of the objective setting nature (see Chapter 2).

From the foregoing discussion on goals, the following Job Design implications, related to the Job Design process, are drawn:

1. The process should be participative.
2. Goal attributes known to effect performance should be induced into objectives.
3. Performance evaluation should be fair, i.e. information should be accurate and complete, and yet to a degree be generous for the individual may have set goals unrealistically high.

Goal structure variables were evaluated for the effects of job satisfaction, contribution to organisational purpose, and utilisation of individual potential, during the job modification studies, reported in Chapter 7.

4.4. Authority (autonomy and control and power)

Campbell et al (1970) found none of the organisation contributing to their survey on "Industrial and Government Practices in Management", to be following a "conscious policy of designing jobs". Adding to this, Campbell et al state:

"On the other hand, several of the organisations we visited were concerned with job design - particularly with decentralisation".

Centralisation and its opposite, thus, is a strategy which imparts design characteristics to jobs. Even Fayol (1916/1971) had something to say about this strategy. What he says is very perceptive:

"The degree of centralisation must vary according to different cases. The objective to pursue is the optimum utilisation of all faculties of the personnel. If the moral worth of the manager, his strength, intelligence, experience and swiftness of thought allow him to have a wide span of activities he will be able to carry centralisation quite far and reduce his seconds in command to more executive agents. If, conversely, he prefers to have greater recourse to the experience, opinions and counsel of his colleagues whilst reserving to himself the privilege of giving general direction, he can effect considerable decentralisation".

Koontz and O'Donnell (see Kempner (1971/1976)) defines the terms centralisation and decentralisation in terms of delegation of authority; they write:

"In all organisations there must be some delegation of authority although organisations differ in the extent to which delegation takes place. The terms 'centralisation' and 'decentralisation' refer to the extent to which authority is concentrated at high levels or is diffused throughout the organisation".

Heller (1971) opines that managers do not delegate sufficiently probably because they underestimate the capacity of subordinates to do their own jobs. Koontz and O'Donnell relate this lack of delegation to the paradox involved in delegation:

"Although a manager may delegate authority to a subordinate he remains responsible for the subordinate's use of that authority; a state which does not encourage delegation".

Formal authority is the right of a manager, by virtue of his position and the power associated with it, to decide, direct and influence what others in the organisation do. Newman and Rowbottom (1968/1975) relate authority

to exercise of discretion, and specifically to control, over resources.

Authority, therefore, is exercised for purposes of control.

In a pioneering series of studies Tannenbaum (1968) investigated distributions of control with and between organisations. These studies relate to the conceptualisation of control as a 'non-zero-sum' variable. Thompson and Dalton (1970) explain the 'zero-sum' concept in terms of the following example.

"A zero-sum game is one in which the change for the participants adds up to a zero. For example, if two men are playing cards and one wins \$5, the other automatically has to lose \$5, and the net result is zero".

The above is a typical property of closed systems. To relate the concept of non-zero-sums to job design consider the following case.

Suppose two individuals, A and B, are in an hierarchical relationship with B as the subordinate. Tannenbaum's suggestion is that the level of control exercised by B may be raised or lowered without the control exercised by A being affected.

That the above may indeed be true, becomes clear when sources of authority are taken into consideration. If the superordinate, through the authority held by him by virtue of his position attempts to influence the subordinate to something illegal, the subordinate may refuse; the refusal could be based on the organisational charter which gives the subordinates the authority to refuse orders which could lead to illegal acts.

The obverse of authority is responsibility. Newman and Rowbottom (1968/1973) relate an individual's degree of commitment to perform to: firstly, style and explicitness with which the work requirements are communicated to him; secondly, to the feasibility of the work assigned to him; and, finally, to his own sense of responsibility.

The job design concomitants of centralisation and decentralisation are essentially those that have to do with adequacy of resources and as this has been discussed under Section 4.3, will not be presented in detail here.

An item of job design consideration having to do with centralisation, given in rhetorical formulation by Newman and Rowbottom (1968/1973) is:

"Is it recognised that all executive roles whatever their levels, have some implicit discretionary content?"

Without the discretionary element in the job the incumbent will be asked to perform like an automaton and human beings, especially those who are holders of managerial positions, would not welcome such a prospect. Job design, however, endeavours to find out as to whether the autonomy available is at the level the job holder regards as sufficient. Job design, then, should endeavour to improve the performance of individuals by attempting to adjust authority held by the individual to be at an appropriate level, and this could be done so as to lower the decision making to the level where problems originate. Such a strategy would be in accord with O'Shaughnessy's (1976) suggestion on effective organisational design.

Carlson (1951) found that in centralised organisations there was more of the following activities: getting information, advising and explaining, taking decisions, giving orders, than in decentralised. A legitimate conclusion would be that decentralisation, i.e. giving individual job holders authority, as suggested in the foregoing paragraphs, would reduce the necessity for this extra effort Carlson brings to attention.

4.5. From principles to practice

Early writers on management, e.g. Fayol (1915/1977), Urwick (1943/1961) wrote in terms of universalistic principles - a deduction from which would be that all organisations could or should design themselves according to the laid down principles. Urwick actually starts the first chapter of the book referenced to above, by suggesting the virtue of principles over empiricism that he, and others before him, observed in the actual practice of management. That he was going against the grain, as it were, was recognised by him, and is evidenced:

"To discuss administration in terms of principles is therefore an undertaking of some temerity".

His book is full of anecdotal material, mainly pointing to the wastefulness due to the empiricism; the appeal for the argument of having principles is therefore that much stronger. Drawing heavily on the work of Follett, Fayol and Mooney and Reiley he, using the logic of Anderson, extended and built up numerous principles.

In this Urwick was in fact making every manager a job designer. But there was a fundamental assumption on his part: the concept of "organisational choice" did not enter the logical arguments presented by him; the all prevailing influence would be what the author has termed 'strategic necessity', but, and unfortunately, unrelated to circumstances.

In the text to follow, one of the principles will be analysed. Space consideration and the fact that most authorities in management do not regard the principles as abiding on, and representative of, contingent reality, preclude discussion on all principles.

Fayol and Urwick both dwell at length on the concept of "span of control". In essence this principle could be stated as:

Groupings must ensure that each superordinate manager is not overburdened with subordinates .

After Fayol, Graicunas mathematically analysed potential relationships between subordinates and superordinates, from which Urwick surmised that:

"No superior can supervise directly the work of more than five or at the most six subordinates whose work interlocks".

However, Graicunas's mathematics is based on the assumption that each subordinate:

1. Demands the same attention
2. Requires the same attention

The fact that these assumptions may not always be true is borne from empirical studies of how managers spend their time, reported in Chapter 3. A superordinate will have subordinates with different abilities and personalities; different elements of the job require different levels of attention at different moments in time. These and other factors, including the ability level and personal style (i.e. delegation) of the superordinate himself, considered together would suggest that the theoretical abstraction is unrepresentative of reality.

Suojanen (1955) brings further arguments which appear to discredit this principle as stated by Urwick. Suojanen's contention is that the principle was developed in the military with the intention of creating instantaneous responsiveness in the face of military uncertainty. In organisations which have predictable environments, there would, then, be no necessity to stick to this rule.

Acceptance of this principle would invariably lead to the conclusion that the organisation has no control over the number of hierarchical levels within it. The empirical studies of Worthy (1950) and Carzo and Yanouzas ((1969), (1970)) however indicate that the performance of organisations differs when analysed according to the height (or flatness) variable. However, the evidence is by no means conclusive. While Worthy comes out, overall, to support flatness in organisations as leading to employee fulfilment and performance, Carzo and Yanouzas on the basis of organisational performance alone, state that their data supports tall structures. Employee fulfilment as a correlate of height of organisation has not received as much attention, as perhaps it deserves.

From the above discussion, it would be legitimate to surmise that Urwick's formulation of the principle may lead to unsupportable and unintended conditions. In the context of job design, a contingent formulation may stand up better:

'the span of control should be contrived so as to facilitate the accomplishment of the expectations of subordinates, regarding the control necessary'.

The reformulation suggests that the concept germane to the principle is important but different circumstances may necessitate flexibility in rule formulation and application. In the sub-section to follow different contingent standpoints on organisation structure and discussed from a job design perspective.

In the next section are presented some models of organisation analysis. From these models conclusions regarding job design are drawn. The idea is to present ways in which conclusions regarding job design may be derived.

4.6. Linkage of variables models

Argyris (1957) writes:

"Anyone who conducts research on human behaviour in organisations is always faced with the problem of ordering and conceptualising a buzzing confusion of simultaneously existing multilevel, mutually interacting variables".

Later, Argyris describes how he overcame the conceptualisation problem:

"Two assumptions which help to make the problem manageable are made about the "buzzing" confusion. First, I assume that the complexity has simple beginnings that evolved into a monster I am presently facing. Second I assume that the complexity is not limitless, that at some point the variables connect with each other, thereby creating a finite system, a system that is "boundary maintaining". These two assumptions lead me to a third: if this complexity is finite, if it has boundaries, and if it lives, then it may have the properties of organisation. By organisation I mean an arrangement of elements characterised by their order rather than by their intrinsic nature. It is the unity whose significant feature is the position of each element in the pattern".

The point of presenting the above quotes from Argyris is that the author found himself in a position similar to the one described in the first quoted text from Argyris; the second quotation depicts the path he has attempted to take in order to make his problem tractable.

Leavitt model

Leavitt (1965) proposed a diagrammatic model of organisational variables as shown in Figure 4.2.

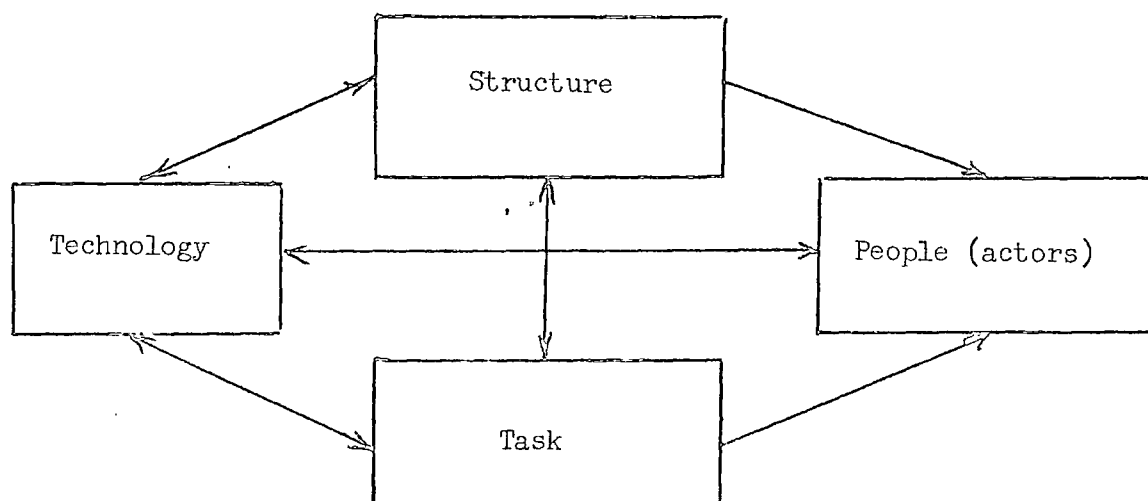


Figure 4.2: Leavitt Model of organisational variables

Leavitt's proposal is based on his abstraction of four variables, mutually interacting, the manipulation of which can bring about organisational change. Concentrating on the task variable, which would be substantially the job, and the people, who are the job holders, and these two variables are together the focus of job design, a deduction in that technology and structure, are either the manipulatable variables or constraints on the design of the job.

Leavitt, commenting on the four variables of his model writes:

"These four are highly interdependent, as indicated by the arrowheads, so that change in any one usually results in compensatory (or retaliatory) change in others. Sometimes the aim may be to change one as an end in itself, sometimes as a mechanism for effecting changes in one or more of the others. Usually, but not necessarily, efforts to effect change are ultimately designed to influence the task variable".

In job design, where the ultimate goal is measurement and where necessary the re-contrivance of a fit between people and tasks, technology and structure should be regarded as manipulative variables - and the extent to which these are in fact manipulateable is the extent to which the job designer has freedom to bring about ideal conditions. By the same token, the extent to which this is regarded as static, non-manipulative, is the extent to which the job designer would concentrate on "people-based" techniques to design jobs. The people-based techniques of organisational change, according to Leavitt, are those based on the techniques relateable to the human relations school.

Since technology and structure are either constraints or choices (manipulative variables), their definition, by Leavitt, is important in application to job design. Leavitt describes these as:

Technology - "refers to direct problem solving inventions like work measurement techniques or computers or drill processes. Note that both machines and programmes may be included in this category".

At another point, it is suggested that:

"changes in accounting procedures or varieties and sizes of machines" are within the technology variable.

Structure - "means system of communication, system of authority (or other role) and system of work flow".

Technology model

Woodward (1965) conducted a ten year study, 1953 to 1963, investigating the link between organisational technology and its structure and managerial practice. Her work spans the period of the ascendancy of, and to a great measure contributed to the shift away from principles to contingency theory.

An analogy she gives to show the value of principles within the contingency viewpoint is very perceptive and is reproduced:

"... water does not always boil at 100° Celsius, but as a 'flexible rule' this statement can provide a useful generalisation for everyday requirement. But before a serious student of physics can reach any understanding of the underlying scientific process, however, the exact circumstances under which water fails to boil at this temperature have to be identified and explained".

Her thesis could be summarised as:

'Technology is a major determinant of organisational characteristics'.

The importance of her work to job design lies in the conclusions she arrived at. Evaluating her study she writes that it:

"... would provide an answer to a question so often in the minds of those responsible for organisational planning: how can an assessment be made of the appropriateness of a firm's existing organisational pattern to its needs?"

Of her conclusions, related to the above question, she writes:

"It did suggest, however, that technology, ... that is technology involved in carrying out the managerial function, is causally related to the structure and behaviour variations observed in manufacturing situations".

The reader should note that Woodward discusses two technologies: the technology of production and the technology of management. The technology of management variables investigated were:

1. Typical span of control
2. Levels of management
3. Most critical function
4. Tendency towards line/staff functions

An analytic framework for Woodward's work, capable of giving job design propositions, would be

Production Technology → needs of the situation → management technology

Where the work of subordinates is interdependent and non-standardised, and if the penalty of error is high, co-ordination demands would be high. Co-ordination is therefore an important situational need. If the danger of sub par performance, whether related to behavioural deviations or knowledge based deficiencies, is high, the need for supervision would be high. Analysing the organising on the basis of the critical element of activity along the following continuum:

Development → Production → Marketing

may indicate whether a flat or a tall structure would be appropriate for the unit and the organisation. This is an important concept: the organisation as a whole, if it is marketing dependent may have a tall structure, but the development unit within it may need less number of 'steps' in the hierarchy, i.e. a flat structure. Organisations dependent on development have, in recent times, attempted to offer 'parallel career' structures, to their development scientists. Tall and flat structures would, in a job design exercise, have to be checked on unit basis. Flat structures could be regarded as facilitating extensive participation in decision making - the impact of decision, made at relatively low level, would be greater.

The concurrent needs of specialism and co-ordination may call for a structural alignment different from the traditional: improving the design of jobs may call for matrix or other formulations. On the other hand existing matrix formulation may be found to be unnecessary. The degree of flexibility necessary would be a criterion that could serve well. The final importance of Woodward's work lies in the organisational necessity to attempt to change the managerial technology, as production technological changes are adopted.

Technology has been found to be a key determinant of "Direction and Frequency Dimensions of Task Communication", by Randolph and Finch (1977). Job design would then attempt to find out what the needs of the situation are and whether appropriate managerial technology is being applied.

According to Rousseau (1978) production technology produces characteristics

in jobs which are low on some key perceptual dimensions, and which effect performance and/or satisfaction, e.g. autonomy, variety, completion of the whole piece of work. This line of thinking, however, begs a question. If Woodward's thinking is conceptualised as portraying the situation:

Production technology → Needs of the situation → Management technology
 then a failure in job design could lie with production technology, managerial technology or the accuracy with which the needs of the situation were identified and their relevance to managerial job design ascertained. The author's increasing realisation, as he studied the literature, was that purposive job design at 'individual manager' level of detail was a rarity; this leads him now to believe that what has been lacking has been a coherent theory of job design and the managerial technology to implement it.

Individual managers have largely been left to identify 'the needs of the situation' with boss or subordinate and then, after identifying some goals, have used the well known and, in its own way, quite effective managerial technology of "muddling through". (For the muddling-through model of behaviour see Kotter and Lawrence (1974) and Cyert, Dill and March (1965)).

Major improvements on the present unco-ordinated approach require rigorous and systematic appraisal of the needs of the situation and a purposive, applicable theory of managerial job design.

Organisations will, or will not, attempt to accommodate environmental changes in technology. The degree to, and the rate at, which organisations respond to availability and demands of technology may determine their long-term performance (Thomson (1957)). Job design propositions stemming from Thomson's view on organisation absorption of technology are:

1. As organisations adapt to technological changes, there will be a corresponding need to organise training for individuals. Job design should attempt to ensure that this is done on an ongoing basis.

2. As jobs become more and more specialised, individuals may tend to owe more 'allegiance' to excellence over smaller and smaller sections of the process. This may necessitate building mechanisms to counterbalance the tendency, i.e. more co-ordination, however achieved.

Multivariable models

A very intense and extensive research study, reported in a series of publications with the names of the reporters permuted, on organisational content and structure, was undertaken by a group once based at the University of Aston in Birmingham (see Pugh et al (1969A), Hining et al (1967), Inkson et al (1967), Pugh et al (1969B)). John Child although apparently not a member of the team has built many hypotheses from the data originally collected by the Aston group (Child (1972A), (1972B), (1973A), (1973B)).

The contextual and structural variables investigated, from a job design perspective, are given the formulation of Figure 4.3.

1. <u>Contextual Factors</u>	2. <u>Structural Factors</u>	3. <u>Behavioural Factors</u> (due to Child (1973A))
1. Origin and history	1. Functional specialism	1. Conflict
2. Ownership and control	2. Role specialism	2. Employee questioning authority
3. Size	3. Standardisation	3. Employee suggestion of change in structural variables.
4. Charter	4. Formalisation	
5. Technology	5. Concentration of authority	
6. Location	6. Autonomy in the organisation	
7. Resources	7. Procedure for selection and advancement	
8. Dependence on parent or higher order organisation	8. Subordinate ratio	
	9. Performance control procedures	
	10. Ratio of total to production personnel	

Figure 4.3. Model depicting the flow from contextual to behavioural factors

In essence, the Aston group came to the conclusion that the size of the unit determines its structural configuration. That is to say that technology of production is less important than in the Woodward model. Child (1973A)

re-analysing the data for behavioural implications of structure, found this data summable on the three principal factors given in the third column.

For job design, then, the above model depicting the linkage between behavioural and structural factors would be helpful in diagnosing organisational factors candidates for modification.

Three contextual variables which impinge on the structural variable (and thence onto the behaviour factors) are now discussed.

Size

Regarding the growth in organisation, an inference from the works of Weber (see Jaques (1976)) and Pugh et al ((1968), (1969A), (1969B)), Child (1973B)) and many other researchers is that size plays an important role in determining how organisations operate, and this in turn affects individual jobs and thence is the experience-in-job of the individual and the organisation circumscribed.

According to the Aston group (Pugh et al) as the size, measured by the number of employees, increases there appears to be a tendency towards increased specialisation in the work roles. Specialisation, if carried out in a way which makes jobs progressively narrower will require progressively greater effort at co-ordination; more and more people would be involved in decision making regarding outcomes relating to the same general area; narrowness of the task responsibility could result in adverse experience-in-work for individuals on account of only few and specific energies being utilised in the jobs. Needless to say, some individuals may even welcome limited and specific use of abilities, but the danger is that as specialism becomes an organisational characteristic, those individuals who prefer 'broad jobs,' i.e. jobs with wide-spectrum use of abilities, may have adverse experience-in-job.

Change in size of an organisation affects, also, the internal mobility and opportunities available to employees. Bennison (1979) reports that on an average

"a one per cent rise in jobs creates a 10 per cent rise in chance of promotion"

The extent to which the individual's experience-in-job is related to upwards mobility, may therefore be explainable in terms of the organisation contracting, expanding or simply maintaining itself. Contracting organisations, on the other hand, may offer the job holders remaining within the organisation the possibility of reorganising their task, role or duties schedules to include elements which are considered desirable for execution but possibly at a different level of concentration than before. Where the work of the organisation contracts, but not the employee 'head count', specialisation could even artificially increase, through individual efforts to define ownership, over elements of job.

Ownership and participation

In Chapter 3, from Dale's biographical account of the behaviour of Henry du Pont, the sole owner of the du Pont organisation, some job design implications for job incumbents were made. Further deductions from Pugh et al (1969A) and direct statements from Ewing ((1977), (1979)) lead to the conclusion that the shape and nature of jobs within an organisation are affected by ownership of the organisation.

Ownership could be conceived of, roughly, in terms of the following classifications:

1. Single person (or single family) owned
2. Joint partnerships
3. Trusts
4. Open stock companies
5. Government: state or local
6. Statutory bodies
7. Subsidiary (wholly owned organisations)
8. Employee ownership (Commonwealth)

Pugh et al (1969A), Pugh and Hickson (1968), Samuel and Mannheim (1970) and many other organisational researchers suggest that organisational structured variables are affected by ownership.

The structural variables are affected by the process variable of participation that different types of ownerships permit individual job incumbents.

In Chapter 1 reference was made to the school of thought, the democratisation of work school, which believes that organisations should be democratically run. In practice, democracy is a participative process. This line of reasoning also suggests that participation could affect organisational structure. Further, goals determined participatively are more likely to be internalised and actioned, according to Marrow, Bower and Seashore (1967).

Employee involvement or participation gets practical form in the Scanlon Plan (see Katz and Kahn (1966)) and in even greater detail in Whyte (1955) which is still being used with some modifications, in organisations as evidenced by Ewing (1977).

Evidence on the shape of jobs and experience-in-job derived by job holders on a concomitant of ownership is presented by Ewing (1979). Ewing interviewed the elected president and some of the membership of a worker-owned company and reports that the president said:

"Everybody feels committed to the company's goals".

Similar observations are reported by Beishon (1974) in his case study of the Scott Bader Commonwealth. O'Toole (1979), however, reports that:

"Little increase is visible in job satisfaction, morale or company loyalty among worker-owners".

Ownership or part-ownership, wins for the individual the right to exercise influence - it is a source of power. The exercise of power can then lead to structural determination and shapes of job - the job held by the individual as well as jobs effected by his exercise of power.

Pugh et al's (1969A) concept of "public accountability" in government studies, has its image in the 'peer group power of sanction' which operates in 'worker owned' commonwealths, as discussed by Ewing (1979); 'personal accountability' would be the equivalent concept for those in family businesses.

However, participation is a very vague concept, which can be given

different interpretations; participation in determining goals, in profit sharing, etc. The author has taken participation in the context of ownership to indicate the employee possessing a power base from which, if he so chooses, he could attempt exercising influence. The foundation of power base could be employee ownership or recognition through organisational/unit charter (for organisational charter see Harrison (1972), Bakke (1950)) - or even a job design policy statement.

Reuter (1977) discusses a scheme used in many organisations to increase employee contributions and thence commitment and one in which the individual also gains materially: the Employee Suggestion Scheme. Carlson the proponent of the "Visible Management" philosophy, could be regarded as advocating an Employee Suggestion System (see Dowling (1979)) as a means of ensuring employee participation towards organisational efficiency.

Organisational resources

The resources at the disposal of an organisation could be classified under the following three headings:

- owned: those that are tangible and have either been bought or leased/hired, e.g. land, buildings, machinery, money.
- cultivated: those that enhance the ability of the organisation to achieve its primary goals, but are psychological in nature, e.g. customer loyalty, reputation in the financial community, the uniqueness and comprehensiveness of the product/service range.
- committed: those the organisation can inspire in, and elicit from, individuals especially within, but also outwith the organisation, e.g. employee commitment, political and social support from groups without direct membership to the organisation.

For the job designer the twin items of primary concern are the employee commitment to organisational objectives and the organisational commitment to individual's objectives.

An objective of job design would be to seek to contrive individual/

organisation interfaces where the commitment of each side is at the level acceptable to the other. The job designer would attempt to ensure that the organisation's cultivated resources, as a consequence of the work done by the individual job holder, would either be enhanced or at least not depreciate.

The organisational resource of the class 'owned', could be looked at in the context of job design in two ways:

1. Those that are subject to exchange
2. Those that are subjected to utilisation

It would be the aim of job design to attempt to ensure that those resources which are subject to exchange are governed by the laws of fairness, and those that are utilised in the course of work are subjected to optimisation or the principle of parsimony.

Samuel and Mannheim model

Samuel and Mannheim (1970) proposed a contextual and structural variable model depicted diagrammatically in Figure 4.4.

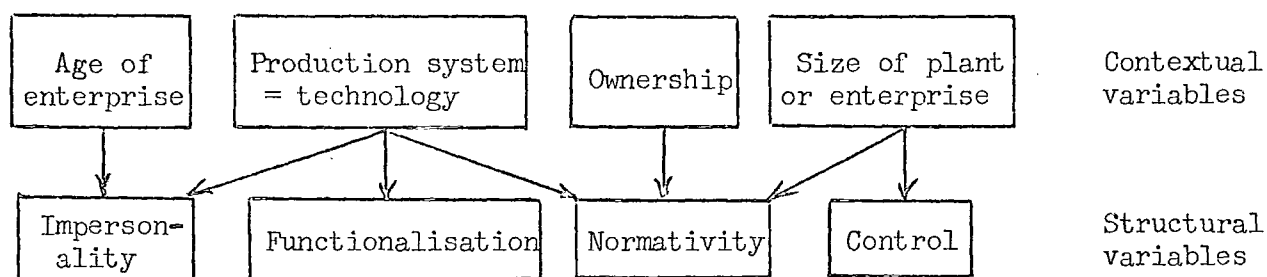


Figure 4.4: Samuel and Mannheim Model of Contextual Variables

Samuel and Mannheim found the contextual variables relatively free of inter-correlation; on the relationships between the structural variables they write:

"No correlations were found among the structural variables even when the contextual variables were held constant".

The Samuel and Mannheim model is a contingent model - the authors neither claim that, nor strive to discern whether, any of the structural variables is either good or bad. The model does suggest the variables which could be manipulated to effect changes in certain other variables; or what changes

might be induced by changes on which variables or, thirdly, what variables affect which other, given that the causal variable may be non-manipulatable - as is the case with the age variable. The foremost deduction from this model, therefore, is that, if the structural constructs are not at the correct level, individuals within the organisation may experience uncomfortable experience-in-job, which might regress on their performance-at-work.

Impersonality operationally can refer to: 1. Lack of emotional involvement, or 2. The low level of intimacy prevalent in contacts, or 3. The extent to which contact opportunities are restricted to formal occasions.

The major thrust of organisational psychologists e.g. Argyris ((1957), (1963)), and the Human Relations School could be regarded as suggestive of impersonality leading to dysfunctional behaviour.

Functionalisation in its extreme can narrow the tasks assigned to an individual to an extent that, instead of leading to high production, it leads to lowering of overall productivity (Kelly (1979)); as the sectionalisation increases the need for co-ordination increases. Walters and Associates (1975) writing on functionalisation state:

"Among the hundreds of organisations we have come in contact with, this is the most common error in organisation structure that we found. The key problem is this. As volume or complexity increases in business, the need arises for dividing up the work force into subunits, each with their own leadership. The most common tendency is to break up the work into areas of speciality or functional units (if this has not already been done to reduce the span of the tasks one employee must perform). Work group organisation then assumes a strictly functional orientation. The major consequence of this is that no single group, and certainly no single individual, can turn out a completed product or a whole service. As a result the key concept of 'closure' in the work process is lost for both individuals and subunits. Since no group completes a whole job, there is invariably a lessening of commitment to the customer or client who receives the finished product or service. Feedback on task performance is less relevant, and significance of the task is reduced".

A conclusion from Walter et al's remark is that through functionalisation the orientation of the job holder is deflected from the whole and gravitates to a part. A logical deduction of this is that individuals and units will tend towards optimising their own goals, and if functionalisation has reduced the

task goals to very narrow bands the lowering of goal horizon will tend towards overall sub-optimisation.

Normativity refers to two kinds of organisational norms: technical procedures and behavioural rules. Prescribed procedures and rules tend to diminish the job holder's areas of choice while they could be regarded as bringing clarity to the roles the individual is asked to play. Depending on the personality of the individual incumbent these could, therefore, be regarded as an encumbrance, or, as being helpful. To the extent that they demand confirmative behaviour, some individuals may regard them as excessive. If regarded as excessive they would lower the quality of experience-in-job, which might regress on performance, for Argyris (1973) on the authority of Bahhe writes:

".... one of the most important needs of the workers is to enlarge those areas of their lives in which their own decisions determine the outcome of their efforts".

In the same article, he also writes:

"Most human problems in organisations arise because relatively healthy people in our culture are asked to participate in work situations which coerce them to be dependent, subordinate, submissive and to use few of their more than superficial abilities"

Those individuals having a personality predisposition towards self control and exercise of judgement, may regard excessively laid down procedures and rules as lack of organisational confidence in their ability and judgement.

Organisational control as discussed by Samuel and Mannheim pertains to authority, influence and responsibility and has been discussed elsewhere in this chapter.

Certain authorities, e.g. Randolph and Finch (1977), have empirically found that technology is a determinant of task communication, both in direction and frequency, while others e.g. McRae (1971) have found that "good communication and high performance go together". Communication has been discussed before in connection with uncertainty. However, since communication is not the same as information, which would reduce uncertainty, but also contain elements of 'psychological understanding', and further given that most managerial thought

regard communication as essential to performance (see Rogers and Agarwala-Rogers (1976)), in designing jobs it would be necessary to ensure that 1. The technological restraints on one job holder do not prevent him from receiving or giving communication that either the incumbent or the role set need, and 2. That the organisation adapts to technological innovation in communication to the extent that these innovations would facilitate task and goal accomplishment.

Interpersonal communication, not the substantive material which would constitute information, but the style and manner of it, are discussed in the next section. The boss style operates at the subliminal as well as the conscious level and has the potential to affect the job holder's performance and satisfaction through his experience-in-job.

4.7. Styles

This subject is discussed at two levels: the style of the boss behaviour and the person's own individual style.

4.7.1. Effects of boss-style on subordinate behaviour

Thompson (1971) found support for the hypothesis, initially formulated by Likert (1961), that certain boss-styles were likely to lead to higher levels of job satisfaction and performance. The hypothesis had earlier received support from Myers (1966); Thompson's personal contribution was that he attempted to incorporate concepts of individual differences, between subordinates, into his study and was thus able to arrive at two interesting conclusions:

1. Those scoring high on favourable self perception were less likely to perceive the behaviour of their superordinates as supportive than those scoring low on the favourable self perception scale.
2. Those scoring high on favourable self perception scale generally scored lower on job satisfaction.

The second hypothesis points to the inherent difficulty in job design - the resolution of opinions of the job holder and the organisation, where in this case the boss could be regarded as the representative of the organisation. This work links back to the concept of individual perceptions which was discussed earlier in this thesis in Chapter 1.

The importance of Thompson's first hypothesis is that different individuals, in the same job situation, are likely to perceive the boss's style differently - resulting, in one extreme, in satisfying experiences, and in the other extreme, in dissatisfying experiences.

Runyon (1973) has also come up with results supportive of Thompson's viewpoint, but his results extend the findings to job situation contingency, as suggested above, and provide a link with the concept of control, in the work of Tannenbaum and Schmidt (1958).

Deriving hypothesis from Likert's linking pin model, House, Filley and

Gujarati (1971) formulated six hypotheses to be tested in a study. For two of these hypotheses, there was directional but non-significant support while for another two, stated below, there was strong support.

1. Leader consideration would be positively related to employee satisfaction and role expectation.
2. Leader decisiveness would be positively related to measures of employee satisfaction.

An hypothesis for which data indicated contrary relations was:

"Leader initiating structure would be negatively related to the satisfaction of employee role expectations".

The above findings of House, Filley and Gujarati could be regarded as supportive of the Blake and Mouton (1964) training programme based on two dimensions, namely consideration for production and consideration for the individual. However, in the light of results from Thompson (1971) and Runyon (1973), it is not that the superordinate manager should consistently follow the same style all the time - in every situation and with all subordinates versatile and inconsistent behaviour has been empirically found, by Skinner and Sasser (1977), to be more successful. With respect to the Blake and Mouton system for measurement of styles, a (9.9) behaviour should be regarded as a desired outcome over period of time, aggregated over issues and individuals involved. Support for issue based versatile behaviour also comes from Heller (1977) who, writing on successful managerial behaviour, states:

"There can be little doubt, therefore, that managers do not use one preferred personal style of decision irrespective of the nature of the situation. This is an important conclusion and stands in opposition to most of the management literature on this subject".

However, Gellerman (1977) presents the behaviour of three executives on the same issue and clearly demonstrates how their behaviour elicited different performance. By separating the substance from the style Gellerman concludes:

"To be effective, a manager needs to pay attention to what he does as well as how he does it".

Boss-style, as a variable, may not be directly incorporateable into the design of a job, but since its effects are manifestly present, it would be instructive for organisations to attempt to incorporate the concept in an organisational job design policy statement. Further, instructions that those responsible for job design should be made aware of the behavioural science findings in this area would be helpful. A job design policy statement would have to be so formulated that while protecting the subordinate from the ill effects of versatile behaviour, it still provides the superordinate with a given amount of freedom to manouvre. Circumstantial evidence to support the contention on the potential benefit of a job design policy statement comes from Mutsui (1978), who found that 'flexible' managers modified their behaviour towards their subordinates in accordance with cues received from above. Evidence that superordinates made aware of, and encouraged to follow, behaviours known to elicit greater performance and satisfaction from subordinates comes from Dowling (1979) in his interview with Carlson, who practising and preaching 'Visible Management' - constantly meeting subordinates and tapping ideas and listening to grievances of employees at every level - turned United Airlines from a loss making organisation to one generating profits.

The conclusions in the foregoing paragraph are also based on the viewpoint of paying attention to subordinate relationships in job design. Past organisation literature has, by and large, ignored the subordinate role and concentrated on the leadership role (Neilsen and Gypen (1979)). Whyte (1956) and Argyris (1959) present a very persuasive argument that in organisations career success becomes dependent upon conformity and subservience rather than leadership, and this in the long run is detrimental to the organisation, and could be regarded as violating individual dignity by some. Rosan (1961) discusses why roles of leader and subordinate should be well integrated with equal importance being shown to the two roles.

4.7.2. Individual's own leadership style and job design

According to Smith (1969), a manager's performance as a leader depends on his ability to influence and be influenced by the group and its members in

the implementation of a common task. In practice, this means:

1. Ensuring that the required tasks are continually achieved.
2. Building and reinforcing the need of his group for teamwork and team spirit.
3. Meeting the needs of each individual member of the group for self actualisation.

The extent to which individuals succeed in accomplishing the above listed items is, however, variable. Hence the popularity of training. Campbell et al (1970) failed to find any effect of leadership training on organisational performance. Fiedler (1972) discusses a contingent model which leads to the conclusion that individuals have innate qualities which permit them to operate effectively in different job situations. Fielder analysed his data in terms of two innate characteristics - relationship motivation and task motivation. Fiedler's data suggests that:

"... task motivated leaders tend to perform best in very favourable and in relatively unfavourable situations; relationship motivated leaders tend to perform best in situations of intermediate favourableness".

The implication, from these findings, for job design would be that if immediate results are desirable, situation-of-job should be regarded as a major variable of manipulation, and where these cannot be manipulated, the concentration should be an appropriate appointment.

Adizes (1976) analysed styles on a gestalt of four primitives. The styles and the roles derived are:

<u>Style</u>	<u>Role</u>
Producer	Producing
Administrator	Implementing
Entrepreneur	Innovating
Integrator	Co-ordinating

The thrust of Adizes argument could be interpreted to advocate the design of managerial jobs so that the individual's natural style is complemented by, and complements, the natural style of his role set. According to Adizes

where this fusion does not occur mismanagement will arise.

Style is one determinant of individual's experience-in-job. Although extensively researched into, it is still a global variable, in that it can encompass many constructs. In the following section some other variables known to affect the individual's experience-in-job are discussed.

4.8. Determinants, moderators, correlates and predictors of job outcomes

The three sets of variables:

1. Characteristics of jobs
2. Characteristics of the individual
3. Class of outcomes, i.e. performance signifying outcomes

and the relationships between them have, of recent, gained considerably as a topic of research. The terms used in the subheading indicate the type of models researchers have posited for their empirical or theoretical work.

The Determinant Model posits the relations in terms of a variable of one class directly inducing certain outcomes. One or more of the individual or job characteristics is hypothesised to lead to certain outcomes, say high performance. The two diagrams of Figure 4.5 show a typical hypothesised relationship.

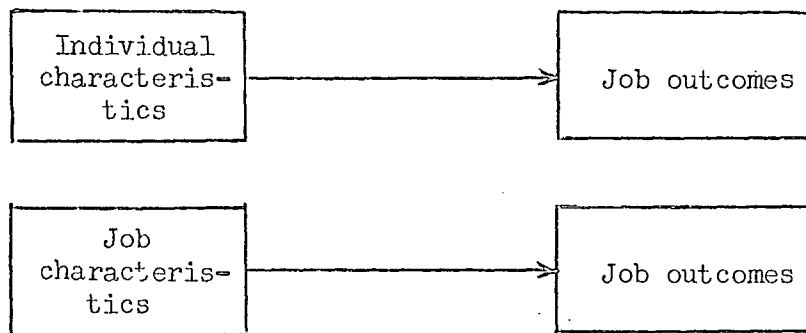


Figure 4.5. The Determinant Model

The Moderator Model. In this model the researcher posits one or more variables of the class individual (or job) characteristics to intervene between the determining job (or individual) variables and the outcomes class. Figure 4.6 depicts the moderating relationship diagrammatically:

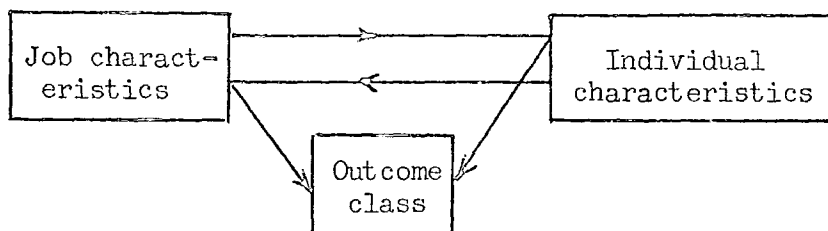


Figure 4.6. The Moderator Model

The Moderator Model is often used to increase the relationships of one class of variables, say those of job characteristics, with those of the outcome class, through the individual characteristics, e.g. individual need for variety as a moderator of variety in job (assuming it could be objectively determined).

The Correlators Model. In this model the researcher investigates two or more variables of either the same class (say individual or job characteristics) or of different class (some of the class job and some of the class individual) and validated how these vary with differences in outcome. No relationship is posited between the determining variables. Figure 4.7 depicts the correlational

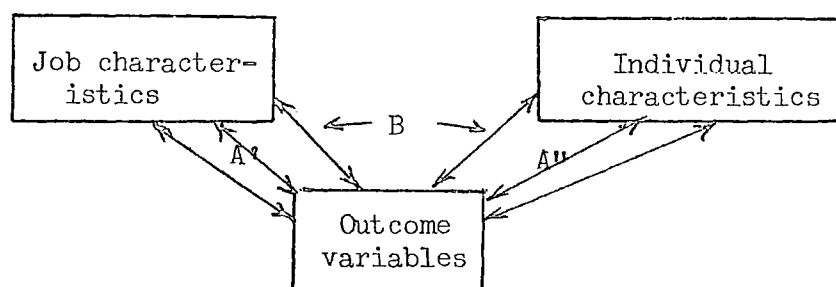


Figure 4.7. The Correlators Model

relationship model diagrammatically. Note in the diagram the correlational relationship A' indicates that both the correlates are job characteristics and in the correlational relationship A'' both the variables are individual characteristics; the correlational relationship B shows some characteristics to be of the class job while others are of the class 'individual.'

The Predictors Model is similar to the determinants model and is different from it, in that, while in the determinants model the relationship is hypothesised, in the predictor model it is assumed to be present (on account of previous determinants model validation).

Characteristics that have been proposed or investigated - difficulties

To compile a full list of characteristics that have been investigated as determinants, moderators, correlate or predictors of job outcomes (and the

various ways in which the job outcomes have been measured) would not only be onerous but could also be unproductive and futile. However, to get a feel for the kinds of variables that have been tested some are listed in the two tables of Figures 4.8 and 4.9 for the job and individual characteristics, respectively. From the lists it should be clear that any characteristic that a researcher could think of as being a descriptor of the entity could then be tested for its implications on any of the other class of variables.

Another difficulty in this area of research is that oftentimes variables, within the same class, are between themselves correlated i.e. bound to each other in predetermining relationships. To give an example of this: the characteristics 'role-conflict' and 'speed of decision making' are both

Some characteristics of the job (content or context) that have been proposed or investigated

1. Task processes
2. Plant location (Shepard (1973))
3. Variables of performance evaluation Shahman and Roberts (1977)
4. Task scope Schwab and Cummings (1976)
5. Role conflict and role ambiguity Rizzo, House and Lirtzman (1970), Grusky (1958)
6. Feedback on performance (many; among them Cumming, Schway and Rosen (1971))
7. Jurisdictional ambiguity Walton et al (1969)
8. Sub-optimisation of incentives Walton et al (1969)
9. Frustrating task condition within department Walton, Dutton and Cafferty (1969)
10. Obstacles to interperson communication Walton et al (1969)
11. Social friction within department Walton et al (1969)
12. Discrimination (based on age, sex, race, competence) Haefner (1977)
13. Opportunity for achievement Herzberg et al (1959)
14. Opportunity for recognition Herzberg et al (1959)
15. Opportunity for responsibility Herzberg et al (1959)
16. Opportunity for advancement Herzberg et al (1959)
17. Opportunity for growth in competence Herzberg et al (1959)
18. Variety Turner and Lawrence (1965)
19. Autonomy Turner and Lawrence (1965)
20. Interaction opportunities (required and optional) Turner and Lawrence (1965)
21. Knowledge and skill required Turner and Lawrence (1965)
22. Task identity Hackman and Lawler (1971)
23. Pay Sheppard and Herrick (1972), Greene (1973)
24. Supervision Sheppard and Herrick (1972)
25. Working hours Sheppard and Herrick (1972)

Figure 4.8. Job Characteristics

Some characteristics of the individual that have been proposed or investigated

1. Alienation	Kornhauser (1965)
2. Belief in the protestant ethic	Blood (1969), Wanow (1974B), Greenberg (1977)
3. Urban versus rural residence	Hulin and Blood (1968)
4. Urban versus rural socialisation	Gouldner (1957), Morse (1973), Katzell, Barrett and Parker (1961), Schuler (1973), Wanow (1974B)
5. Perceptual style	Stone, Moday and Porter (1977)
6. Need for achievement	Morris and Synder (1979)
7. Need for independence/autonomy/	Morris and Synder (1979)
8. Neuroticism	Stone, Moday and Porter (1977)
9. Higher order need strengths	Hackman and Lawler (1971), Lowry (1976)
10. Intrinsic versus extrinsic work values	Lowry (1976)
11. Educational attainment	Lowry (1976)
12. Ego involvement	Vroom (1962)
13. Age	Carnall and Wild (1974),
14. Sex	Carnall and Wild (1974), Lowry (1976)
15. Marital status	Carnall and Wild (1974)
16. Length of service	Carnall and Wild (1974)
17. Self esteem	Jacobs and Solomon (1977), Korman (1967), Gavin (1973)
18. Psycho-somatic complaints	Morris and Synde (1979)
19. Propensity to leave	Martin (1979)
20. Organisational contentment/satisfaction	Schwyhart and Smith (1972)
21. Propensity for absenteeism	Frank Smith (1977)
22. Body image	King and Manaster (1977)
23. Self assessment	King and Manaster (1977)
24. Psychological success, perception of	Griffin (1977)

Figure 4.9. Individual characteristics

associated with low performance and yet at the same time, as found by Rizzo, House and Lirtzman (1970), the presence of role conflict leads to reduction in the speed of decision making. The speed of decision making could now be used as a predictor of overall organisational performance. The discussion indicates the more 'compound variables' from the individual or job class may themselves be used as outcome class variables. An example of this would be the alienation construct. This construct could be used as a predictor for performance, in which it acts as the free variable. In another study it could be used as the predicted variable for, say, urban socialisation.

Examples of characteristic relationship studies and ways of deriving job design implications from results

Two studies on relations between variables are present. The first is followed by a post mortem type of analysis.

1. Morris and Synder (1979) report a study involving the following sets of variables:

Determinant class: role conflict and role ambiguity

Moderator class: n(Ach) and n(Aut)

Outcome class: organisational commitment, job involvement, psycho-somatic complaints and propensity to leave

The antecedents of the study are reported by the researchers as:

"The results obtained by Johnson and Stirson (1975) led them to conclude that 'both need for independence and need for achievement moderate relationships between several role variables and satisfaction'".

Figure 4.10 depicts the model of the testable relationships; the specific relationship under test is one marked with 'if' and 'then'

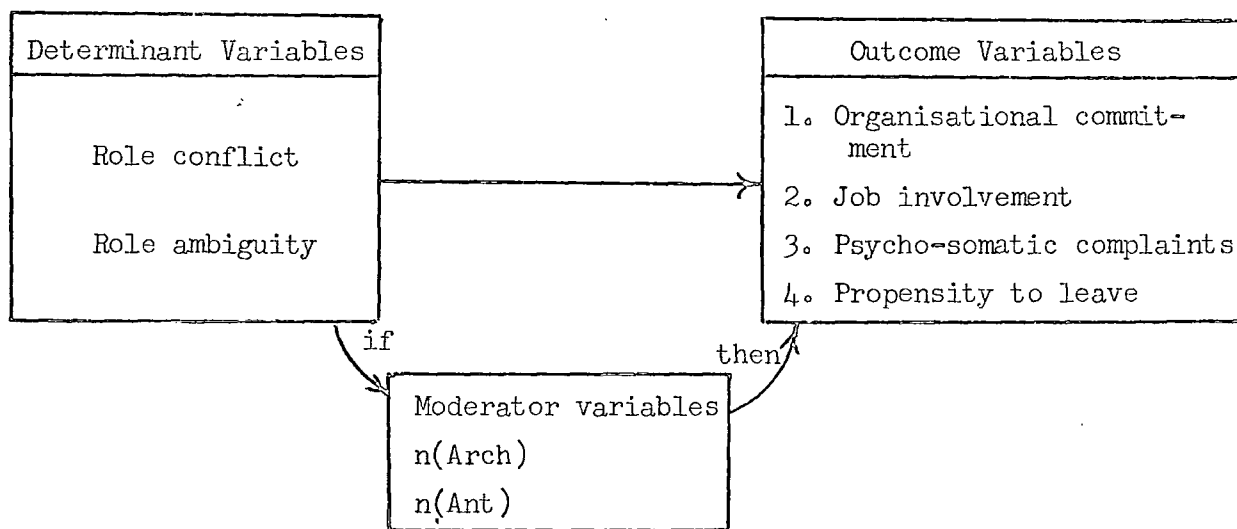


Figure 4.10. Model linking the determinant, moderator and outcome variables for the Morris and Synder study

The conclusions of Morris and Synder were:

"Overall, the findings concerning both n Ach and n Aut provide little support for the general proposition that these individual difference variables are important moderators of relationships between role perception and work related outcomes examined here

In contrast, the data in the present study do suggest that nAch and nAnt may have a value as independent predictors, along with role perception when certain outcomes are involved".

Critique

There are two points of observation that the author wishes to make about such studies.

1. Given the antecedents of the study the determinant (or predictor) variables could have been of any type and any in number - say 'tight organisational control systems' (McGregor (1960) . 'discrimination for age/sex/race/competence' (Haefner (1977) etc. - and, similarly, the outcome variables could have been 'alienation' (Kornhauser) , 'ego-involvement' (Vroom (1967)) etc, i.e. any type and number.

The hypothesis tested in the study is weak. But the results are interesting in that the variables that were tested indicate the underlying relationship model might be as shown in Figure 4.11.

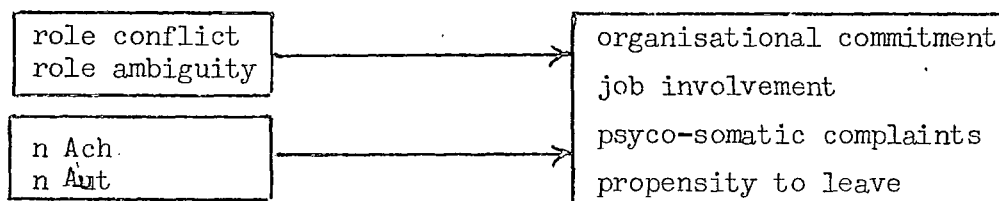


Figure 4.11. Relationships as empirically found
by Morris and Synder

This result is of value to job design. The model suggests that when considering these two individual differences variables (in connection with role conflict and role ambiguity) not to consider these as simply intervening variables.

2. If a researcher claims certain variable(s) to be intervening, then proof should be provided that the prediction from the determining to the outcome variable is improved significantly as a result of regarding the variable as a moderator. Further proof should be provided that the claimed moderator would not on its own act as a predictor.

This concept is important for a job design model to be discussed in Chapter 5.

2. Walton, Dutton and Cafferty (1969) delineated 5 contextual determinants of dysfunctional conflict. Regarding these as composite factors the researcher produced 19 facets as issues of dysfunctional conflict. The five dimensions and the number of facets for each dimension (given in brackets) were:

1. Sub-optimisation of incentives (2)
2. Jurisdictional ambiguity (2)
3. Obstacles to interdepartmental communication (6)
4. Frustrating task conditions within department (7)
5. Social friction within department (2)

Study by Walton, Dutton and Cafferty supported their contention of these being perceived as dysfunctional by the participants. Job design should attempt to eradicate these sources of sub-par performances.

3. King and Monaster (1977) drawing from literature posited the hypothesis that the individual's concept of self as related to physical body i.e. "Body Image", would be related to performance. The subsequent study the researcher conducted provided support for the hypothesis. The study co-variables were self assessment and self esteem. Earlier, Kipnis and Lane (1962) had found, from a study, that the individual's "self confidence" related to his performance behaviour. However, it remains to be tested whether the Body Image acts on performance through self confidence or acts as an independent variable. Job design should endeavour to create role set interactions that do not undermine the individual's self confidence.

4. Sims (1980) found support for the earlier conclusion by Greene that the boss's reward behaviour tended to cause subordinate performance. Greene's other findings were that subordinate performance tended to cause boss punitive behaviour. The situation is diagrammatically represented in Figure 4.12.

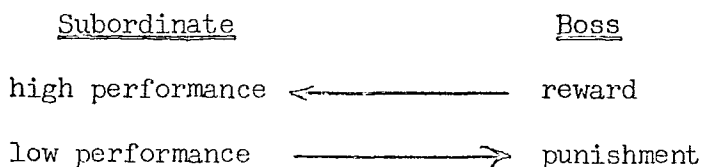


Figure 4.12. Relationship of performance with reward and punishment

Such behaviour is explained in terms of reciprocation theory. Job design, then, should endeavour to ensure that the job tasks allocated to the individual are within his ability, resources available are adequate, and performance criteria are just, so that boss reward behaviour is more likely to occur than punitive behaviour. Under such circumstances, to the extent that the model depicts rewards leading to high performance, there could then be an exponential growth in productivity.

4.9. Job Mobility

Inter-organisational mobility. Some organisations by their very nature offer careers which entail very little mobility, or career prospects outside, while in other organisations full career development may often entail mobility outwith the organisation, according to Hall and Schneider (1972). Examples of the single career organisations are the Armed Forces and the Church; organisations which often involve multi-careers are the research and development organisations.

Intra-organisational mobility. Organisations low on inter-organisation mobility are often of the type which offer intra-organisation mobility, but this may not be the rule for all organisations (see Hall and Schneider (1972)). The rise of nationwide, and multi-national organisations (see Tugendhat (1973)), may be viewed as offering greater intra-organisational mobility for the managerial class, according to Swinyard and Bond (1980). But while Swinyard and Bond perceive this mobility, based on superior education and diversified business experience as leading to greater organisational effectiveness and efficiency, they also concede that it may lead to rootlessness as experience drawn by the individual and his family, and Cooper and Marshall (1978) document case studies on stress due to constant or some even single moves.

Promotion policy. While some organisations are forced by the requirements of the work they do, e.g. the Armed Forces, the Police, etc. to promote only from within, others may adopt such a policy as a means of perpetuating themselves in the like image, e.g. the Civil Service, still others may operate more effectively by promoting from within as well as recruiting to senior positions from outwith the organisation. Into the last discussed category would fall organisations more intensely involved in either research or orientated towards marketing; or those operating in a volatile environment where adaptation to changes in the environment is essential for survival - these organisations could be looked at as attempting to gain know-how by making the organisation more attractive, to those they wish to recruit, than would otherwise be the case (see Campbell et al (1970)).

All the three items discussed above are organisational level variables which affect the individual's experience-in-job and impinge on the performance rendered at specific points in time and latter to that time. Campbell et al (1970) opine that efforts at management development may cause more internal promotions than before. To the extent that individuals may desire, or shun the prospect of, changes associated with the above discussed items these are job design variables as well. Given that career stability is low in early life but continues to rise sharply till the middle thirties, continuing to increase more slowly henceforth (Gottfredson (1977)), indicates that organisational policies in areas related to these variables could strongly influence job design practices within any organisation. The mobility variables were checked in the managerial job design practices reported in Chapter 6.

4.10. Working schedules

One of the more obvious characteristics of work is the working hours. The pervading association of the working hours is evidenced in the current song called '9 to 5'. Hours of work as a method of effecting job satisfaction and job performance (Ivancevich and Lyon (1977)), motivation (Mahoney (1978)), enhanced utilisation of machinery (Salerno (1980)), job creation (Hughes, (1977)), has made this topic a subject of intense research interest.

Hughes (1977) argues for shorter working along two distinct lines: on the one hand, creation of jobs during periods of high unemployment, and, on the other hand, shorter working weeks being something desirable on its own merit. Evidence as to whether job holders would like to work a shorter week is however against the suggestion: an issue put to voting, not so long ago, in the Swiss Canton of Basel was whether they would like to work a 40 hour week instead of the 45 hours one in current practice (see Times (1981)). The voters, by a large majority, rejected the 40 hours proposal. Creation of jobs, in times of unemployment, besides needing evaluation on practicality, would require societal sanction. The essential implication is that instead of a section of the public being subjected to the misery of unemployment, the misery is shared through under-utilisation all around. That the acceptance of such a suggestion would have implications for the experience-in-job of all those affected by this form of shortening in the working week should be obvious.

Whether being in the office from 9-5 (or whatever the hours of work), on a daily basis, is necessary for all types of managerial employees, given the developments in communication technology is an aspect needing further research.

Flexi-time is another concept that has received wide publicity (Mahoney (1978)). There are a number of variations by which flexi-time schemes can be implemented, but the essential point to all of these is that the individual chooses the starting and quitting times - this is where the flexibility lies. In Chapter 3, when discussing the nature of managerial job, it was suggested that flexi-time might be used by managers to do 'own work' with the prospect of lesser interruptions. For this reason, in the study on organisational

practice in managerial job design, reported in Chapter 6, respondents were asked whether their organisations permitted flexi-time.

4.11. Treatment of women in organisations

The effect of equal opportunity legislation has had its effect in organisational literature through its effect on organisational practices - there is an increasing volume of literature. The way women are treated in organisations and the way they should be treated, naturally, has implications for job design. Literature, however, indicates a growing, and sometimes heated, controversy regarding whether women are being treated differentially from men. Essentially the controversy revolves around the concept of stereo-typing, and the ensuing effects of this type of behaviour.

Focusing on job design related parameters, and only those, literature indicates many discriminating practices, e.g. promotion policies (see Day and Stogdill (1972)), employee development (see Rosen and Jerdee (1974B)).

Sharauk (1977) in a personal experience article, published in the Harvard Business Review, analyses how men, unknowingly and subconsciously undermine women's confidence in themselves. Just the fact that the other person, say a colleague, is a female, modifies some individual's behaviour.

On the other hand Tuborg et al (1977) found evidence suggestive of no stereotyping at all.

Implications for job design

Job design should ensure that national legislation with regard to equal opportunity are respected in the design of jobs for females - job prospects of promotion, training, etc. are equally open to men and women; at the same time individual differences should be recognised and special needs - maternity leave, etc. provided for.

4.12. Global variables of organisational health

A discussion on the ecology of the organisation would be incomplete were it to be concluded without even the mention of 'climate'. To underpin the importance of climate within the job design paradigm, Wright (1975) writes:

"... for a successful job match one of the two variables is inter-personal climate".

The importance of climate in job design would lie in that ill-design of one or more jobs or systems could be attributable as causal to bad atmosphere. To illustrate this, consider the following:

- an individual exercising dominant role makes ill conceived decisions which affect one or more members of the peer or subordinate group
- the salary system giving more prominence to certain aspects of jobs which favour one set of individuals or specific groups
- the division of tasks being such that one set of individuals is dependent on another, but the former group has no influence over the output of the latter.

From the above samples, a deduction could be that the construct 'climate' has relevance at unit, and not the individual, level. In fact, House and Rizzo (1972) suggest that climate has relevance for the measurement of organisational effectiveness at work unit level of analysis. And, indeed, from the three examples given above, individual or group satisfaction may also be involved.

Before discussing measures of climate it is worth pointing out and stressing that bad climate could be taken as a symptom of ill design, the disease, although performance may or may not be affected yet. Ill design, as a cause, may work insidiously towards creating a bad climate. Disruptive influences of ill design - absenteeism, termination, low productivity, etc. are only indicative of the degree or severity of ill design. Building on Argyris, then, it could be proposed that ill-designed jobs induce stress; the coping behaviour, leads to the emergence of norms which are dysfunctional.

Measurement of the climate could, therefore, act as a first step to an organisational change programme (Offenberg (1978)), which could itself be based

on job design.

Management orientation. A construct closely related to management style and atmosphere but distinct from either is management orientation. Drawing from Parkington and Schneider (1979), the concept could be defined as:

'The philosophy implied by (or attributed by others), the policies, procedures and goals of management'.

This definition makes the concept different from 'style' in that this latter variable is considered a personal attribute whereas management orientation is a global variable. Bakke's (1950) concept of "Organisational Character" could be regarded as an embodiment of this concept. For job design the importance of this concept lies in that individuals having a different personal style to that embodied in the orientation of the rest of management may suffer role conflict which could result in dissatisfaction, frustration and turnover intentions for the employee (Parkington and Schneider (1979)). Harrison's (1974) concept of "organisational ideology" is similar to the management orientation concept.

One view on organisational philosophy is put by Stewart (1956) as:

"One problem that worries some top managers is how to make certain that their junior and middle managers have the same philosophy as themselves".

However, if this is a real problem, then the converse would be an equally important problem. The converse problem could be stated as:

'The problem that worries junior managers is how to make it possible that the senior managers have the same philosophy as themselves'.

If these indeed are problems, then the formulation of job design policy statements would provide an opportunity for the two sides to arrive at on issues immediate to the jobs as well as on the contextual variables which eventually give shape to the jobs and determine the experience-in-job of the total employee force.

Effect of culture on experience-in-job. The types of variables discussed in this chapter interact to determine the organisational climate. Argyris (1957) suggests that organisational climate is:

'an informal employee culture which is composed of behavioural norms, which once created, feedback to coerce their behaviour in the direction required by the norm'.

Argyris also suggests that while the norms which organically emerge may be dysfunctional, i.e. detrimental to performance, they may in fact be necessary to the wellbeing of the group as a whole. Discussing dysfunctional norms, Argyris writes:

1. "In fact the homeostatic balance of the organisation actually depends upon the employees' continual experience of stress".
2. Culture, "however, is a sedative for the dissatisfied and is not a cure".

The culture Argyris discusses and which could be regarded as non-acceptable is, according to him, composed of the five norms:

1. Absenteeism
2. Work standards aimed low
3. Low identification with the organisation
4. Hostility acceptance (or even rewarded)
5. Apathy, lack of ego involvement on the job

Some of the items contained in the above list were suggested in Chapter 1, as cause of rising interest in job design. These items could also be used as measures on the prevailing climate in the organisation.

Figure 4.13 shows the House and Rizzo (1972) model linking the variables of organisational climate, which act as predictors, to the outcome variables.

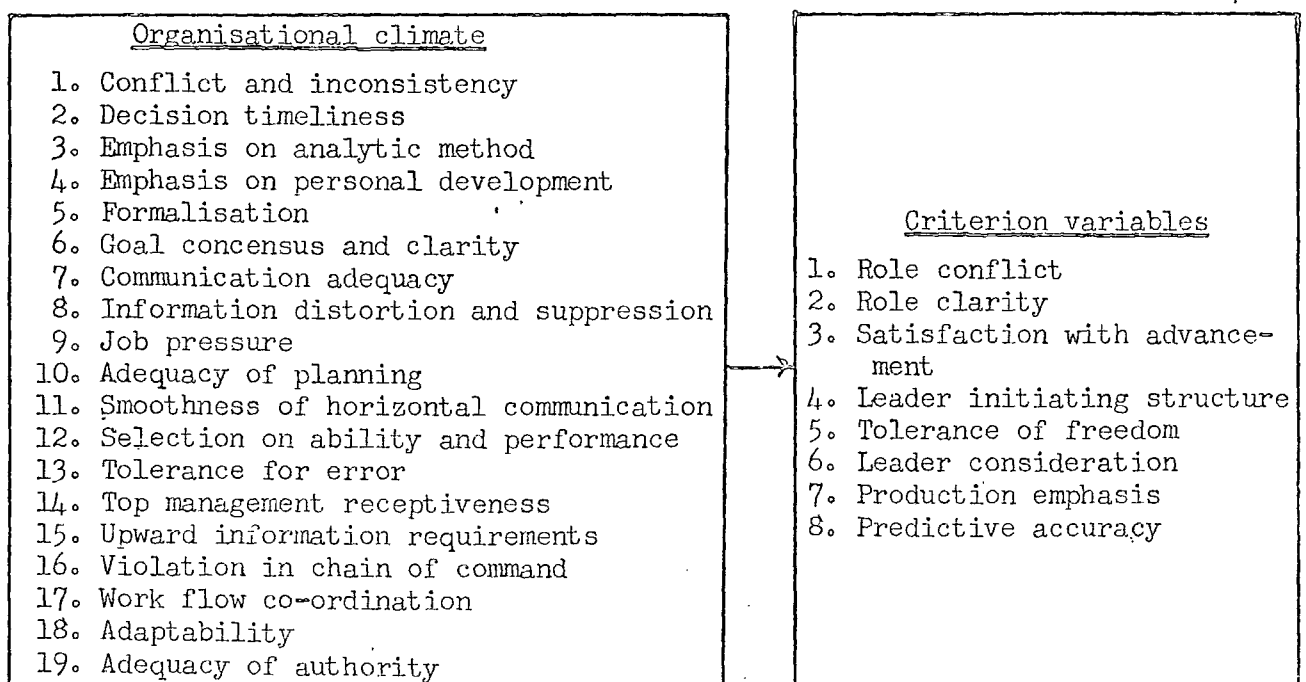


Figure 4.13. House and Rizzo model connecting primitives to outcome variables.

Morale is a construct which is related to individual satisfaction and purported to effect performance. Baehr and Renck (1958) write:

"Early research into employee morale was generally directed towards the fostering of group rapport or group solidarity and the internalisation of management goals by employees. The expectation was that the achieving of these aims would have positive and beneficial effects on absenteeism, spoiled work, productivity, etc. It soon became apparent, however, that industrial employees morale was something more than group rapport. For 'good' morale or a high level of morale to be maintained in a work group, some other conditions must be present. Among the most important of these are some measure of 'success' in achieving group goals and some kind of individual and personal satisfaction".

Low morale, as suggested by Baehr and Renck, leads to the same kind of behavioural outcomes that Argyris describes as emerging from dysfunctional norms. Baehr and Renck (1958) from their factorial studies delineated the factors affecting morale to be:

1. Integration within the organisation
2. Job satisfaction
3. Immediate supervision, quality of
4. Friendliness and co-operation of fellow employees
5. Personal rewards

These dimensions could be used to find out the level of the morale and attempts at morale-engineering could then use these as dimensions for morale-forming. Following the Baehr and Renck rendering, since morale is linked to both satisfaction and performance, diagnosis on the quality of the design of existing jobs could be roughly discerned from the measurements of the morale on the above listed dimension.

Climate. There is a multitude of ways in which the concept has been operationalised: Drexler (1977) on the authority of James and Jones points out the prevailing confusion. Drexler concludes that climate is an organisation level variable, although it is conceded that sub-unit variances may obtain. From Schneider (1973) the construct climate denotes collectively held attitudes. From Schneider (1972) the dimensions of climate are:

1. Managerial support
2. Managerial structure
3. Concern for new employees
4. Intra-agency conflict
5. Agent independence
6. General satisfaction

Likert (1965) presented a method of classifying organisation on psychological dimensions:

1. Leadership
2. Motivation
3. Communication
4. Interaction-influence
5. Decision making
6. Goal setting
7. Control

Through measurements on these dimensions Likert classifies organisation along the following lines:

- System 1 - Exploitive-authoritarian
- System 2 - Benevolent-authoritarian
- System 3 - Consultative
- System 4 - Participative

Likert argues that system 4 organisations, where leadership is supportive, communications are good, decision making is decentralised, i.e. involves most members, goals are jointly determined and control is diffused, are more effective. In this, Likert would find support from Kets de Vries (1979).

Likert's basic primitives could be used, contingently, to measure organisational climate, and this could help in diagnosing problems related with ill design of jobs or systems. Beehr (1977) in his study found that, although Likert's basic dimensions were conceptually clear in practice a reformation of the dimensions - according to how job holders perceive them - may be helpful in actual measurements.

Hall (1972) compared the organisational climate instrument due to Halpin and Croft and a version of the Likert system and found that the two instruments have good correlations.

Implications for job design. Organisational cultures and climates develop as concomitants of experience-in-job of groups of organisational members while these members are involved in their everyday work. Some cultures have been empirically found to be less effective than others, both for the individual and organisational effectiveness. Hand and Slocum (1972) found not only that training helps to modify the culture but that it sets 'models' for those who have not

received training; they found mirror-image changes in those who had received no training. But training alone will not help if the design of jobs or systems that cause the setting of dysfunctional norms are themselves not modified.

Check on climate could therefore be regarded as a surrogate evaluation of the overall degree to which jobs and systems in the organisation are ill, or well, designed.

Note of caution on terminology and interpretation

One of the earlier studies on variables of climate is reported by Merrihue and Katzell (1955). In this study effort was made to form an index, the Employee Relations Index (ERI), so as to

"... measure the extent to which groups of employees accept, and perform in accordance with, the objectives and policies of the company".

Later Schneider (1972) defined a concept, labelled "organisational identification", which could be regarded as very nearly the same. This concept was defined as:

"the extent to which the individual accepts the values and goals of an organisation as his own and, therefore, becomes emotionally committed to that organisation".

Another concept very much conceptually near to these concepts, discussed by researchers, e.g. Schwyhart and Smith (1972), is "Company satisfaction" defined as:

"the degree to which an employee derives satisfaction from and identifies with the company in which he is employed".

The concept under scrutiny in all the three concepts is identification with the organisation. Schneider (1972) writes that identification is an "obvious" key intervening variable in the chain of events leading to effectiveness.

How an organisation interprets and follows up by action, findings which indicate low morale, 'bad' climate, etc. is important. Essentially these indicate contention. Evaluation of sources of contention and ensuing changes are likely to be job or system based.

Some of the organisational climate variables are tested for effects of changes along them on individual satisfaction, contribution to organisational purpose, and utilisation of personal potential, in the twin studies reported in Chapter 7.

The global variables of organisational health have been related to organisational and individual effectiveness, which is discussed in the next section.

4.13. Effectiveness and efficiency

Leavitt (1972) reports:

"When asked what he did Charles Revson, head of Revlon Inc. made the now well known reply, 'In the factory we make cosmetics, in the store we sell hope'. He defined the product in terms of what the customer wanted, not in terms of what the manufacturer made".

The above quotation is presented to draw out the distinctiveness of the concepts effectiveness and efficiency. Effectiveness has to do with fulfilling what is expected or doing what is wanted. Efficiency has to do with doing that which has to be done, in the framework of parsimony (e.g. least time, least effort, least resources; but measured with reference to circumstances).

Drucker (1974) on the same theme, opines:

"Effectiveness is the foundation of success - efficiency is the minimum condition for survival. Efficiency is concerned with doing things right. Effectiveness is doing the right thing".

Effectiveness and efficiency are, therefore, measurements on the product and process of work, i.e. on the 'ends' and 'means' of work, respectively.

However, the ends and means, according to Wofford, Gerloff and Cummins (1977) are linked together in hierarchical chains. Kelly (1978B) says that where a clear distinction can be made between the ends and the means then it is possible to distinguish between effectiveness and efficiency, otherwise not.

Gellerman (1976) in his study on behaviour, adopted the terms substance and style which could be regarded as analogous to effectiveness and efficiency.

In his concluding remarks he writes:

"Although it is possible to speak of substance and style as if they were separate, in reality they are inextricably intertwined. Thus there is a certain artificiality in debating which is more important than the other".

Artificiality would apply whether or not importance were being attributed, unless of course the specific situation where goals and means could be delineated, were being discussed

Having shown the difference between the constructs of effectiveness and efficiency, as well as the importance of distinguishing between them, and

further having provided evidence which suggests that in practice unless a specific, and particular, case is being discussed it may not be possible to differentiate between the two concepts, in the rest of the discussion under this sub-heading the concepts of effectiveness and efficiency will be discussed together. Moreover, and in any case, in practice the constructs get confounded for the number of goals on, or areas with respect to, which effectiveness is desirable often require more resources than available. And this, of course, leads to suboptimising behaviour by the individual concerned - therefore, the discussion itself which considers the two together could even be regarded as more effective!

The author views the job design paradigm as having essentially to do with improving both the effectiveness and efficiency at the individual/organisation interface. The title of the book, edited by Peter Warr (1976), "Personal Goals and Work Design", along with the contributions therein are supportive of the author's contention. Brodie and Bennett (1979) present a job design orientated framework for viewing effectiveness. Figure 4.14 depicts in diagrammatic form the Brodie and Bennett framework. A wholistic theory of job design, as perceived by the researcher, could only be achieved in the type of effectiveness framework proposed by Brodie and Bennett. The purpose of this section is to discuss various methods that have been used, or proposed, for measuring effectiveness, and through the process of comparison choose the method that would be reflective of the concept as envisaged by Brodie and Bennett and adoptable for the wholistic theory of job design.

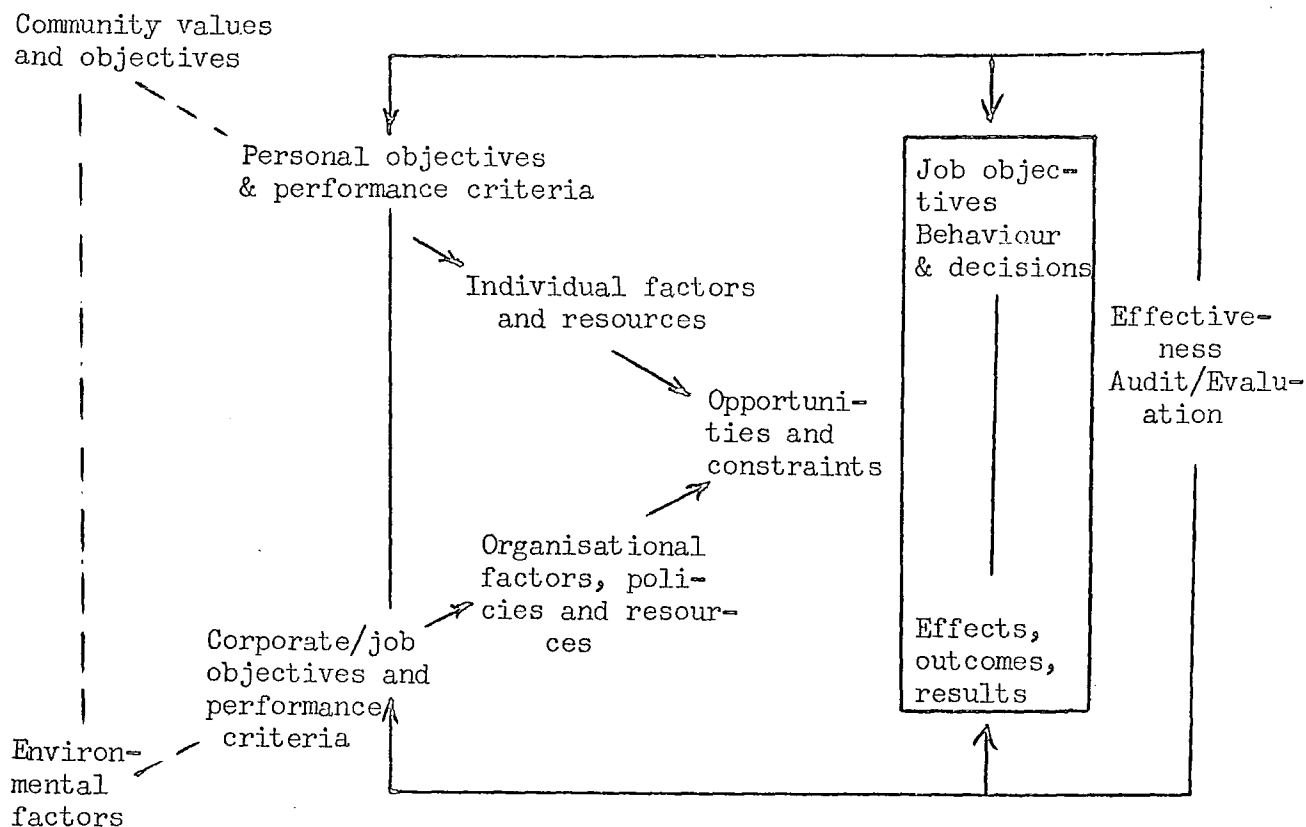


Figure 4.14: The Brodie and Bennett framework for viewing managerial effectiveness
Measures of effectiveness and efficiency

Measures of effectiveness as elaborated upon in literature can be conceptually split into two classes with each class having sub-classes within it. In the following discussion the two main classes have been labelled the Innate measurement methods and the Reference measurement methods.

1. The Innate measurement method

Within this approach there are three sub-classes. Each of them is based on the individual.

(i) Traits approach. Earlier reports on efficiency and effectiveness were essentially trait based. This might have something to do with the historical development of the subject - i.e. with the body of knowledge available, and the level of inquiry into the subject, in earlier times. Valerie Stewart (1976) has rather amusingly described the approach as conjuring up a picture of an effective manager to be 'a mixture of Samuel Smiles and Field Marshall Montgomery'. The approach cannot be used for evaluation of current performance as would be required in the Brodie and Bennett framework; it might be used to predict future success. However, job design should endeavour to place the individual into jobs which fit his personality needs, as suggested in Chapter 2.

(ii) Skills and abilities approach. This approach is based on the notion that skills and abilities possessed by the person determine his effectiveness and measurement on the former would, therefore, be a measure on the latter.

From House (1962) it could be surmised that the skills necessary for effectiveness are:

1. Social skills
2. Persuasiveness
3. Leadership
4. Intellectual capacity
5. Creativeness
6. Planning
7. Motivation and energy

Katz (1974) opines that the following three skills, and abilities related to them, are involved in effective behaviour:

1. Technical skills in specific areas of "specialism" - ability to learn facts.
2. Human skills, i.e. leadership and intergroup skills - ability to learn new form of responses.
3. Conceptual skills - ability to abstract.

From the above two lists it could be deduced that the method involves measurement at points one removed from, i.e. antecedent to, behaviour. The method could be used in predicting but not in evaluating current effectiveness.

Nonetheless, as suggested in Chapter 2, job design should endeavour to place the individual in positions where their skills are used to the extent they wish to contribute, as well as augment his skills, at a rate suitable to the individual, and along dimensions mutually agreed.

2. The Reference methods

Two approaches will be presented in the discussion on this method. These two approaches have been labelled: the Behaviour Comparison Approach and the Objective Achievement Measurement Approach. These are now discussed.

The Behaviour comparison approach. This line of enquiry into effectiveness and efficiency is perhaps the most confused and confusing. In essence it relies on mere 'behavioural profiles' of managers known to be effective.

In the construction of these profiles, a comparison with ineffective managers is involved. The effective-behaviour-profiles thus obtained act as

standards against which the behaviour of the individual under measurement can be compared, (see Valerie Stewart (1976)). The confusion arises because in the profiles generated no account is taken of the circumstances, under which the behaviours occurred. This argument has been presented in Chapter 3, but for the sake of clarity will be briefly reiterated here. If, in the building of the standard profile, effective individuals are seen to be more involved in planning and the ineffective more in production problems, then, when the individual whose performance is being measured is seen to be involved in production problems, could it be concluded that he is ineffective? The author, agreeing with O'Neill and Kubany (1959), would regard the measurement ill founded, on account of it being based on insufficient data.

However, this method of measuring effectiveness could be used in job design for long term training purposes, as suggested in Chapter 3.

(ii) The Objective achievement measurement approach. Objectives set for individual managers, as in the MBO approach (see Carroll and Tosi (1973)) detail the effectiveness areas of immediate concern to the managers. Items on the job/position description but not on the immediate objectives plan, form the second level of measure of effectiveness. Of course, in both these cases some objectives could be 'hard' and some 'soft.' Hard objectives are those measurable in quantity, e.g. reduction of labour turnover by 10%, reduce scrap by 15%, increase production by 5%, etc. Softer objectives are those which are stated in unquantifiable terms, e.g. raise the morale, build team out of disparate elements, etc. Morrissey (1976) takes the above-mentioned approach, as do Shakman and Roberts (1977) who, in fact, delineate 9 areas:-

- (i) Growth of subordinate capacity
- (ii) Performance of subordinates
- (iii) Maintenance of the organisation
- (iv) Innovation
- (v) Reformation of the unit
- (vi) Projects
- (vii) Responsiveness
- (viii) Anticipation
- (ix) Growth of managers own capacity

This approach could be regarded as an improvement on the other four approaches discussed earlier, for two reasons:

1. The approach is relatively objective and could be used for measuring current performance.
2. The first eight items together and the last item on its own could be regarded as the two converging paths in the Brodie and Bennett framework shown in Figure 4.14.

Measurements of effectiveness based on the Shakman and Robert plan, using 8 dimensions on which the gains, due to the job holder's effort, accrue to the organisation and only one dimension on which the gain accrue to the individual himself, may be a bit out of balance. Burgoyne (1976) has developed a list of five criteria, of which the three of relevance to the current argument are:

1. Seniority achieved as indicated by salary grade.
2. Age-grade lead, i.e. the average age for grade, less the actual grade.
3. Self rating of effectiveness in current job.

But this list is not itself complete (and this incompleteness is not on account of dropping two criteria from Burgoyne's list). The incompleteness refers to the kind of deductions made in Chapters 2 and 3 regarding what constitutes satisfaction for him. On the other hand, the above list, although containing 8 items of organisational interest, may itself be incomplete.

One drawback of all the 5 approaches discussed, till now, in this subsection is that they are normative and substantive rather than situational and process based. The difficulty with such measurement paradigms for effectiveness would arise in attempting to measure effectiveness in job, which, with reference to the Shakman and Roberts plan, may not even require innovation and anticipation; further, even when the areas are well delineated, as in the MBO type of approach, the individuals who participate in the evaluation remain undefined.

The process and contingent approach

An important aspect of a managerial job is the job holder's capacity to act pro-actively, and being able to discuss/read/visualise/divine the emerging situation. The manager's job involves interaction; he gives and receives inputs

from boss-group, peer-group and subordinate group; the quality, quantity and timing for the outputs from him, and the inputs to him may change all the time. The real life manager concentrates on what is at hand and tackles the situation according to circumstances. The situational variables of import, according to Reddin (1974) are:

- The organisational philosophy
- Technology
- The three groups of people with whom he interacts:
 - (i) superiors (ii) peers (iii) subordinates

From Machin (1973) a process definition of effectiveness is drawn by Longford (1979) as:

"... the effectiveness of any part of an organisation is reflected in the degree to which it meets the expectations of other parts of the organisation".

Building on this definition so as to fit the Brodie and Bennett framework of effectiveness, as related to job design, and therefore applicable at the individual/organisation interface, the following process definition is presented:

'The effectiveness at the individual/organisation interface is the extent to which the individual fulfils the expectations of his role set and the extent to which the role set fulfils the expectations the individual holds of them'.

The above definition would be operationally facilitated by statements of organisational philosophy - those pertaining to job design being enshrined in the job design policy statement.

The substantive part of the expectations would have to be situationally determined.

Some twenty years ago, Drucker (1959) prognosing on the future wrote:

"But the real problem will be the management of the knowledge worker. So far, we know what he costs, but we cannot measure what he contributes. We have no gauge of productivity for the research chemist, the quality control man, the plant engineer, or division manager. Yet, clearly, the productivity and results of every business and of the entire economy increasingly depend upon the contribution of these people".

Although Drucker looks at the situation from the organisational perspective, the problem of measuring effectiveness is well articulated by him. The above process definition of effectiveness of the individual, (and that of the organisation vis a vis the individual) would help solve the problem of measurement, especially so because the areas on which the measures would be taken would be determined situationally - the definition could be applied to the jobs of the research chemist, the division manager, etc.

Closing remarks to chapter

Building on Brooks (1955) it could be said that:

'Job design implies looking at what and how other people do in order to make the position holder more effective and efficient in what he is doing. It involves looking at things the superior and subordinates and the peer group could do, refrain from doing, or might do differently which would make for even a better relationship between the role set'.

The spirit of the above remarks suggests a system approach to job analysis. The systems approach implies concomitant focus on organisational level variables, the derivatives from which impinge on the job holder.

In this chapter the conceptual and physical variables that form the ecology of the managerial habitat have been discussed, and ways in which these variables impinge on the design of the job focused upon. The chapter was designed to enable the reader to appreciate:

1. That the ecological variables within the organisation are large in number and complex in interaction.
2. That the ecological variables in the environment for an organisation are large in number and complex in interaction.
3. That a managerial job is the product of, first (organisation) and second (environmental) order variables and their interaction with (a) the individual and (b) his role set.
4. To handle this complexity one might choose:-
 - (i) A single variable at a time (but they interact)
 - (ii) A normative set of key variables (but research shows they vary in influence)

(iii) A complex normative theory (none has yet been produced, and the unpredictability of, the importance, the relevance and causal relationships probably preclude it conceptually)

(iv) Or a theory postulating how to use a contingent methodology

In Chapter 5, the next chapter, are presented some theoretical frameworks in job design. These are critically evaluated, in the light of material presented in Chapters 2-4. From Chapter 6 onwards, the author presents his own studies, during the course of which different strands relating to a contingent-process based framework for designing jobs were developed.

Chapter 5

CHAPTER 5

THEORIES AND PRACTICE OF JOB DESIGN

Introduction

In this chapter are presented theories of job design together with some results of their application. In Chapter 1, it has been clearly stated that the author, in his literature review, neither found a theory of managerial job design nor did he find any mention of application, i.e. how managerial jobs were given, or how they acquired, features. So, the theoretical work and applications reported in this chapter are essentially those which have had application at operator or clerical level. However, whilst these theories do not appear to have been applied to managerial jobs, the reporting researchers have neither precluded their application to managerial jobs nor in any way explicitly restricted their application to non-manual jobs. This, together with the fact that in the building of theory, oftentimes, managerial level employees contributed to the data, for example, Herzberg's (1959) study was based on data collected from engineers and accountants, makes these theories potentially relevant to managerial jobs.

The purpose of this chapter could then be stated to be:

1. Enable the reader to share the author's knowledge of this literature.
2. Enable the author to comment on:
 - (i) the adequacy of these theories of job design
 - (ii) the adaptability of these theories to managerial job design.

The difficulty, in attempting to give shape and form to the material of this chapter, for purposes of presentation, lies in that oftentimes individual (or groups of) researchers do not clearly state which particular theory was in fact being applied; or the method is stated but theory is not strictly adhered to. To overcome this problem, in discussing the material on job design the strategy adopted is to report each major work at different levels, e.g.

1. Theoretical standpoint
2. Reports on individual or group standpoints

Model of Job

The material presented in this chapter will require a statement of the author's conceptualisation of job . This is presented in the form of a model in Figure 5.1.

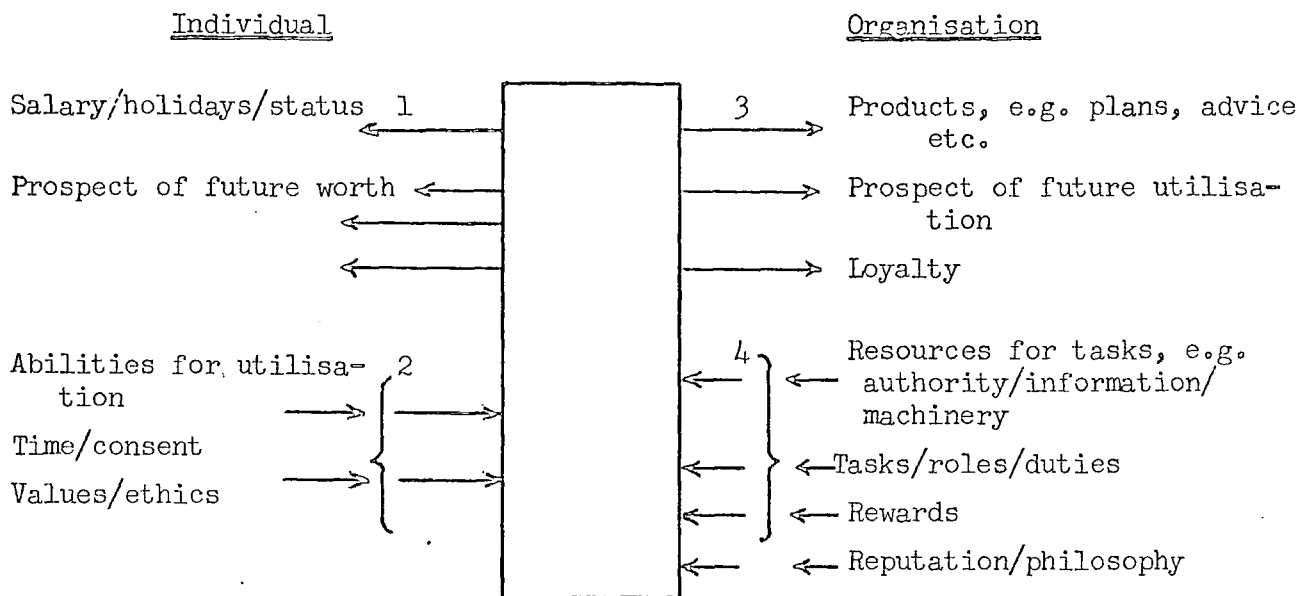


Figure 5.1. Model of Job

The Figure 5.1 depicts a model of job derived from systems theory; the model depicted is consistent with the concept of job being an interface between the individual and organisation. The model is an elaborated version of that presented in Figure 1.2 (Chapter 1).

The organisation's inputs into the job, indicated by the array of arrows marked 4 are of the type:

- (i) Rewards paid to the individual as well as rewards that might accrue as a consequence of the continued job contract, or those that might be given once the job contact is terminated.
- (ii) The tasks, roles and duties, i.e. the problems, that are assigned to the incumbent.
- (iii) The resources, allocated to the individual, which he utilises in discharging duties mentioned under (ii) above.

The organisation's output from the job, indicated by arrows marked 3, are of the type:

- (i) The immediate products that the individual turns out.
- (ii) The prospect of products that the individual may contribute to in the future.
- (iii) Asset building and maintenance due to the individual's contribution; here are also included the outcomes of job holder behaviour (action or inaction) like loyalty, willingness, etc., the absence of which may have drastic effects for the organisation.

The individual's inputs into the job, indicated by arrows marked 2, are of the type:

- (i) Time and consent
- (ii) Abilities
- (iii) Values and ethics

The individual's outputs from the job, indicated by the arrows marked 1, are of the type:

- (i) Salary, holidays, pensions, etc., i.e. immediate and long term extrinsic benefits.
- (ii) Prospect of future worth. Those benefits derived from service based learning and experience.
- (iii) Concomitants of work performance - those benefits which arise while "working", i.e. achievement, security.
- (iv) Status and related intangible benefits, which accrue as a consequence of being in a certain position within the organisation.

The final outcome for both parties (the individual and the organisation) determines the effectiveness of the design of the job. The concomitant outcomes of the design of the job is the efficiency with which the job holder renders the outcomes desired by the organisation and, simultaneous to it, the efficiency with which the job organisation renders the outcomes desired by the job holder.

Framework for the evaluation of theories

The theories will be presented one after the other, more or less in the sequence of their development. Within this design, at the end of each presentation, under the subheading "Comments on the theory quo theory; extensibility to managerial jobs" will be a brief resume of the author's evaluation of the particular theory presented. The general framework of evaluation is what the author discerns to be the answers to the following 8 questions:

1. What are the dimensions on which the quality of the design of the job is measured?
2. What human needs are recognised and which ones are ignored, in terms of the four job outputs presented above?
3. What are the criteria for pronouncing the job ill (or well) designed?
4. How durable is the design of the job considered to be, i.e. does the theory indicate job design to be a "one-off" project-like undertaking; does it consider job design to be something undertaken with a certain frequency, say, once a year, or is job design regarded as an ongoing process?
5. Who in the organisation is held responsible for the design of the job, and the individuals who take part in determining the design? For example, the extent of involvements of the job holder, his boss, the role set and the personnel department.
6. To what extent is the theory or practice of job design linked to concepts of the organisation?
7. What is the "model of job" underpinning the theory of job design? The extent to which the theory links content and context variables.
8. The theory stated, or author derived, prime motivators to work.

The 13 sections of this chapter are:

- 5.1. Total fragmentation
- 5.2. Optimal size of work unit - limits of fragmentation of tasks
- 5.3. Theories based on attitudes of individuals and characteristics of jobs
- 5.4. Diagnosing the defects - the open system method
- 5.5. Other threads in, or impinging upon, job design theory
- 5.6. Contingency perspective in job design
- 5.7. Participation
- 5.8. Insufficient theory and over-abundance of techniques
- 5.9. Responsibility for the design of jobs

- 5.10. Scope of modification in job design programmes
- 5.11. Conclusion to chapter
- 5.12. Definition of job design
- 5.13. A fresh start

5.1. Total fragmentation

Earlier theories of job design were essentially process methodologies. One of the earliest theories for designing jobs, although not referred to by this appellation by either the inventor or the public, at that time, is contained in the theory of scientific management of Taylor (1903/1964). In fact Braverman (1974), commenting on the ideas of job design, now commonly attributed to Taylor, states that Taylor only distilled the then prevalent movement into a coherent philosophy. That the ideas incipient to scientific management do have a cohesiveness of a job design theory is recognised by Kelly (1977) who writes:

"Taylor analysed work motion in order to achieve the most efficient synthesis of motion".

Taylor, performing analysis and synthesis with respect to work, could, then, be regarded as a job design theorist. The beauty of Taylor's theory is the simplicity of his approach. Taylor, whose concept was to find the "one best method" to accomplishing tasks, was an empiricist. Taylor's theory thus involved taking a work situation and studying the motions involved in accomplishing the tasks. One way to explain the main method would be to give an example: suppose a state A existed and the intention is to produce state B, then Taylor's method involved studying all, or at least as many of the plausible ways, as possible, of:

1. Arriving at state B from state A.
2. The motions involved within each of the ways investigated.

Taylor's method involves collecting data on the above and using the time criteria for measurements. Taylor suggested that the work involved in reading state B (from ambient state A), should be such as to reduce time and motion for each individual worker - this is the Taylor principle, the one best way!

The method, therefore, involved the judicious splitting of units of work into subunits, and subunits into operations. Individuals were assigned tasks at the level of operations. The reduction in the variety of operations, performed by any one operative, was taken to be an opportunity for the person

to perform more of the ones that were allocated to him. The author does not know whether the adage "time is money" originated with Taylor, but the concept implied in the adage certainly was central to Taylor's methodology. The job incumbents performing the same simple task over and over again, could not, in theory, waste any time, and Taylor devised wage systems based on piece rates. The piece rates, based on his concepts of time and motion, were, naturally, scientifically related so that no actual financial exploitation took place. And this, latter, is an important point.

Taylor had many critics even at the time he was establishing his methodology, but this early, and for that matter even later, criticism was essentially on humanistic grounds and only secondly related to 'exploitation'; that Taylor's man - Schmidt, the Dutch immigrant - did earn more money under his system than he did before is an irrefutable fact.

For the job holder the application of the principle could be regarded as that of using some specific capacity, be it digital dexterity or muscle power, to produce enhanced monetary rewards. It can then be said that Taylor's job design theory - reduce time and motion for each incumbent - was based on the Rational Economic Model of Man, presented in Chapter 2.

With current knowledge of the nature of human motivation, and the prevalent social condition, the theory with hindsight, could be regarded as "simple minded", but at the time the theory was developed the labour conditions in America were such that the theory had relevance and applicability, albeit in a narrow spectrum of manual jobs. The last remark is important, for it was Taylor's stated contention that decision making was a managerial prerogative and should, therefore, be taken out from operator level jobs.

In Taylor's method of job design, the incumbent, being an operator did not materially participate in designing the job - vicarious participation may be attributed to those who participated in the time and motion experiments, prior to the designing. In theory the boss designed the job for the operator, but owing to the empirical nature of time and motion studies - the time they require

= the actual operation of designing jobs was often the task of job design specialists which initially were called time and motion specialists, but later went under the professional title of industrial engineers.

Taylor refers to the jobs designed according to his principles as bestowing "specialism" on the job holder. The concept of specialism, as used by Taylor, and in the context of Taylor's work by others, e.g. Buchanan (1979), is worth looking into. Specialism can refer to skill intensity, as in the case of a medical doctor or surgeon, over a narrow, within a chosen field of activity. What Taylor did to jobs was not to make them the province of specialists but introduced de-skilling (see Kelly (1977)), to an extent where people were completely interchangeable - with a minimum of training, individuals could be made into productive workers. To the organisation this could be regarded as an advantage - at a short notice a worker could be replaced without causing loss of production.

Taylor's system recognised that certain jobs were physically hard, and a system of rest pauses was part of the design. However, even the pauses, their length and frequency, were scientifically determined and job holders exercised no choice of freedom of this matter.

To sum up, the science of Taylor was used to reduce man to the status of a machine; to the extent that caring for a machine is essential, the man was cared for (rest pauses, etc.) but the prime purpose remained the best use to which he could be put - the decision on 'best' being determined by time and motion reduction alone.

In the work of Taylor there is no concept or allowance for the individual job holder for whom the job is being designed, on intellectual abilities, and other non-physical dexterity based skills. But the adaptation of Taylor's system did have a bearing on the utilisation and development of such skills. The narrowing of the task boundary to a minimal number of operations did imply the use of only a small number of skills and exclusion of all other, no matter to what extent they were present or developable. In fact the theory pushed to its logical conclusion produced nightmarish absurdities (Winter (1921)).

Comments on the theory quo theory; its extensibility to managerial jobs

1. The measure on the quality of the design is based on time and motion for the nature of work.
2. The individuality of the job holder, his personality and psychic needs, are not recognised.
3. The criteria on design acceptance is derived statistically from empirical data.
4. The one best way of doing a particular job being the basis of design, the design had permanency.
5. A job designer was invariably involved - in setting up standard procedures. Often, the designer was not the boss but a specialist - the time and motion study specialists later called industrial engineers. The job holder himself was not involved in designing.
6. No concept of organisation was involved.
7. No model of job, i.e. what constitutes a job, was explicitly stated. It could be surmised that the underlying model involved using a narrow and shallow spectrum of ability and relating the salary to the work, i.e. the employee's input to the job to the employer's outlay.
8. Prime motivator - money.

Given the above facts, and given the fact that in a managerial job there may be no material outputs and motions may not be discernable (i.e. they are mental rather than physical), Taylor's job design method is not directly useable for managerial jobs. . .

5.2. Optimum size of work unit - limits on fragmentation

Thirty years on, the basis of Taylor's system was questioned from empirical evidence on the consequences of designing jobs in accordance with the prescriptions of Taylor.

One important note on theory and application of theory it would be appropriate to inject at this juncture. Circumstantial evidence suggests that concepts emanating from Taylor's theory were sometimes selectively applied. This evidence comes from the report by Wyatt and Langdon (1937) on experimental introductions of rest pauses into jobs that otherwise were designed according to Taylor's rule of fragmentation. Wyatt and Langdon in an effort to justify their experiments wrote:

"An introduction of suitable rests and provisions of refreshments are frequently regarded as attempts to pamper the workers. On the contrary they cater for definite psychological and physiological needs and provide an economic method of combatting the effects of exposure to long periods of uninteresting work".

The experimental use of rest pauses and strong justification for them, in jobs that were otherwise designed according to Taylor's system shows that the system may not have been adhered to in its entirety at least in certain cases.

Vernon (1927) reports on his own and other experiments on rest pauses and shortening of the working day as the control variables for measures of productivity.

The line of research reported in this section could therefore be regarded as establishing conditions under which the human machine would work most efficiently, and the placement of rest pauses, with or without the provision of refreshments, shortening of the work day were some of the strategies towards that goal - improving and/or sustaining production.

An important discovery of this period was the difference between fatigue and boredom by Wyatt (1927), Wyatt, Fraser and Stock (1929), and Wyatt and Langdon (1937). It was found that while high physical demands precipitated the onset of fatigue, lack of psychological stimulation induced boredom. The source inducing boredom was monotony in the work. Monotony was related

to the short cycle of the task process. Later, Chincy (1955) on the basis of his study of automobile workers, questioned the assumption of the causal link between short work cycle and the effective response of boredom. The alternative suggestion he proposed was that monotony leads to affective response of irritation. The modern formulation of stress-theory presented in Chapter 2 would suggest that either or both responses are possible depending on the arousal. Kornhauser's (1965) formulation of connectivity between constructs, discussed in Chapter 2, would suggest the linkage as shown in Figure 5.2.

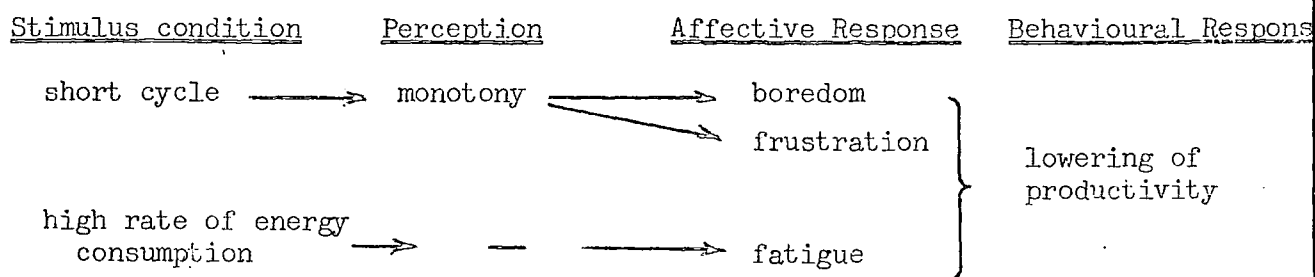


Figure 5.2. Relationship of boredom, frustration and fatigue with job characteristics

However, it was found that for certain people repetitiveness had a soothing effect - the explanation provided was that the work cycle created a "traction" or habituation which carried the worker through the motions of work without the onset of boredom or frustration. Wyatt was led to the conclusion that the more intelligent the worker the more likely he was to suffer from boredom in the types of jobs he investigated. These studies also indicated that in jobs where social interaction possibilities were high, the onset of boredom was delayed.

Taking the above findings into account, effort was directed at designing jobs that would preclude or postpone the onset, or ameliorate the effects of, monotony.

The research and observation to be reported in the rest of this section could be regarded as either experimentation with units of work or deductive, i.e. observing the process of work and arriving at conclusions on how jobs

should be designed. Note that while the first line of research was attempting to overcome the defects of the Taylorite system, the latter line of inquiry was directed on discovering the "natural way of working". Figure 5.3 depicts diagrammatically the way in which the conceptual dichotomy is visualised.

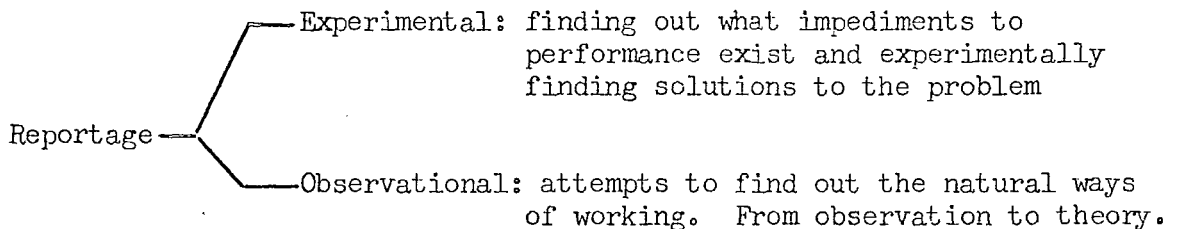


Figure 5.3. Direction of reports and research

These two lines of inquiry will now be discussed in the following two subsections.

5.2.1. Experimentation with units of work

The above referenced empirically findings shifted the research focus from the "one best way" - the reduction of time and motion for each individual - to finding ways of organising work so as to avoid deleterious effects on production that arose as a consequence of monotony. Harding (1931) reports a controlled study to find out the effects on production of two different units of work. The experiment was conducted in a radio assembly plant. The small unit of work consisted of fixing two or three wires and the larger unit consisted of:

either: eight wires, twenty-six joints
or : eleven wires, twenty-two joints

The experimental design called for subjects to be newly recruited, i.e. without previous work experience on radio assembly, and allowing the first week for the subjects to learn. The training period was spent on the larger unit of work, because learning the bigger unit included learning the small unit, as it were.

Harding's results are very interesting. He writes:

"When the small unit was worked, the output reached a maximum on Tuesday or Wednesday and at the end of the week dropped very

strikingly. This drop is clearly to be attributed to the subject's boredom, when the subjects returned to the large unit, the output rose steadily throughout the week".

Overall, then, Harding's findings could be summarised as indicating, both an improvement in quantity and quality.

Earlier, Harding (1920) had published results of his study on too large a unit of work; this study, Harding (1931), was illustrative of the effects of too small a unit of work. Harding's conclusion:

"Instead of attempting to simplify operations to a point where mistakes cannot occur (an attempt that defeats its own ends), executives should place more reliance on careful instructions and supervision in operations that are sufficiently complex to hold the worker's interest and attention".

speak for themselves. For job design, managerial or otherwise, the implication is that the job content should not be below the incumbent's level of ability; boredom will otherwise set in and both quality and quantity of work will slip down.

Cox and Sharp (1951) extend the early work of the Industrial Fatigue Board (so far reported in this section). Cox and Sharp set out to measure experimentally the effect of task complexity on performance. Within this remit they investigated:

1. Batch size, i.e. intermediate targets
2. Work cycle, and within this
 - (i) Balance in team work
 - (ii) Training
 - (iii) Meaningfulness of the subdivided task
 - (iv) Buffer stocks
 - (v) Effect of unit work cycle on quality
3. Scope of operator to vary the task
4. Standards of output
5. Matching operators and tasks

Item 5 of the above list, it is worth noting, comes very close to the modern job design concept of interface fit.

Cox and Sharp found that:

Intermediate targets do effect productivity. Batching the assigned workload seemed to encourage the operatives and the explanation provided by the researchers relate it to the personal sense of fulfilment experienced by the job holder when a certain target is reached.

Work cycle. Although the results were inconclusive, the following experimentally assigned situation is reported. 10 operatives saw a total assembly line, on which tasks were assigned according to traditional operations-splitting principles. Originally there were two such assembly lines. Fluctuations in demand caused one of the lines to be temporarily closed and 9 of its operatives were assigned to alternative tasks. The remaining one operative 'took on the job of making the whole set'. At first the individual fell behind in production, but

"The total output at end of 9 weeks was equal to one-tenth of that for the line, and from the tenth to the twenty-third week she averaged 18 per cent above the per capita production of the group. The quality of her work, 'at first below, steadily improved till it was considerably above that of the 10 girl line'".

The operative was above average in intelligence but was not the most intelligent person in the group.

Balance in team work is discussed by Cox and Sharp in terms of balancing the assembly line. Transference of this concept to managerial jobs would be in terms of the individual incumbent receiving the inputs he requires to perform his task being received by him on time, in the correct quantity and of the correct quality, or his own work suffers or his time is wasted.

Training. One of the reasons often forwarded for keeping the jobs simple - i.e. limited to a few operations only, was the low training need. While conceding that the 'assignment holds good to some extent', they disabuse the notion of its universal applicability. The contra reason given is that while for a raw recruit it may be true but once the recruit has been in the job for some time, learning incrementally more is not a difficulty.

Meaningfulness of work, according to Cox and Sharp, is an individual based perceptual construct. If the individual perceives himself to be participating in something grand, the involvement gives him a feeling of "meaningfulness in work"; otherwise, not. Increasing the work cycle alone may or may not effect this perceptual variable, for unless it is increased to above the individual's threshold, the work from the lengthened cycle may still have no meaning for the individual.

Buffer stocks, in the context of managerial jobs would imply forewarning of tasks to be performed. The forewarning given enables the job holder to plan his task properly.

Effect on quality. Cox and Sharp found that quality of work appreciably improves with longer work cycles.

It should be realised that a possible correlate, of cycle time being discussed in the context of operative jobs, is the concept of time-span of disorientation, due to Jaques, presented in Chapter 3.

Scope for job holders to vary the task

For managerial jobs an appropriate analogy could be Stewart's construct of choice in a job. The main contention here is that the time and motion aggregation based "one best way" does not always produce the best individual outputs. Giving some choice to the job holders is often observed to improve individual outputs.

This variable can have many different interpretations. Cox and Sharp investigated it from the viewpoint of operations. It was found that giving the position incumbents freedom to modify the sequence of operations, where this was possible, often resulted in increased outputs. Extending their analysis Cox and Sharp suggest:

"To allow scope for operators in a team to vary the work is less easy than to allow it for operators working as individuals; social factors must be considered. But where a team is well integrated, we suggest that it should be allowed considerable initiative in arrangement of work. Apart from the advantages gained in balance - individuals helping each other to clear accumulations - the team as a whole should tend to develop an interest in methods and work simplification; and this interest, aroused at the level where the job is done, would be invaluable".

In the theory of job design the above concept is important. It was later taken up by the Tavistock researchers and developed more fully. This later development will be discussed in Section 5.4.

The value of scope in task variation in the sense of control over the speed of working is reported by Strauss (1955), based on information supplied by Bavelas. It is reported that operatives on constant speed assembly line found the work oppressive. Strauss writes:

"The idea that efficient work results from proceeding at a constant rate derives certainly from the operations of machines and not from the characteristic operation of human beings. If anything is clear about human performance it is that it is characterised by changes of pace".

The story narrated by Strauss starts with the operatives being unable to match the theoretically calculated figures for expected production. The experimental change introduced involved installing a control mechanism on the speed at which the production belt moved. The control dial, permitted control of the speed at which the belt moved at three different values, marked "low, medium and fast". The speed control device was placed under the governance of the production group leader. The pattern of work that emerged is:

"... the first half hour of the shift was run on what the girls called medium speed (a dial setting slightly above the point marked "medium"). The next two and a half were run at high speed: the half hour before lunch and the half hour after lunch were run at low speed. The rest of the afternoon was run at high speed with the exception of the last forty-five minutes of the shift, which was run at medium".

Before disclosing the effect on production of the above speed control, note the following:

".... it is interesting to note that the constant speed at which the engineers had originally set the belt was slightly below medium on the dial of control that had been given the girls. The average speed at which the girls were running the belt was on the high side of the dial".

The above disclosure perhaps reduces the need for the punch line regarding the effects on production, but just in case - production increased:

".... within three weeks the girls were operating at 30 to 50 per cent above the level that had been expected under the original arrangement".

5.2.2. Empirical findings on the actual process of work - social aspects

Around the same time as the above discussed mainly British studies, American researchers discovered:

1. The value to the job holder of social intercourse opportunities at work.
2. The worker response to acts of interest in their work - the response being in the form of increased productivity.

Although some British findings related to the above topics existed, the American studies did provide additional impetus to British scientists. The American reportage did enjoy a greater exposure and as a consequence became ingrained into the public psyche - thus was born the management philosophy which later spawned into the Human Relations School.

Starting in 1924 Western Electric Company of Chicago conducted a number of studies at their Hawthorne Works, the initial purpose of which was to locate the variables which affect production. At a later stage, Roethlisberger, of Harvard, joined the experimental studies, being conducted by Dickson of Western Electric. The original reportage of these studies is by Roethlisberger and Dickson (1939) and Mayo (1933/1946), but accounts of the studies, although often on certain aspects only, are found in most texts on individual and group behaviour.

The purpose of the first of Hawthorne studies was to find the effect of changes in physical variables on productivity. No matter which way the changes were made, e.g. lowering or raising the illumination, temperature, etc., the productivity kept rising, or remained static, if it had prior to lowering the control variable, been raised. The investigators explained the observed phenomenon in terms of social factors: when attention is paid to individuals, they give good production. For job design, then, individual perception of the attention he receives is an important variable.

In another study individuals, on the basis of self-selection, were formed into a group, the manipulative variables now were rest pauses and system of wages. Here again productivity increased however the manipulation on the control variables. This necessitated two subsidiary experiments which were, in the opinion of Roethlisberger and Dickson (1939) equally inconclusive.

Finally, and yet another important experiment, involved investigation into the social and work norms of groups. This experiment gave rise to the awareness of informal organisation as being a determinant of productivity. Group standards on productivity were maintained through a system of social ostracism,

ridicule, and where possible physical blows. 'Speed kings' and 'chiselers' would equally be brought to the group norm.

Within the informal organisation there was also a status hierarchy. How informal organisation and social intercourse occurs and helps break the tedium of work is well illustrated in writings by Gross (1958) and Roy ((1952) (1960)). The reader is asked to remember the concepts of group norms and social status within groups, for these are important in evaluating the Tavistock approach to job design presented in Section 5.4.

The findings of the Hawthorn studies coalesced into the Human Relations School, and the philosophy of this line of thinking did have a strong bearing on the design of jobs. For whereas Taylor's system recognised only the monetary incentive, the Human Relations School proposed the acceptance of man's social needs. Oftentimes, the proposal took such a strong form that it denigrated the monetary incentive. The findings of the Hawthorne studies are by no means conclusive; they are subject to multiple interpretations (see Carey (1967) and Blumberg (1968)); re-evaluations of data can lead to conclusions at direct variance with those originally reached.

If the expression, "tell me what to do" can sum up Taylor's assumption on what the individual wanted (of course, with the proviso of pay adjustment), then the expression, "treat me nicely" would be an apt summation of the Human Relations thinking on job design. The operational way of treating the person nicely was to provide opportunities for social, i.e. non work related, intercourse.

Conclusions on Sections 5.1 and 5.2

Maher (1972) depicts the effects of de-skilling of jobs as shown in Figure 5.4.

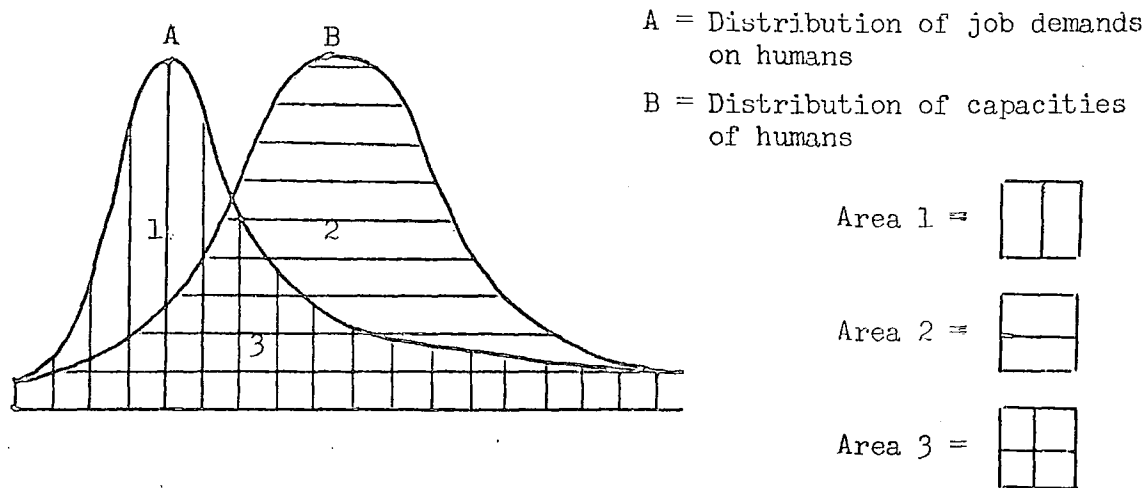


Figure 5.4: Diagram adopted from Maher (1972), to show the demands of job on human capacities and the capacities of humans

The total shaded area of Figure 5.4 is sectioned into three parts marked 1, 2 and 3, whose boundaries are explained in the figure.

Area 1 covers the demands that the jobs make on individuals but which they are unable to fulfil; area 2 shows the human capacities that are not used; area 3 shows the portion of job demands and human capacities that are matched and utilised. Area 2 of the diagram could, therefore, be looked upon as depicting "Human Resources Wastage". Likert (1967) dwelling on resource wastage, advocates a human resource accounting system. In Chapter 1 was mooted the concept that individuals utilise their responses for need fulfilment. Building on material presented in Chapter 2, taking the possessed resources and the wish to contribute at a particular level as one combination, and the demands of the work and the rewards of the work as another combination, then a job situation which does not, firstly, reflect a balance within each combination and, secondly, a balance between the two combinations is bound to be regarded, by either or both sides, to be ill conceived.

The Antidote

Organisational experience of designing jobs in accordance with Taylor's recipe coupled with the development and dissemination of new ideas stemming from Hawthorne studies and the British empirical evidence were compelling reasons to initiate improved job design.

The new evidence pointed out that Taylor's system, of splitting the job into operations, with each job holder performing only a small set of operations, in the end led to low productivity because of the accompanying side effects of boredom, fatigue and irritation. The side effect concomitants were broadly accepted to arise from reduced mental, and unnecessary physical, demands. Many different strategies were adopted for combatting ill effects. Some of the main ones are:

(i) Deflection of attention. Playing of music is reported by Wyatt, Langdon and Stock (1937). Individuals on jobs requiring surface level attention, when presented with music, it was found, experienced less boredom, fatigue and irritation. The type of music and the time at which each type was played, i.e. early in the morning, before lunch, after lunch or late in the afternoon also appeared to matter.

(ii) Job enlargement. This strategy, which Walker and Guest (1952) define as:

"Job enlargement is simply the recombination of two or more separate jobs into one This means a lengthening of time cycles".

was attempted, (see Cox and Sharp (1951)). This was a method of creating variety. Kennedy and O'Neill suggest that job holders preferred greater variety within jobs.

(iii) Job rotation involves individuals being assigned to different jobs at different times of the day. This was another method of creating variety.

Chichester-Clark (1973) defines job rotation as:

".... simply a special form of job enlargement under which workers move about between jobs, usually at regular intervals ranging from a few hours to several weeks but sometimes on a more informal basis within a work group".

All the above techniques, although only the first of the three has been given this name, simply deflect job holders' attention. Whereas scientific management was oblivious to man's needs other than the financial ones, and concentrated only on his physical dexterity, the new approach - super scientific may not be too pat a term for it - by giving cognisance to the onset of boredom, fatigue and irritation, recognised his limitations. In the words of Lawler and Porter (1979);

"In scientific management it is not that the employee satisfaction is negatively loaded in the job design, but rather it is ignored".

The aforementioned new approach, intended to combat side effects, have been heavily criticised by many psychologists, e.g. Argyris((1957), (1964)), Beynon (1973), Herzberg (1968), and many others. The line of thought underlying the criticism is the essentially negativistic tendencies of the approach. The words of Mumford (1973) explain and echo the thoughts of the critics so well that these are quoted:

"Human needs are sometimes catered for in a negative sense, as when systems design takes account of man's limitations".

Empirical research and modifications to jobs in pursuance of these findings were geared to designing jobs so that human limitations (onset of boredom/frustration and fatigue) could be overcome! The focus of the new techniques was on man's psychological incapacity - the limits of human endurance - rather than on his potential for growth and utilisation of abilities that he did possess. Friedman (1961) thinking along the lines of Argyris and others, found the aforementioned approach lacking on account of:

- low opportunity for growth, in personality, at work
- low opportunity for self expression in work

What was achieved and what was aimed for, are both illustrated in the writing of Walker (1950). Walker writes:

"We are trying to put a natural way back. The reducing of jobs to mere operations was an unnatural imposition onto the rhythm of human endeavour. Specialising means going into a subject in depth - not doing an operation repetitively. We concede that the engineering assumptions that the more sub-divided each operator's job, the lower the plant cost - but what we beg is for how long can the person go on doing a simple operation. Take the example of food. Man needs to eat. But if one gives him the same thing day in day out it will sicken him. If the same food is given him in cyclic form it becomes more acceptable. In cyclic form, the predictability is held to be a source of fun. If we have some randomness in the service it becomes even more interesting. There might be some menus one does not like but variety makes it possible to eat today even something not really liked/satisfying".

So, essentially the "scientifically" organised jobs or menus were maintained.

The new technique was to assign an individual worker to a different job, either daily or at different times of the day.

The route chosen to modify jobs was one based on the concept of skill variety rather than skill intensity. Variety was chosen as essentially this was an "antidotal" approach; monotony begets boredom variety was therefore the antidote.

Comments on the theory qua theory: extensibility to managerial jobs

1. The measure of the quality of the design of the job based on time and motion but recognition given to human inability to produce at constant rates, under situation of invariant stimuli.
2. Psychological needs, save those associated with physical limitations (e.g. above) not recognised.
3. The criteria of design acceptance empirically/statistically derived, i.e. not based on the individual but on aggregates.
4. Taylor's concept of one best way remained unreputed; further refined to include the concept of human limitations.
5. A job designer definitely needed. The job designer needed special training in industrial psychology.
6. No concept of organisation.
7. No model of job.
8. Prime motivator: money (remained so, as in scientific management).

The above analysis makes the theory, qua theory, weak.

The theory is not extendable to managerial jobs.

5.3. Theories based on attitudes and characteristics

Whilst research proceeded on finding the ill effects of designing jobs in the Taylor tradition, and ways of mitigating and combatting the onset of induced boredom, frustration and fatigue, another line of research, that of characterising the job and finding which of the job characteristics produced what characteristic responses in the individual, was undergoing development.

The incipient work of this research tradition is based on job attitudes; later this developed into characterising the job and characterising the individual. The importance of this lies in that a characteristic match between the job holder and the job can constitute job design.

A number of authoritative studies on job attitude, e.g. Wyatt, Marriott and Associates (1956), Herzberg et al (1957), Kornhauser (1944), facilitated advancement of job characteristics research.

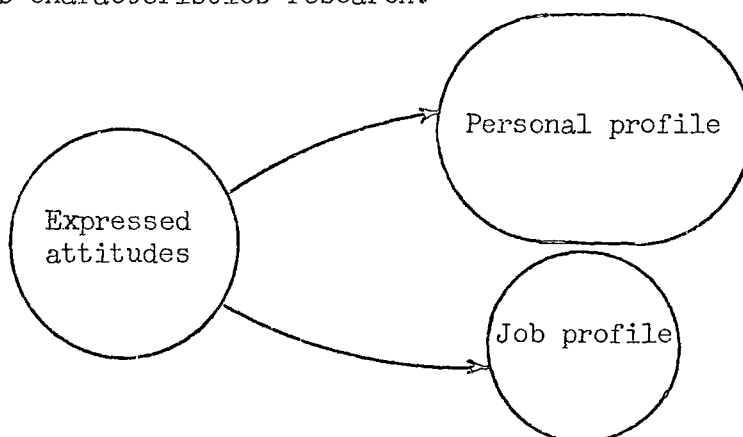


Figure 5.5. From attitudes to characteristics

Figure 5.5 shows the basic connection between the attitudes-to-work research and the characteristics (of individuals and jobs) research. The underlying concept is to classify "kinds of people" and "kinds of job". Job design then simply attempts to ensure a fit between the two profiles.

Typical attitudinal work is illustrated in the work of Walker and Marriott (1955):

"It would appear that there is a desire for jobs to have significance apart from satisfying immediate wants and providing a living. The worker's understanding of the word important showed that they had two needs, that their own work should be an essential part of the whole shop or factory process and that it should be useful to the consumer and the country. These are factors determining prestige and status in the working group and among social contacts, outside the factory, which merit greater attention than is given to them".

From the above the following job characteristics could be deduced:

wholeness
control over the product

Personal characteristics derivable are:

status seeking
seeking meaningfulness

In this section will be presented two theoretical standpoints; one directly derived from attitudes and the other through the process of characterisation of the job.

5.3.1. Herzberg's Job Design Model

In Chapter 3 is presented a model of managerial job, proposed by Flanagan (1954), for which he collected the data by the method of critical incidents. Basing their data collection method on the critical incidents methodology, Herzberg et al (1959) collected data from 203 engineers and accountants, who were asked to narrate "the events which led to the respondents feeling 'exceptionally good' or 'exceptionally bad'". This data led them to propose a two factor theory often referred to, in literature, as the Hygiene-Motivation (H-M) Theory. The H-M theory has generated a lot of controversy not the least on account of interpretations like:

"The opposite of job satisfaction is not dissatisfaction, rather it is no satisfaction. Similarly, the opposite of dissatisfaction is not satisfaction, but no job dissatisfaction".

Dictionaries and vernacular usage fail to support such use of English! The study itself and the results derived have been presented in Chapter 2.

Often, the H-M theory is covered in literature in the sections dealing with motivation. The author, however, regards the H-M theory, per se, as a nascent version of a theory of heuristics; this was the author's reason for not covering the theory in Chapter 2, under the motivation standpoints.

Figure 5.6, depicting a framework for investigation of individual heuristics, is adopted from Campbell et al (1970). The framework for investigating heuristic behaviour thus involves three fundamental, but interacting, parameters: (1) Individual characteristics; (2) Opportunities and motives, and lastly, (3) Organisational results.

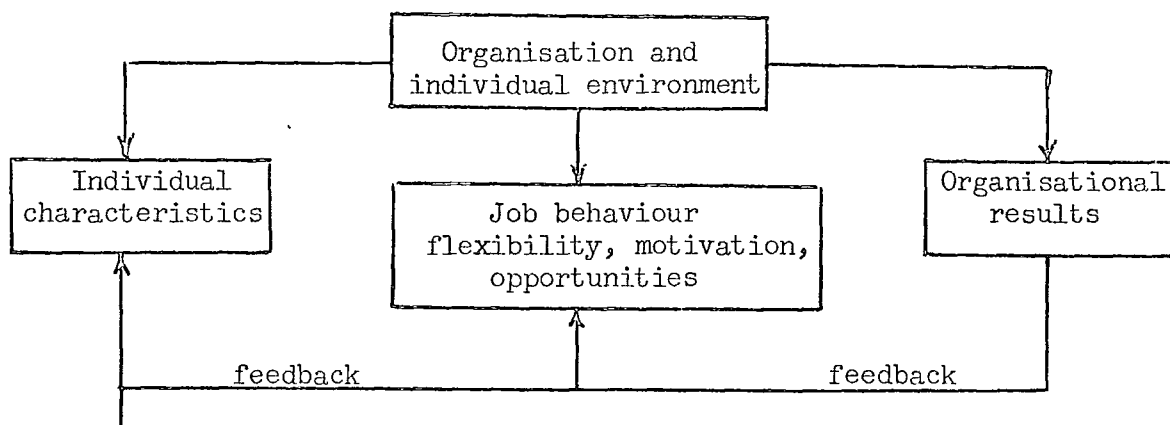


Figure 5.6. A framework for investigating individual heuristics

Campbell et al drew on the work of Mace (1931) and Viteles (1953) to relate capacity to work and motivation with the will to work - a state of need creates the will to work. Luthan's (1977) graphical model of motivation is presented in Figure 5.7.

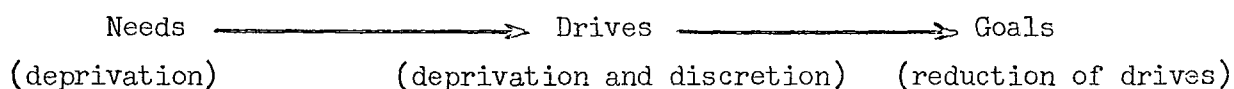


Figure 5.7. Luthan's graphical model of motivation

Following Miller, Galanter and Prietram (1970), the author suggests that drives, constituting deprivation and discretion, go towards formulation of plans - these plans are the individual's heuristics for goal achievement.

To give an example, consider the hypothetical case of a 100 hectares farm. For someone wanting to earn a living through farming, having a, say 100 hectares farm would be a goal subsidiary to the goal of farming. On the other hand, having a 100 hectares, would not, in itself, motivate a person to adopt farming as a method of earning a living. For the person wanting to farm, getting the farm is part of the heuristics of becoming a farmer. For the person possessing a farm on the other hand, may or may not indicate any discernable motive.

Relating the above argument back firstly to attitudes, and then to the work of Herzberg et al, which is the subject of discussion in this sub-section, an operational way of determining an individual's goal would be to ask him what final outcome(s) he expects from being successful in doing the job. Then, a

series of questions of the type

"What would be needed to be able to achieve that?"

where the word "that" in each subsequent formulation of the question, is replaced by the most recent stated goal.

The linking of goals in how the individual holding the goals perceive the accomplishing of one leading to the accomplishment of the other goals, which produces the means and ends chain is the subject of heuristics.

The job design concepts arising from Herzberg et al (1959) are essentially these:

1. Given that individuals indicated 'high' experiences predominantly with reference to certain specific constructs labelled "motivators", job design must seek to ensure that these are injected into the job. The presence of these leads to job satisfaction whereas their absence from the job will cause "no job satisfaction".
2. Given that another specific set of constructs, labelled hygiene factors, were predominantly associated with 'low' experiences, in propoive job design effort, at manipulation of these will not lead to job satisfaction. The manipulation of hygiene factors can lead to "no job dissatisfaction" at best.

Seven years later Herzberg (1966) published a new book under the title "Work and the Nature of Man". In this book Herzberg cumulatively presents his views of the human need for psychological growth. This standpoint is supportive of, as well as supported by, other theoretical research, e.g. Argyris (1957), McGregor (1961) and Maslow (1943).

To put this book in context of job design literature, Herzberg (1966) offers nothing new substantially but the reformulation of basic human needs:

- the constant need for cortical stimulation
- the varying need for psychological growth

which, although derivable from the material presented in Chapter 2, were a timely reminder to those about to embark on job redesign. The word "timely"

has been used purposively: the author holds the view that the popularity that the H-M theory gained owed more to the fact that at the time this theory was proposed, the state of job design was so appalling that industry was willing to give anything a chance or try.

An operational outcome of the above reformulation was a shift in job design paradigm: instead of attempts at deflecting attention through job enlargement and other such techniques for inducing variety, effort was put to create jobs which demanded the individual's attention. Thus was born Job Enrichment or Vertical Loading (Herzberg (1968)). Although the word enrichment had been used earlier (see Walker (1950)), Herzberg gave it a specific meaning. To differentiate his concept of enrichment from that of enlargement, Herzberg (1968) depicts the enlargement process as one of few change - an echo of the old adage:

"Plus ca change plus c'est la meme chose".

Job enrichment, through vertical loading, was a real change providing cortical stimulation and psychological growth. Herzberg presented 7 principles of arriving at vertically loaded jobs; for implementing job design change he also gives a 10 step schedule.

Herzberg ((1959), (1966)) used the terms 'content' and 'context' interchangeably with 'intrinsic' and 'extrinsic' in proposing his H-M theory. To Herzberg the use of these terms was simply a method of defining factors: those factors which his data on attitudinal statements showed to be linked with 'high' experiences he variously labelled 'motivators', 'content', or 'intrinsic'; those factors which the attitudinal statements showed to be linked with 'low' experiences were, on the other hand, variously labelled 'extrinsic', 'context' or 'hygiene'. Later researchers have attempted a more vigorous classification of job factors along the intrinsic-extrinsic continuum. Cooper (1973), for instance, relates the concepts of intrinsic and extrinsic on the basis of need fulfilment to whether the experience of fulfilment requires, or does not require, an intermediary. Porter and Lawler (1968B) take a similar

stand with respect to intrinsic rewards. This line of thinking has led to a very active research area, where researchers, e.g. Wanous (1974A) attempt to relate performance and satisfaction in a causal chain. Results available suggest that while for some variables satisfaction precedes performance for some other variables the relationship of antecedence is reversed. This concept will be developed at greater length in Chapters 10 and 11; but for the moment, going back to Herzberg, the dichotomy proved emotive, in that it deflected attention away from the "contextual" factors. In Chapter 4, statement is made of the generally accepted metaphor on organisational analysis that the context begets content. This line of thinking recommends that perhaps at the level of the job the "begetting" relationships could also hold. While Herzbergian job design paradigm, and for that matter some other methods as well, concentrates exclusively on the intrinsic motivators, those looking at the paradigm from management control viewpoint have long recognised the importance of both the intrinsic and extrinsic elements of motivation in a job - i.e. a wholistic view. Livingstone (1975) writes:

"Job design has an important influence on motivation. Job design can affect task motivation because it can affect the degree to which the achievement of intrinsic and extrinsic rewards is dependent on performance".

Application

The theoretical framework of Herzberg was applied to enrich jobs. The job enrichment process led to designing jobs that were vertically loaded in that they called for greater utilisation of personal potential, gave greater authority to employees, and enabled job holders to become in-depth specialists.

The enrichment-process theoretical framework as proposed by Herzberg (1968) excludes those whose jobs are to be designed from participating, and this adds to the difficulty of finding out whether the job holders themselves consider their jobs to be ill designed or not. In the words of Hackman and Lawler (1971):

".... the theory in its present form does not specify how the presence or absence of the motivating condition can be measured for existing jobs".

This lack of analysis is an instability in Herzberg's job design theory.

At the level of generalised, but open-ended, principles the theory was applied more or less successfully to operator level jobs in a number of key employing organisations, e.g. at I.C.I. in the U.K. (see Paul and Robertson (1970), at A.T. & T. Company in the U.S.A. (see Ford (1969))). The question of individual differences does not seem to have occurred either to Herzberg or, and even more so, to the implementors of the Herzbergian job design model. Reif and Luthans (1972) discuss the differing individual needs regarding the design of a job - some individuals may not want enriched jobs! Because of blanket application, it can only be assumed that success was aggregated, i.e. the number of job holders experiencing redesigned jobs to be better was greater than those who experienced a worsening in the job situation as a result of redesign. Note that Ford (1969) reports a study to have been an abysmal failure; however, this kind of failure is different from the type of failure just discussed - the discussion focused on the level of individual jobs and not at the study aggregate level.

Tests of the theory

To test the validity of the theory implies keeping the hygiene factors constant over the trial period, and it is difficult to state the length that the trial period should last. The greatest argument against the theory is that no test can be devised to validate the theory. A test requires application and application necessitates management (and possibly job holders) agreeing to bring about change. This fact in itself implies a shift in management practice if not policies. Shift in applied policy is necessary, whereas Herzberg appears to suggest that it is not so.

However, taking a clinical view of hygiene and assuming that all hygiene factors must be present on a a priori basis, still leads to contradiction, although the above argument is nullified. If salary and benefits must be maintained constant, people who are used to instrumental behaviour will find it difficult to accept "doing more" for the same amount of compensation as they received prior to redesign. Locke, Sirota and Wolfson (1976) reporting

a job design study, supply just this evidence:

"Post experimental group interviews were conducted with 10 randomly selected members of the experimental groups and 10 randomly selected members of the control group. The responses from both groups were basically negative. The control group employees were dissatisfied with the same things they were dissatisfied with before the study. The experimental group subjects complained.... that they had not received any extrinsic rewards, e.g. promotion for the new skills they had learned".

And later:

"Finally, there was a clear expectation (and strong desire) on the part of the employees that practical benefits in the way of extrinsic rewards would result from the program even though they were told explicitly at the beginning that such benefits could not be promised".

However, there is a twist to the above inference. Locke et al write:

".... the findings do not completely support the view that employees at lower job levels dislike or are indifferent to mentally challenging work. They do want it, but predominantly as a means to an end, not as an end in itself.

The emphases are due to Locke et al.

Looking at Herzberg's work from the viewpoint of theoretical stability, McLean and Sims (1978) write:

"Herzberg and his followers have found it necessary to introduce to the theory one qualification which seems to make it incapable of proof or disproof, and thus meaningless. The absence of motivators, says Herzberg, may increase sensitivity to lack of hygiene factors. So an absence of satisfying factors may lead to dissatisfaction and not only to non-satisfaction and with this modification placed upon the theory the two unipolar dimensions become related in an unspecified way...."

To explain the above, consider the case of a job holder experiencing low job content (i.e. a job well below his capacity) and perceiving his salary to be low. The *raison d'être* of job evaluation being the determination of salaries (see Chapter 3), a legitimate inference would be that the individual is getting paid for what he does. If asked with respect to which aspect of his work he is dissatisfied, a likely possibility is that job content will be blamed. Job enrichment performed on his job content (inducing greater ability usage) without corresponding increase in remuneration, is likely to change the focus of dissatisfaction to salary/pay.

The Scanlon Plan has a long history of successful application in creating participative management (see Whyte (1955)). According to Donnelly, in his

interview with Ewing (1977), whose own firm operates the Scanlon Plan, the success of the Scanlon Plan lies in:

"the belief that everybody not only could be more productive but wanted to be".

And this could be regarded as the fundamental philosophy of Herzberg's theory, as well. But the conditions under which the Scanlon Plan is successful, according to Donnelly, are:

1. Let the workers know what the problems are.
2. Demonstrate to them that they would share equitably in any improvements made.

In Herzberg's philosophy of job design, the equitable sharing of the consequences of improvement are missing.

Dunham (1977A) reports a study to investigate the relationship between perceived job design characteristics, ability requirements and compensation values. The three sets of variables were found to be highly correlated.

Dunham's conclusions were:

"These findings emphasise the importance of complete organisational planning in order to avoid dysfunctional consequences that might result from redesign effort that produce excessive high ability or compensation requirements".

And, later:

"It was shown that jobs perceived as being higher on job complexity had higher compensation requirements".

In other words, the message from Dunham is that jobs should neither be designed to be too demanding nor should the equation between job complexity and remuneration be violated. But the possibility of violation is implicit in Herzberg's formulation of theory: salary is a hygiene factor.

Fine (1964) investigating the intrinsic and extrinsic factors in a job, finds additional instability inducing elements in Herzbergian model of job design. Fine contends that job holders have traditionally held greater control over the intrinsic factors of work; control in the sense of leaving the job, absenteeism, etc. External characteristics of the job, on the other hand, have been traditionally less under the job holder control, Fine maintains. The argument, in Fine's own words, is as follows:

"There may be many different kinds of jobs for which he is qualified but most of them will pay about the same maximum salary or wage. Similarly, there will be few options regarding the different kinds of job security and work rule combination which he can find. The suggested hypothesis is that the influence of extrinsic factors, particularly pay, job security and work rules on worker satisfaction has been observed and neglected by job enrichment".

An interpretation of Fine's above argument would be that different individuals may require the satiation of the same basic needs in different ways. The rewards that organisations offer to individuals should therefore, somehow, show recognition of, and in fact be based on, choice of reward - the incumbent chose the reward that he prefers.

Peach (1977) considering the job design implication of the Herzbergian dichotomy of extrinsic and intrinsic job characteristics posits his views in terms of a dilemma for the job incumbent:

"Mr. Micawber's dictum about income, happiness and misery is as true of managers as of any other employee. It is difficult to discern 5-10 per cent increase in productivity when a manager's real income is falling by 5-10 per cent per annum, and it is clearly better economics for him to spend time decorating his home than in unpaid overtime to ensure the quality and quantity of production or extra sales. Job satisfaction does not pay bills".

Peach's above noted remarks indicate that, in designing jobs, care to ensure a balance between intrinsic and extrinsic variables of rewards is necessary. But Herzberg regards it as hygiene! Katzell and Yankelovich (1975) found that among the factors most commonly associated by job holders with earning high income were:

"Security, prestige, future prospect, challenge, social status, life style, etc."

It would appear, then, that Herzberg regards the above factors, at least to the extent of the correlations of the above listed factors with salary, as of non-consequence to job design.

Herzberg's dismissed extrinsic (as defined by him) job factors as unworthy of manipulation for purposes of seeking performance. Further evidence that at first sight appears to support Herzberg's standpoint needs discussion.

Deci ((1971) (1972)) hypothesised that rewards made contingent to perform-

ance should lead to decrease in internal motivation for performance. This would be tantamount to saying that if an individual who enjoys doing cross-words starts getting paid for his performance, the intrinsic enjoyment (achievement, pleasure, etc.) which he previously experienced would decrease. Pritchard, Campbell and Campbell (1977) evaluated this hypothesis, in fact on a puzzle task. The researchers found support for Deci's hypothesis. However, the notion has not been tested in a real job situation, where part of the job contract has to do with money. It may apply to situations in which work is done voluntarily.

Deci's theoretical and Pritchard et al's empirical standpoints could be analysed, as depicted in the diagram of Figure 5.8, as follows:

"When, from some ambient values of intrinsic and extrinsic motivation, the extrinsic motivation is raised, it effects in the lowering of the intrinsic motivation with respect to its ambient value".

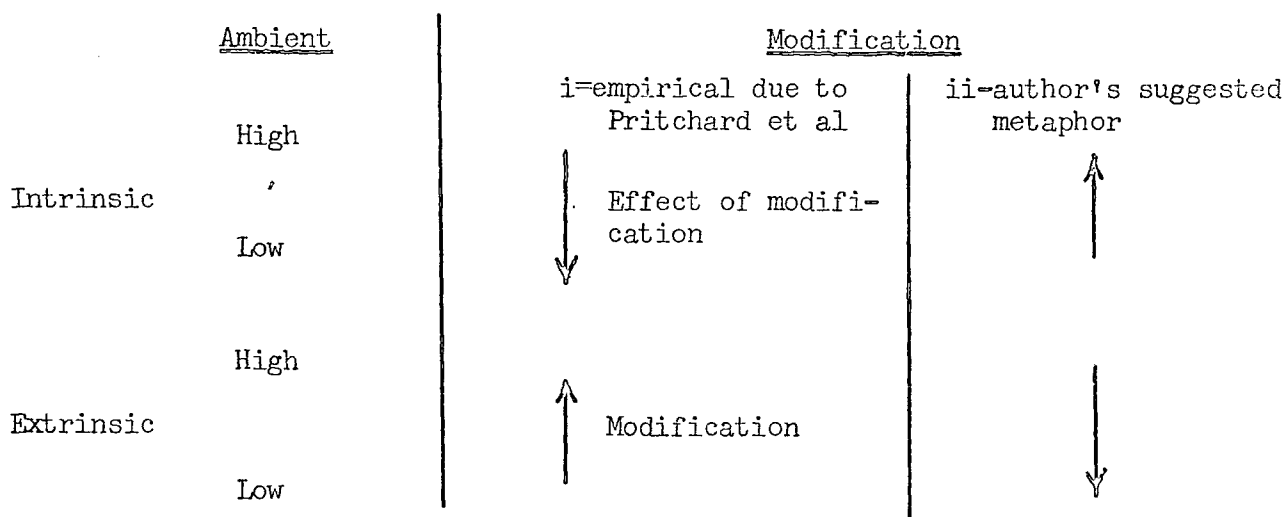


Figure 5.8. Diagramatic analysis of Deci's hypothesis

The diagram of Figure 5.8 shows pictorially the effect of raising the extrinsic motivation to be a decrease in the intrinsic motivation.

The analysis so far of the quasi-experimental results could be taken to indicate that Herzberg's disassociation in his job design theoretical standpoint from the extrinsic variables was perhaps judicious. The implication would be that regarding extrinsic variables, especially salary, as non-manipulatable was perhaps a good thing.

However, following the logic of the above assertion, the question that now begs to be answered is:

"Would the experimental raising of the intrinsic motivation lead to the lowering of the extrinsic motivation?"

Although the above question has not directly been addressed in research situations, circumstantial, but empirical, evidence supportive of the metaphor contained in the above statement comes from Ivancevich (1979). Ivancevich's researched, referenced here, has a bearing on the other model discussed in this section (5.3); so it is presented in greater detail in subsection 5.3.2.3. For the moment suffice it to say that the above stated phenomenon is likely to occur, and further Ivancevich's results also indicate that while intrinsic factors determine satisfaction extrinsic factors predict performance. Attempts to increase internal satisfaction are, therefore, in the long run, likely to result in deflection of attention that should be devoted to producing results for the organisation, i.e. performance.

The narrowness of the theoretical perspective which resulted in emphasis on intrinsic (as defined by him) to the exclusion of extrinsic factors as the only manipulatable variables, induced yet another instability into his theory.

Lack of theoretical stability - no method for analysing the cause of symptoms; no regard for individual differences; arbitrary decision on intrinsic and extrinsic factors; regarding only the intrinsic factors as manipulatable - could, therefore, be regarded as among the chief failings of Herzberg's job design theory.

The word enrichment connotes a one way process. In job enrichment the basic assumption regarding jobs is that either they are impoverished or O.K. But in real life situations of overburden can also arise - existing jobs may be defective on account of more responsibility than the job holder wants; demands, physical or mental, making the job holder overburdened and stressed - but these are not given cognisance. That recognition may become hollow if not accompanied by some tangible rewards related to work done, is not recognised.

While Herzberg (1966) derogatively labelled those interested in improving the job's contextual factors as 'hygiene seekers' and then suggested that such individuals were afflicted with 'sickness', medical evidence suggests that those compulsively attached to their work have a predisposition to serious and sometimes fatal coronary heart disease. Type A behaviour constellation of attitudes, emotions and behaviours has been identified as typical of personality prone to heart diseases. According to Burke, Weir and Du Wors (1979) a portrait of Type A person, provided by Jenkins, Friedman and Rosenman is:

"Work addicts with an exaggerated sense of the success ethic. They work long and hard hours constantly under deadline pressures and conditions of overload; they often carry work home on evenings and weekends; if they take a real vacation at all they often cut them short to get back to work. In addition to competing with others they constantly compete with themselves, setting high standards of productivity that they seem driven to maintain".

That these individuals may be a bit unhinged psychologically comes out from the portrait but even more damning is the fact that such individuals are more prone to coronary heart disease!

Herzberg's theory is based on a universal philosophy of links between stimulus and response, which in his specific case are shown in Figure 5.9.



Figure 5.9. Herzberg's universal philosophy

But, according to Rose (1948B) this kind of interpretation can only apply where there are no mediation of forces. According to Rose:

".... in every type of human behaviour where the individual can break habit and develop a new definition of the solution, there can be no universal propositions".

Taking the relationships as invariant is a source of instability in Herzberg's theory.

Centres and Bugental (1966) in their study to investigate the "strength"

of preferences between intrinsic and extrinsic attributes of jobs and the variances between this preference over occupations, found their data suggestive of:

"While intrinsic job attributes are preferred by professionals, managerial and white collar workers, extrinsic job attributes are preferred by unskilled, semi-skilled and skilled workers."

The fact that Centres and Bugental could find these preference differences between the two groups (professional, etc. and unskilled, etc.) weakens Herzberg's universalistic standpoint. The three job attributes preferred by the unskilled group were:

- pay
- security
- co-workers

Inverting Herzberg

The following case study was narrated to the author by one of the participants to his studies reported in Part 3 of the thesis.

An engineer has been in the organisation for the last 10 years and received 3 promotions in that time.

Salary - The company salary scheme based on job evaluation and the engineer's personal records suggest that he has been on the top end of the various scales in accordance to which he has received salary over the last ten years; but the engineer has consistently maintained that he was underpaid.

Work - The three promotions he has received the engineer attributes to his work achievements. He has established himself as an authority in his field of specialism and he is well-regarded by members of the professional fraternity, but not by those within the company.

Resources - He attributes the results of his past success to hard work and claims these were achieved not as a result of, but in spite of, the equipment resources made available to him. Resources he claims were always low but in the current position even less adequate.

Relationship boss - His relationship with his current boss is rather cool.

This he claims is due to the boss not understanding his need for equipment.

Colleagues - His relationship with his colleagues is not good because, he claims, they are jealous of him on account of his achievements. But he does care about interpersonal affairs, and on an average spends 15% of his time in attempting to improve his interpersonal relations with colleagues.

Subordinates - In all the jobs he has held, about 60% of his subordinates claimed he was a good boss but 40%, and some of them very vocal, thought he was "too demanding".

Given the above background, consider an interview of this engineer with Herzberg. It is a good likelihood, if not a certainty, that the engineer would regard achievement, recognition, work itself, responsibility and advancement as "high experiences", and company policy, supervision, salary, interpersonal relations, working conditions as "low experiences".

The purpose of presenting this case study was to be able to respond to the question:

"Given the above circumstances, what should job design attempt to accomplish?"

Given that the "high experiences" are associated with "arrival" and the fulfilment of needs, while "low experiences" are generated from non-need-fulfilment, and are associated with conditions which hampered need fulfilment, a logical and reasoned conclusion would be that job design should attempt to improve the five conditions euphemistically labelled extrinsic and therefore regarded as outside the pail of job design effort by Herzberg.

By focussing on the five conditions suggested by the author but disregarded by Herzberg, a correct diagnosis of the existing problem could be made. Job design, by providing a framework of analysis, would lead to problem diagnosis rather than job loading.

The author developed and tested thoughts germane to the above arguments in his study of heuristics, reported in Chapter 10 which helped him to develop the theory of job design presented in Chapter 11.

Comments on the theory qua theory: extensibility to managerial jobs

1. No measure on the quality of the design of the job. Human ability assumed to be unlimited.
2. Psychological needs recognised; non psychological, i.e. monetary, social, etc. needs ignored.
3. No criteria of job design acceptance.
4. Job design often attempted as a one-off project, but recognised to be needing periodic adjustment.
5. A job designer always involved; job holders themselves had no say in the design of the job.
6. No concept of organisation.
7. No model of job; characteristics for loading defined, and techniques developed for implementation. Characteristics pertain to work (as opposed to job).
8. Prime motivator - personal experience of achievement, i.e. n (ach).

(See Chapter 2).

The above analysis makes the theory weak.

Extensibility inadvisable.

5.3.2. Job Characteristics Models

In this section will be presented investigations which deal with manipulatable, intervening and the outcome variables of jobs. Typical of this research tradition is the model of the work situation depicted in Figure 5.10, based on Katzell, Barrett and Parker (1961).

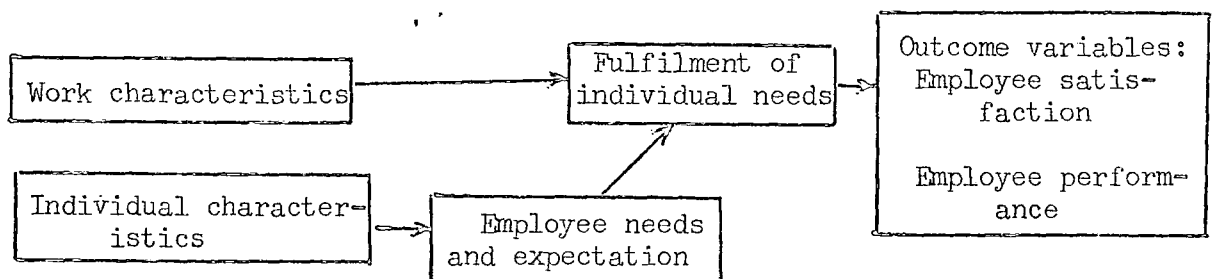


Figure 5.10. Model of work situation

In the model of figure 5.10, the work characteristics are deemed to be the manipulatable variables; the fulfilment of individual needs is regarded as the intervening variables; the employee needs and expectations are seen as the moderating variables, and the satisfaction experienced by the employee and the organisation are the outcome variables.

The research strand provides a method by which the design of the jobs could be measured - ill designed jobs can thus be located.

Although essentially any adjectival descriptor, ranging from absorbing, through stress-inducing to zany could be used to characterise the job, only those characteristics at the "Stimulus Condition" level are the focus of attention (see Chapter 3 for stimulus condition, affective response, etc. levels of variables). These characteristics are often referred to as "objective characteristics". Although labelled objective, it should nevertheless be clear that they are mainly measurable in terms of the induced response: characteristics like "cycle time" and "feedback on performance" could be measured objectively, e.g. in minutes and seconds for cycle time and frequency for feedback; nonetheless for job design purposes the goal of measurement being to derive the experience-in-job, the characteristic however objectively defined is subjectively measured.

Leading to characteristics models

Research, concomitant to Herzberg's, which gave impetus to the characterising of jobs owes much to Blauner (1964) and Kornhauser (1965). Blauner, comparing a number of industries from the perspective of interaction between alienation and technology, concluded that "craft-like" technology is less alienating than semi-automation. Kornhauser (1965) found that the state of mental health of individuals correlated with the skill requirements of the jobs they held.

The work of Turner and Lawrence (1965) stands as a landmark in characteristics based job design research. The researchers devised an instrument, called requisite task attributes (RTA), to measure the fit between the job holder and the job - the fit was measured directly in terms of job satisfaction and surrogately through absenteeism. The RTA instrument was based on the following 10 scales.

1. Object variety - number of different kinds of objects, tools and controls worked on.
2. Motor variety - change in work pace; change in physical location; change in required physical operation.
3. Autonomy - latitude in choice of method, sequence, pace; importing outside services.
4. Required interaction - number of persons with whom the job requires interaction; quantity of interaction.
5. Interaction opportunities - (a) on the job - number of people available for interaction, quantity.
(b) off the job - amount of time subject is free to choose interaction by going off the job without reprimand.
6. Responsibility - ambiguity of remedial action for routine problems; time span of discretion; probability of serious error.
7. Knowledge and skill - learning time.
8. Task identity - clarity of cycle; visibility of transformation to operator; magnitude of transformation.
9. Cycle time - duration of major job cycle.
10. Working conditions - conditions of personal comfort.

Job holders and their superordinates were asked to describe the job contents on the above 10 scales. These dimensions were then collapsed into one composite measure which was labelled the "Requisite Task Attribute Scale".

The basic hypotheses of the Turner and Lawrence study were:

1. An expected high positive correlation between job satisfaction and RTA scores.
2. An expected high negative correlation between absenteeism and RTA scores.

Turner and Lawrence administered the RTA instrument to 470 job holders in 47 different jobs from eleven industries.

The aggregate data did not support hypotheses concerning job satisfaction. A re-analysis of the data on the basis of whether the respondent came from a predominantly urban area or a predominantly rural area, found support for the satisfaction hypothesis from job holders from predominantly rural areas. The Turner and Lawrence study is important for the following two reasons:

1. The ten job characteristics used by the researcher, could be used for analysis and synthesis purposes.
2. The study provided support to the view on job enrichment discussed towards the end of the preceding section - individual differences suggest that "individual" based strategies, rather than Herzbergian universalistic approach of enrichment, should be used in designing and measuring the design of jobs.

On the basis of re-analysis of data collected by Smith who conducted a study similar to that of Turner and Lawrence, Blood and Hulin (1967) proposed the hypothesis (which explains the results of Turner and Lawrence) that:

"Community variables, e.g. slums, urbanisation, population density, standard of living, etc. interact with the job satisfaction variable, in a way which effects aspiration levels; where the expectation of individual's integration into the community is light, the individuals would hold middle class work norms and where their integration were expected to be low, alienation from middle class norms would be high. The result would be that jobs high on scales like the RTA, would correlate with high job satisfaction, and vice versa, for individuals holding middle class values; for those not holding middle class values, no correlation should be expected."

The above predictions were confirmed in the Blood and Hulin (1967) re-analysis. The above analysis indicated the necessity of incorporating individual differences into job design models.

Measuring the motivation of jobs - incorporation of individual differences to job design models

Hackman and Lawler (1971) proposed a model of job design depicted diagrammatically in Figure 5.11.

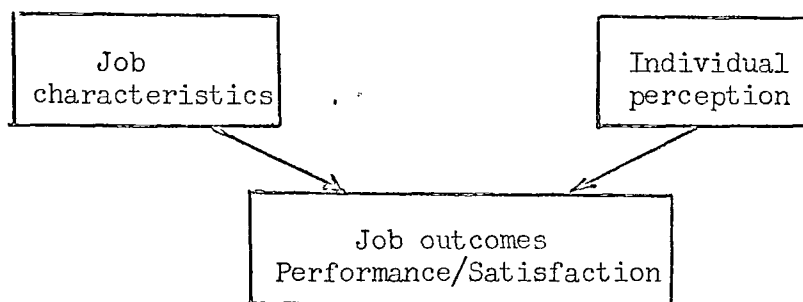


Figure 5.11. Model of Hackman and Lawler for job design

Hackman and Lawler adapted 6 dimensions from the Turner and Lawrence study. The dimensions chosen were:

1. Variety
2. Autonomy
3. Task identity
4. Feedback on performance
5. Dealings with others
6. Friendship opportunities

Whereas the first four of the above listed dimensions, to Hackman and Lawler, constituted the "core dimension", the latter two dimensions were:

"included to permit exploration of the impact of the interpersonal characteristics of job design".

The research instrument consisted of measurements on:

1. Description of the job on the above items.
2. The job holders "need strengths"
3. Levels of job satisfaction experienced by the employee

Job outcome variables were:

1. For job satisfaction, directly from above.
2. For job performance, company records on absenteeism and supervisory rating.

The job holder's "need strength" was measured along 12 dimensions.

Data was collected from 208 employees in 13 jobs and 62 of their supervisors.

The results of the study provided support for the hypothesis:

1. Employees and their supervisors are able to provide generally non-distorted descriptions of the characteristics of their jobs.
2. The core dimensions supply information on the motivational strength of the job.
3. The motivational potential of the job, as measured on the core dimension, is to be derived through multiplicative manipulation of scores, i.e. the job will be motivating when high on all the four dimensions - compensatory - that is additive model is inadequate.

The results once again showed the importance of giving cognisance to individual difference: the moderating influence of the need strengths was found to be significant.

Hackman and Oldham model

Hackman and Oldham ((1974A) (1974B)) presented a job design theory which is anchored on the one hand on the process theory of motivation and on the other hand on the job characteristics models of Turner and Lawrence (1965) and Hackman and Lawler (1971). The theory incorporates the concept of individual differences at the most fundamental level. An instrument designed by Hackman and Oldham permits the comparison of the design of jobs and is perhaps therefore labelled the "Job Diagnostic Survey", J.D.S. The theory suggests that the design of a job can be evaluated on a characteristics complex of 5 basic dimensions. The evaluation is done essentially by the job holder although the boss of the position incumbent is also involved. The evaluators analyse the job in terms of how the job is loaded on the 5 core dimension. The theory assumes that in the evaluation, three critical psychological states are involved. These critical psychological states, associated with the "Employee growth need strengths", are a function of individual personality, and their function is mediation or intercession in the total experience of work, for the job holder. The theory suggests that this psychological experience is the determinant of the work outcome variables. Figure 5.12 juxtaposes the three components of the theory:

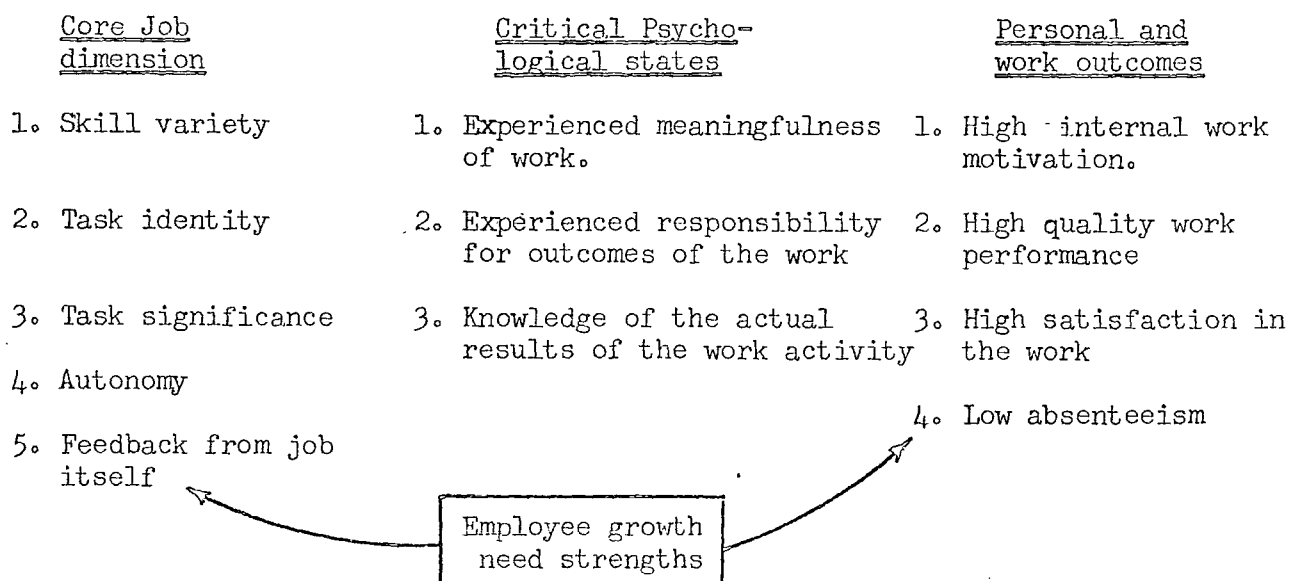


Figure 5.12. Hackman and Oldham Job Design model

The job is conceptualised as a multidimensional (5 dimension) entity.

Hackman and Oldham suggest:

".... it is possible to compute a score reflecting the overall 'motivational potential' of a job in terms of the core job dimensions".

This score is computed as follows:

$$\text{Motivational Potential Score(PPS)} = \frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3} \\ \times \text{Autonomy} \times \text{Feedback}$$

Thus, the model of Figure 5.12 is compensatory on the first three dimensions and non-compensatory with respect to the last two dimensions.

In addition to the five "core dimensions", the Hackman and Oldham instrument obtains measures on two additional dimensions which are:

1. Feedback from agents - the degree to which the job holder receives clear information about his performance from supervisors or firm co-workers.
2. Dealings with others - the degree to which the job requires the employee to work closely with other people in carrying out the work activity.

The specific measures obtained from the JDS are defined as:

1. Skill variety - the degree to which the job requires a variety of different activities in carrying out the work, which involves the use of a number of different skills and talents of the employee.
2. Task identity - the degree to which the job requires completion of a "whole" and identifiable piece of work - i.e. doing a job from beginning to end with a visible outcome.
3. Task significance - the degree to which the job has a substantial impact on the lives or work of other people - whether in the immediate organisation or in the external environment.
4. Autonomy - the degree to which the job provides substantial freedom, independence and discretion of the employee in scheduling the work and in determining the procedures to be used in carrying it out.

5. Feedback from the job itself - the degree to which clear information about individual effectiveness comes to the job holder as a consequence of performing the job.

Tests of the theory

The Hackman and Oldham ((1974A) (1974B)) model is a direct derivative of the Hackman and Lawler (1971) study. As it is a relatively new model, few studies testing the model are reported. Of the two studies which are discussed in this section, at least the first one could be regarded as having a hypothesis generating, rather than testing, purpose.

Lawler, Hackman and Kaufman (1973) report a study in which 61 jobs, at four levels, were redesigned. The study is well reported in the above reference; what is of concern here are the results of the study. In short, the organisation considered the project a success due to:

1. A reduction in training time, for some position holders, from five to two days.
2. A chance of reducing the number of non-direct (i.e. supervisory) staff.
3. Reduction of absenteeism and staff turnover during the study.

However, the research investigators report no increase in motivation or satisfaction for incumbents whose jobs were modified with the view to effecting increases on these dimensions. Interpersonal relations deteriorated markedly. Further, individuals at the higher levels indicated greater dissatisfaction as a consequence of the implemented changes. From the report, the explanation of the last stated outcome appears to be related to the fact that lower level jobs were enlarged at the expense of higher level jobs. The elements of the jobs that were sources of satisfaction in the higher level jobs, before the redesign, were stripped off these jobs without complementary augmentations to these jobs to compensate for the loss.

Lawler, Hackman and Kaufman report two further potential explanations for the failed increases in motivation and satisfaction. These are:

1. Although changes induced raised the jobs on all five core dimensions, significant modifications were effected only on two dimensions. This, of

course, contravened theory stipulation. Jobs must be high on all five discussions.

2. The extent of changes, whether significant or non-significant, still left the jobs with deficient loading on the core dimensions. As explanation consider a job holder and his job. Suppose the job had a loading of 2 units before and 4 units after the redesign on a certain core dimension. This change would be still deficient if the required loading (for that job holder, on that dimension) were 6 units.

The second test of the theory is reported by Hackman, Oldham, Jansen and Purdy (1975). The Hackman and Oldham model for job design is a method for evaluating the design deficiencies of existing jobs - it is not a theory of the process of re-design. Once jobs deficient in motivating potential are located how are they to be re-designed so as to compensate for, or remove, the deficiencies?

Walter et al (1975) working as consultants at operationalising Herzberg's concepts of job enlargement, developed 6 techniques by which jobs could be re-designed. These concepts are:

1. Natural units of work
2. Client relationships
3. Task combination
4. Vertical loading
5. Task feedback
6. Task advancement

The model of Hackman and Oldham was tested in association with Walter et al, and the concepts earlier developed by the consultants were employed in the re-design process.

The researchers diagnosed the department in which 105 jobs were investigated, to be bedevilled by five recurring problems:

1. High absenteeism
2. Inadequate output per head
3. Supervisor attention deflected in fire-fighting, as a consequence of continual crisis
4. Target dates for task completion not being met
5. Job holders indicated apathy and/or hostility to work

As a result of re-design, the following outcomes were achieved:

1. Reduction in manpower
2. Some of the incumbents were transferred to better jobs in other units
3. Rise in productivity by 39.6%
4. Quality of production improved - this was measured in terms of reduction in error rates
5. Absenteeism reduced
6. Job satisfaction increased

Accumulatively the above outcomes generated a total saving of between 60,000 and 90,000 dollars per annum.

Evaluation of theory

The theory provides a method of determining the defects in the design of existing jobs. The questions that arise are:

1. Are the dimensions delineated as forming the core the only ones that are important?

Hackman and Oldham (1974B) themselves admit this limitation to the model, in that it focuses on the "work" rather than the "job":

".... the model focusses exclusively on the relationship between an individual and his or her work. It does not address directly interpersonal, technical or situational moderators of how people react to their work, even though attention to such factors may be critical in successful installations of actual work changes".

This is indeed a gross limitation: managerial jobs are high on interpersonal interaction (see Chapter 3, e.g. Mintzberg (1976)). Further, by narrowing the focus to intrinsic at the exclusion of the extrinsic, the model could be regarded as lopsided.

More recent findings relating to the intrinsic-extrinsic motivation in jobs have a bearing on their job or rather work design model. Baird (1976) and Ivancevich (1979) tentatively suggest against attempting to increase, and going on increasing, the internal motivation of jobs while excluding or ignoring the external motivation. Baird's (1976) notion of highly stimulating and non-stimulating jobs could be interpreted as referring to jobs which are high and low, respectively, on internal motivation. Baird hypothesised that

"On stimulating jobs, performance would be positively related to satisfaction".

To test the hypothesis Baird collected data from 214 government officials. The statistical analysis of data revealed the relationship (between performance and

satisfaction) to be exactly opposite to that hypothesised!

Ivancevich (1979) building on this work but using frequency-of-change in product-moment statistical technique and a cross-log correlational design tested the following hypotheses:

1. For engineers working in highly stimulating jobs:
 - 1.1. Supervisory performance rating (S) will be causally related to intrinsic (I) and extrinsic (E) satisfaction.
 - 1.2. The actual cost performance index (C) will be causally related to intrinsic (I) and extrinsic (E) satisfaction.
2. For engineers working in low stimulation jobs, extrinsic satisfaction (E) will be causally related to both the supervisory performance rating (S) and performance cost index (C).

While data was supportive of hypothesis (2) above, the data suggested directionality of influence to be contrary to that which would be required to support hypothesis (1). This led Ivancevich to propose:

"The incongruent direction of change findings indicates that initial intrinsic satisfaction causes subsequent decrease in performance rating and cost performance".

In the discussion section of his report, Ivancevich admits to the speculative nature of his interpretation but strengthens his argument with reference to two other recent studies, which also lead to the conclusion that:

"While intrinsic factors determine satisfaction extrinsic contingencies predict performance".

Ivancevich writes:

"Perhaps the results can be used to speculate about engineers in the high stimulation jobs. These engineers may be deriving the intrinsically based rewards of the job and not addressing the control and planning work activity. In other words, if the most important parts of the job are dull, mundane, routine tasks, then 'enriching' it with more interesting and challenging tasks may force a trade-off between satisfaction and performance. This type of trade-off could occur indefinitely unless management is able to use enriching tasks as rewards contingent on accomplishing the dull but necessary tasks".

From the above arguments a justifiable conclusion would be that the Hackman and Oldham job design model has the potential of adversely affecting performance, and that this is due to disregard to extrinsic dimension of the job.

Notwithstanding the exclusion of the extrinsic dimensions, the theory may also be inadequate for the measurement of intrinsic motivation. Buchanan (1979) writes:

"The job diagnostic survey is used to assess weakness in the job content in terms of five core dimensions, their pointing to the kinds of job change that may be desirable (such as increasing autonomy or enhancing task significance), but not to specific job design alterations that may be available".

In other words, if the design of job has weaknesses other than those posited by the model these could not be discovered and therefore would not be rectified.

2. Are the dimensions unique? Is the linkage between the constructs of the model complementary or product based

Dunham (1977B) on the basis of a study to investigate the dimensionality of the motivational potential concept writes:

"It appears that in most, but not all, cases a less than five dimensional representation would be most parsimonious".

Dunham (1976) found that there appears to be no reason to accept the product derivation of the MPS scores. An additive model of the type:

$$MPS^i = \sum_{i=1}^5 (\text{variable } i)$$

offered as good a solution as the semi-product model suggested by Hackman and Oldham (1974B). This shows that all the five dimensions of the model could be collapsed into one, i.e. the JDS model is a unidimensional model. Dunham labels this unique dimension as job complexity, i.e. what the JDS instrument measures is not the motivational potential of the job but how the incumbent sees the jobs in terms of its complexity.

Cooper (1973B) taking the original Turner and Lawrence's 8 job characteristics, and using hierarchical linkage analysis techniques formed the correlations between the constructs as shown in diagram 5.13.

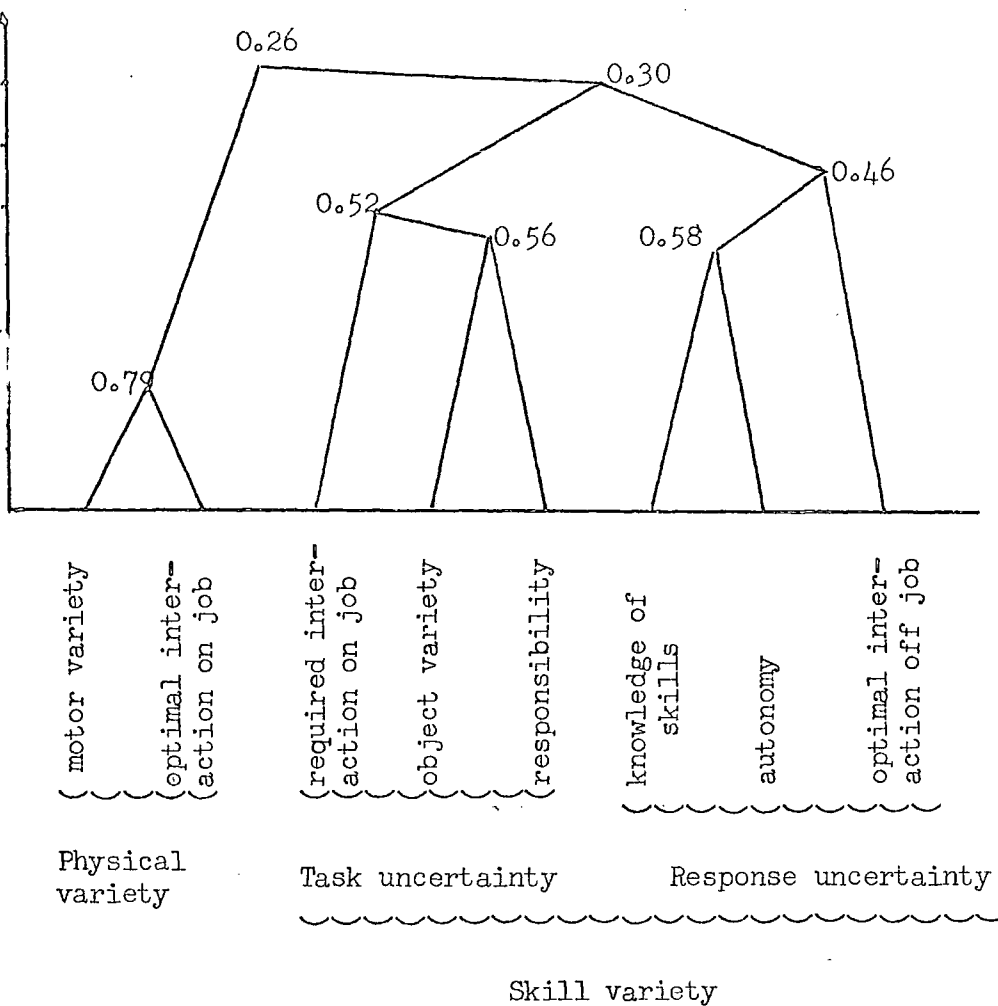


Figure 5.13 Hierarchical Linkage Analysis on Turner and Lawrence's Job Characteristics

Although hierarchical linkage analysis have not been performed on the Hackman and Oldham set of characteristics, their lineage from Turner and Lawrence's set of constructs, together with (a) the results of Dunham's study and (b) the ordinary correlational tables presented by the researchers themselves, provides strong circumstantial evidence to make the dimensionality of the model suspect.

3. How applicable and relevant are the items contained in the JDS instrument?

Fineman's (1975) assertion on relevance of the items in research instruments bears consideration. Although Hackman and Oldham relate the capability of the JDS instrument as:

"It should be kept in mind throughout that the instrument is designed to be of use both in the diagnosis of jobs prior to their redesign and in research and evaluation activities aimed at assessing the effects of redesigned jobs".

in practice the application of the instrument could be explained in terms of an analogy. Suppose a person has his toe cut off and has pain. If, on going to the hospital, he is put a series of questions like:

- Is the pain in the head?
- Is it local or general?
- Is it internal or external?

Now, such a list may or may not contain any item(s) on pain due to toe cut off. Obviously, the possibility does exist that if "pain in the foot" is covered in the questionnaire the patient may be diagnosed, or equally likely misdiagnosed, and treated for conditions which may, or may not, be relevant.

In this context attention is drawn to how Alderfer and Brown (1972) went about designing their "Empathic Questionnaire". On the authority of Campbell and Fiske, Alderfer and Brown write:

"Even under the most carefully controlled conditions responses to questionnaires are, in part, only a function of the variables being measured. Some of the variance in responses is inevitably the result of factors that are peripheral to the phenomena in question".

and this led Alderfer and Brown to conclude:

1. "In fact the questionnaire itself may affect a respondent's answer".
2. "A questionnaire in attempting to elicit information from the respondent about his organisation, provides him with information about the researcher. It tells the respondent what the researcher thinks is important and reveals some of what he already knows about the organisation".

On the authority of Rogers, Alderfer and Brown suggest that the researcher could draw out more information by designing a questionnaire which reflected the researcher's knowledge and understanding of the organisation rather than using:

"A questionnaire based on items that could apply to any system".

The deflection of attention that could result from Hackman and Oldham's method of diagnosis could result in, during the redesign stage, more emphasis being placed on, say, "autonomy" when it should have been "Feedback" which should have been emphasised upon.

4. How uniquely can the constructs labels for the dimensions be interpreted?

In this subsection only two of the 5 constructs used in the model will be discussed. This is not to be taken as a sign that the other 3 constructs should be accepted as "not subject to argument"; rather the arguments relating to the 2 that are discussed are only to indicate the kind of arguments that could also be built with respect to the other three.

(i) Skill variety. Jobs could be analysed on the basis of degree of specialisation or generalisation they require; at the same time they could be analysed on the basis of skill requirement. For example, in medicine, a cardiologist or an endochronologist are both specialists, while a general practitioner as indicated by the designation is a generalist, but all three require a high degree of skill. The variety in the specialist's job is low, but the degree of skill required may be high. In a specialist's job repetition would almost always be involved. Skill and variety, therefore, ordinarily measure different aspects of the job.

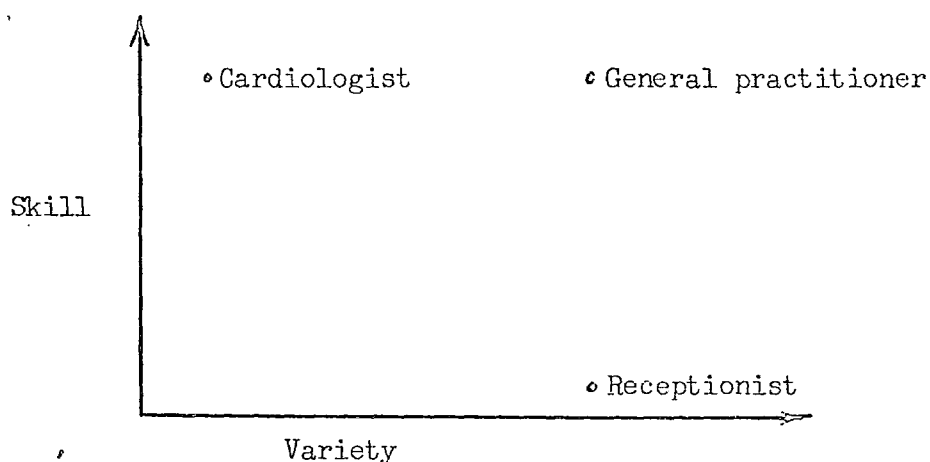


Figure 5.11. Illustrating the difference between skill and variety

The juxtapositioning of the words "skill variety" by Hackman and Oldham as label for a dimension indicates the emphasis on variety. So, while skill variety is measured by the model skill intensity is not regarded as important. From the positive motion point of view, as opposed to location of, and elimination of, impediments in performance, this concept is at variance with the idea of measurements on motivational potential. Cooper (1973) points out that variety on its own may not be a true motivator. Cooper writes that the value of variety is:

".... probably limited to routine, repetitive type jobs which characteristically induce feelings of boredom, an increase in variety simply means a decrease in boredom. There is reason to suppose that the general relationship between variety and the dependent variables of job behaviour will be an accelerating form with lower levels of variety exerting a particularly degrading effect on behaviour, the severity of this influence falling off gradually with increasing amounts of variety. In other words, higher

levels of variety simply serve to make the job tolerable rather than positively attractive".

Figure 5.14 illustrates the difference in the concepts of skill and variety. Support for the author's analysis of specialism is found in Tyler (1977).

(ii) Feedback on performance. Although in the core dimensions is included only the feedback from the job itself, one of the additional two dimensions reflects feedback from agents. The author, through personal communication with Professor Hackman acquired copies of the research instrument from which it transpires that the meaning attributed to the concept is:

"achievement, and recognition, of assigned targets"

i.e. performance appraisal type of feedback. Another meaning that can be assigned to feedback is the one associated with participation. Dowling (1979) reports what feedback means to Carlson, the man who turned United Airlines around and is a proponent of "visible management", thus:

"Visible management is hollow unless it is accompanied by equally visible feedback. Someone in authority always follows up to the employee with a report on the action contemplated as a result of his or her suggestion or conflict".

Thus, whereas the concept of feedback to Hackman and Oldham is something which the job holder receives as a consequence of performance, to Carlson it is something which the job holder receives so as to facilitate his integration and or his performance. For managerial jobs feedback in the sense of Carlson could be equally, if not even more, important than the appraisal type of feedback.

5. To what extent is the causal chain model valid?

Hackman and Oldham (1974A) assume the existence of a causal chain:

"At the most general level, five core job dimensions are seen as prompting three psychological states which, in turn, lead to a number of beneficial and work outcomes".

However, Seeberg (1978), through a cross legged correlation analysis design, found that for her sample general satisfaction appeared to be involved in influencing the individual's perception of job characteristics. The implication is that the so-called objective characteristics may, after all, be subjectively

assessed. Socberg's assessment, based on her data of the situation, makes the Hackman and Oldham model suspect, as to the utility to which the model can be put. The researchers assume that high satisfaction and high performance is generated from, and related with, the same set of job characteristics. Similar standpoint is also taken by Lawler (1970), who advocates the creation of "stimulating jobs" on the basis that high task stimulation leads to experienced satisfaction when the performance is high.

Empirical evidence does not totally support the theoretical standpoint, however. Baird (1976) from a study on the relationship between satisfaction and performance arrived at a number of conclusions casting doubt on the concomitant outcomes predicted by theory. Two of these conclusions are:

1. Autonomy being a measure of freedom that employees have to control their work behaviour may simply be used to do things unrelated to performance.
2. A task high on significance may be enjoyable simply because of the status that accompanies it.

Baird (1976) in fact writes:

"There is no difference in work satisfaction between high and low performers on stimulating jobs. Performance was more strongly related to work satisfaction when job stimulation was low".

6. What is the implication of ignoring the contextual variables, connectivity of jobs and concepts of organisation?

A defect in the model is that the model is work specific, and ignores the context-of-job variables. In particular the variables concerned with supervising roles and managerial practices are not touched. To implement model specified changes requires manipulation of extraneous factors, and this according to Wall (1979):

"... any findings are thereby interpretable in terms of these rather than the variables included in the model itself".

Dunham (1977B) looking at the absence of concepts of the organisation suggests that the

"perceptual measures of task design confounds individual differences in perceptual processes with the antecedent objective task characteristics. It is also possible that for some samples there may be certain organisational design characteristics which operationally tie the various factors to one another in the objective design of the jobs".

Thus, as the theory of Hackman and Oldham is essentially substantive, but the effect of ignoring the concept of interlinking of jobs, and other organisational level concomitants of design, at best, gives no aid in implementation and at worse may be a weakness in the model.

Seeborg (1978) in a quasi-experimental job design study found that motivational potential scores increased more significantly with respect to modified jobs where the

"main thrust of changes was not to improve job content".

And this, to Seeborg, suggested that jobs for which context had changed were deemed more satisfying than those where the changes were based on content. A pertinent question, based on reasoning stemming from Seeborg's observation, concerns itself with the type of motivation the questionnaire does measure, in case it is motivation that is being measured. For example, is it motivation to stay on the job (as opposed to leaving the organisation) or is it motivation to work, that is being measured. Motivation to stay could be increased without changing motivation to work, or rather, in the extreme case motivation to stay may be even increased at the expense of motivation to work!

JDS assumes that the higher the MPS the better the design of the job. The changes Seeborg observed in her study increased the social aspects of the job. Given this state of affairs the possibility exists that the individual, as a consequence of redesign, devotes even more time to the social aspects of the job, and his ability to work might, as a result, suffer. (See the quote from Rice and the author's remark in Chapter 1). This point finds support from practitioners. Ford (1969) writes:

"Our company has lost too many men who are still with us".

A conceptualisation where undifferentiated motivation, as is the case with the Hackman and Oldham model, can be deemed to be the sole criteria of the measure on the design of the job seems to fall far short of its intended purpose.

7. Are there only three critical psychological states?

Hackman and Oldham model suggests that there are only three critical psychological states: experienced meaningfulness, responsibility and knowledge of

results. The theory, in ignoring organisational variables - the existing of other jobs in the organisation to which the focal job is connected - also ignores the concept of, and the experience thereof, equity in job load (both qualitative and quantitative) in pay, in opportunity for advancement, etc. Oftentimes the experience of inequity is the focus of contention and cause of dissatisfaction. The concept of equity will be discussed in Chapter 12; its relationship to motivation was discussed in Chapter 2.

The experience of helplessness - due to non-participation in the government and design of own job as discussed by Beynon (1975) - and its opposite - the feeling of control over one's own destiny, as discussed by the positivistic psychologists like Maslow (1954) and more recently Argyris (1964) seem to have no place in the theoretical standpoint of Hackman and Oldham.

8. Is it correct to assume a linear relationship between growth need strengths and MPS scores?

Evidence of suspect model assumed relationship between growth need strengths (GNS) and MPS comes from Pierce and Dunham (1978), Schwab and Cumming (1976) and Champoux((1978) (1980)). The latter mentioned author extending the model of Hackman and Oldham suggests that curvilinear relationship between job scope i.e. job complexity and affective response should be made a fundamental part of the job characteristic model of work motivation. This empirically adduced suggestion, supported by "Activation Theory", stands in contrast to the original Hackman and Oldham theory: the original theory assumes that individuals with high growth needs will respond positively to high MPS scores (high scope or complexity). The underlying relationship between the two is assumed to be linear. Figure 5.15 shows the Champoux derived shape of the relationship.

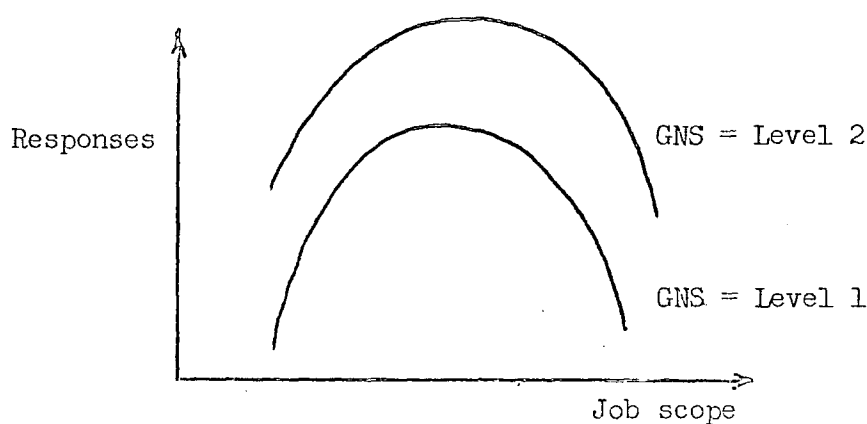


Figure 5.15. Champoux derived relationship between affective response and job scope

9. What exactly is the growth need strengths construct?

Conceptually, the growth need strength construct is based on the higher order needs of Maslow and Herzberg. However, when Stone, Moday and Porter (1977) conducted their study to correlate the instrument with standardised instruments for measuring nAch and nAut, no significant correlation could be found.

Further, when Wanous (1974B) in a comparative study using the 5 dimensions of the Hackman and Oldham model, as the criteria variable, found that the scores on the growth need strengths did not correlate with the scores on the Protestant Work Ethic and Urban-Rural differences instruments.

The above evidence suggests that the growth need strengths somehow conflates the 5 job dimensions with the 3 psychological states and the scores produced on the MPS score have no clear cut interpretation.

The MPS scores are regarded in the Hackman and Oldham model as indicating satisfaction with the current design of the job. This might be so, but the facet satisfaction may not be satisfaction with performance, and therefore the raising of MPS scores through redesign may not produce the performance outcomes predicted by Hackman and Oldham.

Comments on the theory quo theory: extensibility to managerial jobs

1. The measure on the quality of the design of the job based on job holder psychological make-up only. Ability levels recognised; individual differences recognised.
2. Psychological needs recognised; but only a small set of these need given cognisance; group based individual needs not recognised.
3. Criteria on job design acceptance, labelled motivational potential score, MPS, derived as a scalar quantity.
4. Job design recognised as needing periodic adjustment but attempted as a one off project.
5. A job designer always involved - but could be a specialist or the boss of the individual designing the job. Job holder participation neither excluded nor required.

6. No concept of organisation.
7. No model of job; characteristics for working defined the same as those used for evaluating the MPS score; characteristics limited to manipulation of job holder inputs.
8. Prime motivator: three distinct but related experiences-of-job. Psychological states .

Limitation of substantive theory precludes its usage for general diagnosis. Suggested method of recomposition the same as for Herzberg's theory. Non-recognition of monetary rewards. The theory weak and inadequate.

The theory could be used for evaluating managerial jobs but evidence to indicate that some of the characteristics delineated, e.g. variety, suggest caution in extending to managerial jobs.

Conclusions on Section 5.3

Both the Herzberg theory and that due to Hackman and Oldham are essentially content theories; while the former is based on what incumbents were found to associate with 'high' experience - and this was taken to mean that they wanted these items in their jobs - the latter is based on characteristics found to effect performance or satisfaction. In both theories, the role of the job incumbent and job designer is not clearly defined. While at one point Herzberg excluded the job incumbent from any participation in job design (see Jenkins (1974)), later Herzberg (1974) seems to have relented to the extent of permitting the job holder to join in the discussions. All the same, all decisions are in the hands of job designers and the job designer is not the job incumbent.

Culbert and McDonough (1977) report an organisational development exercise, which involved job re-design, where the project failed because job incumbent collaboration, for diagnosis, was sought but then the turn of events was such that individuals perceived solutions were presented in an hierarchical way rather than truly participative fashion. The resentment invoked resulted in failure for the whole project.

Both Herzberg as well as Hackman and Oldham seem to build their respective theories around the notion that

"Input of extra effort is good"

More recent publications (e.g. Burke et al (1979)) on stress and untoward effects of stress, suggest that for certain types of people, in particular those manifesting Type A behaviour, increasing intrinsic motivation may not be good after all. The notion, which is implied in the theories covered in this section, that extra input of effort is good, conjures images of job design being a technique the aim of which is to turn the populace into workaholics.

In the Herzberg formulation of job design theory, there was no attempt to diagnose job design defects. The presence of problems which could vaguely be attributed to motivation, was enough to start re-design. In the Hackman and Oldham theory of job design attempt is made to diagnose but the assumption made is that only five characteristics are of import.

The theory to be presented next is a diagnosis orientated theory where no assumption is made regarding the type of problem that might be present.

5.4. Diagnosing the defects - the open systems method

The socio-technical method of designing jobs was developed by consultants in their effort to define and explain the nature of problems that arose as a consequence of changes in industries. Most of the initial research was undertaken by consultants attached to the Tavistock Institute in action research in two industries; Durham coal mines and Ahmadabad textile mills were the source of inspiration for this line of research. The researchers initially and most closely connected with the reports on the two projects are Trist ((1954), (1963)) and Herbst (1963) for the Durham coalfield research and Rice (1963) for the Ahmadabad Textile Mills research.

The problem in both the research situations were due to the introduction of advanced technology. The researchers adopted the systems approach to analyse the problem. At the highest level the problems were caused by the interaction between the demands made by the new technological system of production and the social and psychological system which had evolved over the years, and set its pattern on the social outlook of individuals. The effect on production was total as distinct from being connected with individuals. In both cases management had organised the work systems which featured maximum breakdown of the total work - something reminiscent of the Taylorite approach - with individuals being allocated shallow (de-skilled) specialism roles.

5.4.1. Fundamentals of systems approach

Ideas basic to the general system theory (GST) are often traced to Von Bertalanffy (1950), and one of the key publications in this area is by Boulding (1956). Whereas Von Bertalanffy's paper deals mainly with the concepts of unity in the physical, chemical and biological universes, Boulding suggests the inclusion of social organisations within this framework of unity. Boulding's schema consists of a nine-level-hierarchy of systems, arranged in order of increasing complexity. In this hierarchy, the physical and chemical universes occupy orders lower to the biological order, which itself is classified as lower to the human being (order 7). Human organisations obviously being even more complex than single individuals are placed at order 8.

Figure 5.16 illustrates the concept of organisation as viewed from the open system viewpoint of the general systems theory. The activities of the organisation, as depicted in Figure 5.16 are often referred to as the "organic analogy" because of the attributed organism-like properties of input-conversion-output to the entity. Indeed the analogy is apt in that organisations show properties of self-regulation, equifinality, and manifest endeavours tending towards increased internal elaboration as they attempt to cope with a shifting external environment. Additionally, the aptness of the analogy is evidenced by the teleological behaviour, a property often used to differentiate the living from the non-living system (Summerhoff (1967)).

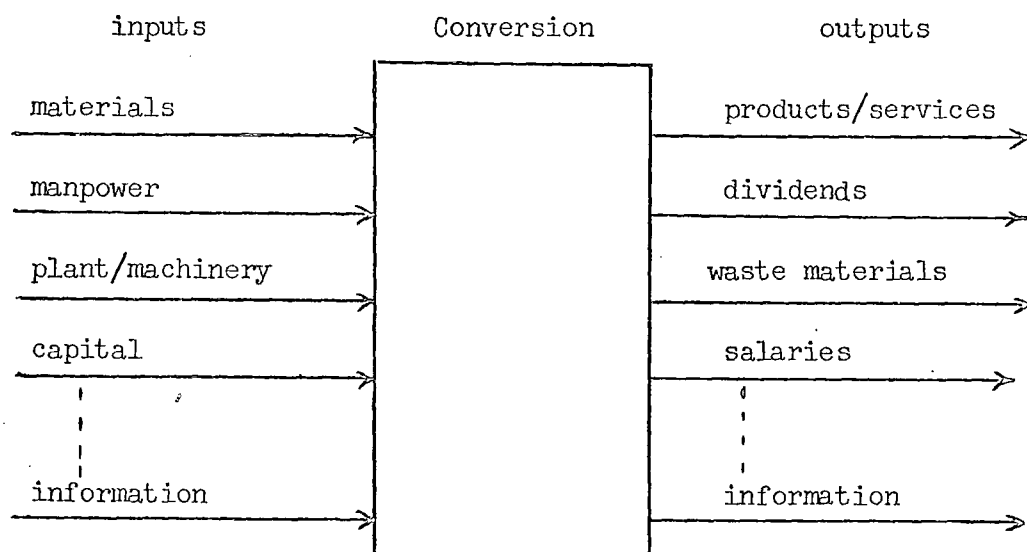


Figure 5.16. Open Systems Model of Organisation

Tavistock School

Emery and Trist (1960) and Miller and Rice (1967) and others from the Tavistock Institute pioneered the application of GST concepts to organisational analysis. Oxford English Dictionary () defines the word "organisation" as a noun but states that it can be used in the verbal sense as well, where it is equivalent to organise. Tavistock School has, more often than not, used this word in the verbal sense, and used the word "enterprise" to denote the organisation as an entity. As an understanding of the meaning of the word organisation, in its verbal sense, is important to evaluating the work of this school the quotation to follow is presented to clarify this.

(In the preceding section) "We have been describing a conceptual framework for the analysis of enterprises of different kinds. In this chapter we attempt to show how to apply these concepts to build organisational models. Organisation is the patterning of activities through which the primary basis of the enterprise is performed. Thus the optimum form of organisation is that which best fits the requirements of primary task performance. But the organisational form must also take account of the human and physical, scientific and technical resources available for task performance, and of the human, political, economic and social constraints on both definition and performance".

The above quotation is also important in that it depicts the general approach to problem diagnosis of this school.

In this approach the unit of analysis is the enterprise which, in line with systems theory concept of sub-systems, could be the whole enterprise or any sub-unit of the total. However, the boundary on the unit to be analysed is judiciously drawn to include only the 'primary work group'. The art and the science of the process is the discerning delineation of this group. In the analysis attention is directed at the work process. The framework for analysing the work is the various systems which can be delineated. The method of analysis then stipulates the investigation of the interaction between the various systems.

The aim of the analysis is to locate the friction points between the various systems 'in interaction'.

5.4.2. Theoretical consideration

Buchanan (1972) writes that:

"The contribution of Trist et al was that the organisations are not only open systems but open socio-technical systems".

The sociological aspect had been given prominence by the Human Relations School (see Chapter 2) and the Individual Personality School (see March and Simon (1958)). Prominence to the technological features received impetus from the work of Woodward (1965), Perrow (1970) and many others (see Chapter 4).

The theories of the technologists appear to come out more clear cut than those of the people's schools. It is not that the People's Schools have a weaker thesis, only that societal thinking on this is more recent. Only when

technology placed unbearable demands on humans was attention concentrated on the human problems begotten by technology.

Many prominent researchers have contributed to the technological school. Chapple and Sayles (1961) argued that the work flow system of the technology should be used as a major determinant in designing organisation. A subsidiary hypothesis Chapple and Sayles proposed was that designing should proceed from bottom to top. The theories of Woodward (1965), in a nutshell, are that organisational planning, i.e. effective structural changes, should follow technological changes. The works of Burns and Stalker (1964) and Lawrence and Lorsch (1969) also carry technological arguments for organisation design (see Chapter 4). Essentially both sets of authors through considerations of environmental change and the uncertainty begotten by this change, suggest and favour loose or organismic structures as opposed to mechanistic or firm ones.

The People's School arguments are essentially that jobs are designed with too much consideration for technology and economic gains without consideration for the individual and group needs (see e.g. Emery (1959), Grouldner (1969), Beynon (1975) and others).

Tavistock approach, based on open socio-technical systems, for locating friction between interacting systems, therefore would indicate a fresh and promising start to job designs. Having discussed the theoretical perspective, attention is now shifted to application.

5.4.3. Application - proposed analysis model

The recognition that an organisation is a socio-technical system as opposed to a purely technological system, would entail focusing attention, during analysis, on some social aspects of the work environment. Miller and Rice (1967), and this is typical of the work undertaken by the Tavistock Institute, list as focus of analytic attention the following systems:

1. Managing systems

- 1.1. The system of activities for maintaining the organisation.
- 1.2. The system of activities, which further split into monetary and control, for regulating the organisation

2. Operating systems

- 2.1. Import system
- 2.2. Conversion system
- 2.3. Export system

There is no explicit mention of any social system. Further, Rice (1963) refers to the main tasks of management to be:

1. Manage relationships between the enterprise and its environment
2. Define the primary task or tasks
3. Review this definition and the constraints imposed upon it
4. Recruit resources
5. Control resource use
6. Assess results

From the foregoing it would be legitimate to infer that humans are covered in the above list in the resource items to be recruited and 'used'.

5.4.3. Application - proposed synthesis model

In their applied work the Tavistock School researchers have inevitably come up with group design. A reason for this particular solution may be due to the importance which the School places on 'sentience', a construct which is conceptually linked to and derives its pedigree from, the concept of "informal organisation" which in turn was developed as a consequence of Hawthorne Studies (see Chapter 2). And it should be remembered that Hawthorne Studies gave rise to the Human Relations School. To complete the argument, the full name of the Tavistock Institute is "Tavistock Institute of Human Relations" and the journal founded by the Institute is called "Human Relations". The initial conclusions of Hawthorne studies were that individuals sought the comfort of companion relationships among peer groups, opportunities to talk, etc.

Also see Hall and Lindsay (1957) formulation of human needs first listed by Murray (see Chapter 2) where play and sentience are considered variables of pleasure. Giving sentience such great importance as to orient the whole job design paradigm to group design can therefore be taken as further evidence to link the effects of the Tavistock School directly to the Human Relations tradition begotten by Hawthorne studies.

As pointed out Davis (1966) and Birchall (1975) models of man have a central place in any job design theory. Birchall sees the ubiquitousness of

the economic model of man prevalent in most job design prior to the recent impetus starting about 30 years ago. Davis (1966) points to the prevalence of mechanistic human interaction models in the late nineteenth century. Davis also discusses other models: the welfare model and the personal relations model. These models are defined by Davis as:

Welfare model - extra roles and extra job association to produce loyalties for the organisation

Leadership & Personal Relations Model - recognition that groups have norms and standards

Thus, once again, the evidence above indicates that the Tavistock model, through personal relations, is linked to the welfare orientated human relations model.

For Tavistock researchers the creation of sentience became an end in itself, and sentience could be created through contriving group structures. So, the technique for creating sentience becomes a method of job design.

Trist, Higgin, Murray and Pollock (1963) and Herbst (1962) report on the Durham coal mines problem where the 'Manley' or 'Composite Longwell' systems involved the creation of groups of 41 men who, within the group, allocated themselves to shifts and tasks within shifts and received payment on a common production basis.

Rice (1958), Miller and Rice (1967) and Miller (1975) report on the Ahmadabad Textile Mills problem, solution and hindsight analysis of modifications to changes initially made. Here again groups design, with either six or eight workers to each group, was being considered by management but the workers got a wind of envisaged changes and jumped the gun by forming into experimental groups of 7 members apiece. Initially, production rose while quality fell, but later both quality and quantity stabilised at values much higher than the ambient values on these parameters. In these experiments it was found that where high rates of change in the environment obtained, the boundary delineation has to be constantly observed, so as to effect adjustments as and when required.

Engelsted (1970) reports on the Norwegian Pulp and Papermills project where, once again, group design was implemented. Group size is not mentioned, but reading the article indicates that groups of various sizes may have been involved. Many different types of gains accruing either to the organisation or job holders are analysed. This project, incidentally, was started not as a consequence of experienced problems, as was the case with the Durham and Ahmadabad studies, but owed its inception to:

"The Industrial Democracy Project in Norway, a long-term research sponsored jointly by the Confederation of Employers and Trades Union Council".

Susman (1970) reports on a project undertaken in a 'small oil refinery in Southern California', where yet again group design was implemented. This is a study with important implications some of which will be discussed later.

As group design is the hallmark of the Tavistock approach to job design a short explanation of the group phenomena would be pertinent. The explanation is presented in terms of an analogy with the engineering design concept of modules. The concept of modular design has gained acceptance in both hard and soft engineering.

Suppose there are 30 parts to an instrument. The implication is that all the 30 parts are essential. The modular design principle suggests that the inter-relationships of the parts be studied and boundaries drawn at possible interfaces in such a way that for each one of the elements contained within a boundary, its connectivity with other elements within the boundary is greater than its connectivity with elements outside its own boundary. Figure 5.17 illustrating the concept may be helpful in understanding.

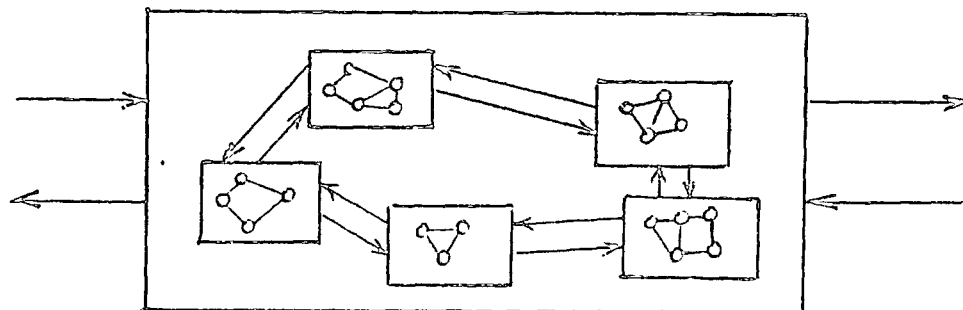


Figure 5.17. Modular design analogy to group job design approach

In engineering the modular approach helps in design, assembly, testing, servicing and replacement of defective parts - all these steps are made easy, because it provides the operator with greater control. Note that the diagram of Figure 5.15 is not intended to show an assembly type of work situation, for it could be the case that each of the groups formed completes some whole product.

In job design the group approach along with creating sentience for the job holder creates groupings of interrelated task holders. Kelly (1978) has very convincingly and incisively argued that as modern production methods do not generally lend themselves to splitting the task to the Taylorite level, the Tavistock School through the artifact of group creation has simply been devoting effort to:

"... discover the limiting conditions beyond which certain tenets of scientific management cease to be economically effective".

In essence, then, the creation of groups suggests that there is a certain critical value beyond which the splitting of tasks will result in dysfunctional effects. The splitting of tasks is implicitly accepted but instead of splitting the task down to the level of single operations, the process of splitting is stopped at the level of the primary work group which now constitutes the lowest level of the organisational chart.

Responsibility for performance, in group design, resides not with the individual but with the group. Effect on organisational control, in the sense of the superordinate checking the work of his subordinate, is reduced. However, this reduction in control, as far as the individual is concerned, is only apparent for total control may remain unchanged - the group forces now take on additional powers. Herzberg (1974) perceives the individual being subjected to "group tyranny".

Emile Durkheim believed in the primacy of the group over the individual. Luke (1975) writes:

"As private consciences were, for Durkheim, immoral and dysfunctional, the individual's proper role would be that of an organ in a society in which his conscience is subordinate to the collective".

In the above context, the Tavistock researchers, devoting themselves to the group and excluding any elements of individuality, could reasonably be called the Latter Day Durkheimians.

No report is available on the experience-in-job of individuals who became imbued with the Durkheimian sentience which was provided in the group created by Tavistock researchers. However, the creation of groups did have the potential of other positive benefits. It was part of the philosophy and spirit of group design that members should perform a variety of tasks. The within group job rotation permitted individuals to acquire, if they so desired or group pressure required, the skills for all the work for which the group was jointly responsible. As the group was made responsible for a section of work labelled "primary-task", which the boundary delineation ensured to be a meaningful whole, the likelihood of alienation due to meaninglessness of work would be reduced.

5.4.4. The characteristics of jobs

The Tavistock School has designed groups but not jobs, at least not in the sense the author uses the concept of job - individual/organisation interface. Nonetheless, as a consequence of group design, features are induced into individual jobs. What characteristics, other than those listed in the concluding piece of the foregoing section, do the Tavistock researchers regard as important for the job, albeit at the level of the group, to possess?

This is an exceptionally difficult subject area to discuss and write about, for a multitude of reasons some of which are:

1. Whereas the theories of job design discussed previous to coverage of Tavistock work owed their existence to a small number of individual researchers, the number of people who have contributed to the Tavistock tradition is very vast indeed.
2. As the research has, by and large, been conducted in Action-Research conditions, reports mostly narrate the kind of characteristics which were either found to be debilitating or considered desirable by the host organisation. Further, to complicate issues, often the characteristics are not listed but dispensed throughout the reports.

3. While involved in a job design exercise Wall (1979) evaluated the possibility of using the socio-technical approach but found it wanting. Wall opines that this approach is capable of accommodating a broad range of variables but concludes:

"In spreading its net so wide this approach leaves undefined the factors to be included (or excluded) and the nature of the relationships amongst them".

In other words, Tavistock group design approach researchers have conducted discussions regarding characteristics in the vaguest of ways - sweeping statements, either unoperationable or having the potential of being operationalised in a number of ways.

4. Oftentimes, instead of discussing desirable elements and characteristics in jobs, the discussion on characteristics is slanted into advantageous properties of group design (see Buchanan (1979)).

Notwithstanding the above listed difficulties (and weaknesses), some summaries of characteristics considered important are available and will be presented here. But before discussing characteristics themselves, it is pertinent to discuss the work of Louis E. Davis, who has written prolifically in the area of job design and contributed in no small measure to the job characteristics aspect of Tavistock group design.

The work of Louis E. Davis

This analysis of the work of Davis is based on studying the following articles in which Davis is, save for one, the only or the major reporter:

- Davis ((1957), (1966), (1971A), (1971B), (1971C))
- Davis, Canter and Hoffman (1955)
- Davis and Canter ((1955), (1956))
- Davis and Werling (1960)
- Davis and Taylor (1975C)
- Cherns and Davis ((1975A), (1975B))

Davis and Canter (1955) propose the criteria for measuring the effectiveness of a given job design, to be:

"the extent to which the design of a job reduces the total cost to produce rather than minimise immediate or direct cost".

The first thing of note about the above concept is that it is the only time, in his reading of job design literature, that the author came across the concept of measuring the quality of the design of the job. The second thing of note is that Davis and Canter do not suggest how this could be operationally undertaken. The third thing of note is that Davis, coming from an industrial engineering background, could not get away from his origins of cost criteria, for Davis (in Davis and Werling (1960)) later, expanding on this notion suggests:

"This paper reports another in a sequence of studies on job design. These studies are experimental and analytical and are technologically oriented. They have as their main purpose development of decision rules for expressing given production processes or procedures in terms of job assignments with the objective of minimising the total cost of operation".

Here, then, a clue is available as to what was in the mind of Davis and his collaborators, for human satisfaction was neither of primary nor of co-interest. If the above is not indicative enough, in the same article, a little later, Davis and Werling write:

"Such experiments are oriented towards determining the design limitations of production systems with regard to maximising the objective of minimum total cost of operations".

In this article one of the conclusions the researchers arrive at is:

"The results of this study, therefore, can be taken as indicative that beyond a point, increasing specialisation, or job fractionisation, may result in diminishing return in quality and quantity of worker output".

This conclusion once again can be linked to performance and in no way is it linkable to incumbent satisfaction.

The above remarks may, and it was intended to, indicate the author's dissatisfaction with the way the concept of job design criteria was slanted, but not operationalised, by Davis and his collaborators. In Chapter 6, the author reports the development of his own concepts regarding the measures on the quality of the design of a job. For the moment, the differences in conceptualisations that the author holds with respect to Davis and his

collaborators are summed up in the following two questions.

1. Why should this unidimensional - organisational benefits - criteria be applied to measuring the design of a job?
2. What about the individual's long term as well as immediate well being?

Support for the author's contention, contained in the above two questions, comes from practice of job design. Walton (1979) reports that:

"... the past ten years of experience is that work improvements that have both productivity and quality of life as goals are more likely to succeed".

The above quotation suggests that organisational benefits, although a necessary criteria, should not be regarded as the sole one.

Davis, Canter and Hoffman (1955) report the results of a survey undertaken to determine:

"the manner in which American industry design jobs as to their content".

The survey sought to determine, among other items:

1. Who was responsible for the design of a job?
2. What were the principles, guides, precepts used in designing jobs?

This is an important survey: in fact, this is one of the two job design practices survey the author was able to locate in literature. However this survey was limited to operator level jobs. The author reports in Chapter 6, his own survey, conducted more than 20 years after the above referenced one, and in the U.K. whereas Davis et al sampled U.S. population and finally it was addressed at managerial jobs. In the survey the above two questions addressed to by Davis et al as well as others specifically related to the managerial job were addressed by the author and the data culminated in his development of the measures of the quality of the design of a job.

The Davis and Canter (1956) publication, essentially a review of three studies, reports on the work undertaken by Marks for his doctoral thesis under the direction of the reporters.

In his study Marks evaluated the comparative effectiveness of designing jobs in three different ways: (1) Assembly line job design. (2) Group job design and (3) Individual job design. Marks' data, according to Davis and

Canter, showed that:

"Introduction of the individual job design in which workers performed all the operations, controlled the sequence of assembly, secured materials and inspected their own work brought about increases in productivity above the group job design.

It should be noted that after six days on the individual job design, the average productivity of the group exceeded the line average on which workers had an average of four and a half years of experience".

Although the results speak for themselves, a short elaboration on the quotes will be made, as a means of drawing attention to the importance of the results. In group job design, productivity was the least, and in individual job design, (after 6 days of on the job training), productivity was the highest; assembly line productivity was in the middle of these two extremes.

Davis (1957) in an article entitled "Towards a Theory of Job Design" discusses some of the most fundamental concepts in the area of job design. In this attempt to delineate the area into which job design effort should be put, Davis formulates his opinion in terms of the following three points:

1. Criteria of job design should be based upon:
productivity, quality, long term costs, satisfaction, morale, etc.
2. (i) The list of job characteristics should be compiled, on a priori basis for defining the job content.
(ii) The effect of external vs. internal factors of jobs should be investigated.
(iii) Responsibility for the design of the job must be localised.
3. Discusses a design oriented approach towards defining job characteristics of design import.

In this paper Davis presents, in hypothesis form, 23 characteristics which would go towards making a wholesome job. However, and this is an important point, Davis and co-workers, although they do not say it, appear to be edging towards group design. What they do say is that work is far too interlinked to be split into one man operational units.

The fact that Davis (and his collaborators) came to regard jobs as un-splittable in the Taylorite tradition and the fact that others, e.g. Kelly (1978) as mentioned earlier, see the Tavistock workers having discovered the

limiting condition beyond which task splitting is uneconomic, is the first reason why Davis's work is being covered in this section.

From the above commented upon works of Davis, as well as from those referenced earlier but not discussed, it comes out that Davis is in fact an ideas man. His ideas have been the driving spirit behind many theoretical and applied developments in job design. In the course of development of their work the Tavistock school absorbed many of Davis's ideas into their own thinking. Support for this analysis comes from Kelly (1978) who discussing Davis's work writes:

"... his work on job design informed developments within the socio-technical 'school' in the early 1960s".

It is not that Davis's ideas were "hijacked" but that convergence of thinking led to a fusion of effort. Davis joined the Tavistock school. From the mid-1960's, e.g. Davis (1966), it is observable that Davis writes more and more glowingly about the group job design technique. Kelly (1978) in fact rather unwarrantedly labels Davis as a "propagandist" for the Tavistock school. As a matter of fact, his ideas were taken on and absorbed into the Tavistock thinking, and that the process of collaboration could best be described as fusion is illustrated by the joint publication by Davis and Engelstad (1966). Davis's work in fact supplied Tavistock with a set of job characteristics that had been missing in the Tavistock tradition up until then.

Back to characteristics.

Emery (1963) lists, in the form of hypothesis, thirteen characteristics of which, as a way of disclaimer he writes:

"hypotheses are merely intended as an illustration of the sorts of matters we would wish to keep in mind in studying the chosen factories".

These 13 characteristics are:

1. Optimum variety within the job - for the first time it is recognised that too much variety, as well as too little, can have negative consequences on production.
2. A meaningful pattern of tasks that give each job a semblance of a single overall task. It is suggested that tasks should be vertically linked,

i.e. completion of one task facilitates the next step.

3. Optimum length of work cycle - to facilitate the build up of rhythm, cycle time should be neither too long nor too short.
4. Some scope for setting standards of quantity and quality of production and a suitable feedback of knowledge of results - control and learning are the focus of attention here.
5. The inclusion in the job of some of the auxiliary and preparatory tasks - extension of the role to cover 'boundary tasks' is the main aim.
6. The tasks included in a job should include some degree of care, skill, knowledge or effort that is worthy of respect in the community.
7. The job should make some perceivable contribution to the utility of the product for the consumer

Where tasks

8. are of necessity interdependent
9. entail a high degree of stress.
10. do not make an obvious perceivable contribution to the utility of end product.

Jobs should be made 'interlocking', should provide job rotation, or physical proximity of other individuals.

11. Where a collective procedure outlined above is provided, characteristics covered in items 2, 4 and 5 should be present in the collective.
12. The job should provide for channels of communication so as to facilitate requirements of the job incumbent to be induced into the design of the job.
13. Channels of promotion sanctioned by those whose jobs are designed.

Jobs designed to the above receipt, according to Emery (1963) and Van Beinun (1966), should fulfil the following six psychological requirements of jobs:

1. The need for job content to be reasonably demanding; provide variety though not necessarily novelty.
2. The need for learning, at a balanced rate.

3. The need for discretion/judgement over specified areas.
4. The need for social support and recognition.
5. The need to relate social life to things he does and produces.
6. The need for a desirable future.

The need for social and economic security is mentioned by Van Beinum (1966).

Requirements of group working

It has been earlier suggested that in their job design practice Tavistock researchers have implemented group work design. However, the theoretical standpoints of the various contributors do not always converge on the use of group as a method of job design. Herbst has argued that the group design will work when certain conditions, similar to those obtained in Trist's original coal mining studies, obtain.

Davis (1966) comes to the conclusion that group design demands autonomous behaviour and that this autonomous behaviour should further be responsible behaviour. To Davis responsive behaviour is:

1. Acceptance of responsibility, by the job incumbent(s) for the cycle of activities required to complete the task.
2. Acceptance of responsibility by the job incumbent(s) for the rate, quantity and quality of output.
3. Recognition by individuals and groups, i.e. whatever the unit, of the interdependence of that unit on the other units.

To Davis autonomous behaviour entails:

1. Self regulation of work contents and structures within the job, where the job is an assignment having inputs, facilities and outputs.
2. Self evaluation of performance.
3. Self adjustment to change required by technological variability.
4. Participation in setting up of goals or objectives for job output.

In the description of the managerial (Chapter 3), responsibility and autonomy were often mentioned. In the above two lists, item 2 from the respon-

sive behaviour list together with item 4 of the autonomous behaviour list, compounded with item 3 from the autonomous behaviour list suggests that the job incumbent operationalised, to some measure, his own job description. Autonomy is a well discussed topic, e.g. Gulowsen (1971), Birchall and Wild (1974), and having pointed out its centrality to job design, will not be discussed further.

What needs to be done is an overall evaluation of the work of this school.

5.4.5. An evaluation of Tavistock work

From Miles's (1966) discussion on Human Relations the following picture emerges:

"Management has stopped cultivating the individual. It has provided a group where the individual's frustration instead of being directed at the upper levels of the organisation are directed to the level of the group of which he is a member. Management has, as it were, "contracted out" work to the group; and within the group it does not really matter who does what as long as group averages for production are met".

The above analysis indicates that group design could be a method of deflecting aggression due to frustration; the location of sources of frustration are now the job related peer group, rather than the "organisation". The group situation may provide sentience and may provide opportunities where individuals could contribute at the level of their potential. But for the individual are these opportunities a reality or a distant mirage, i.e. what is the substantial and authentic modus operandi of a group?

There is a salient lack of report on what really makes autonomous groups 'work'. Susman (1970) whose work was referenced earlier in this (5.4) section and then noted that it would be discussed again, referring to lack of reportage, attributes this failure to the researchers, working in this area, who he believes were:

"Interested in organisational change programmes. Since evidence of a successful programme was a primary concern, outcomes variables were more likely to receive greater attention than process variables".

Susman, wanting to study the process of task allocation within these groups, set up the hypothesis:

"There is a positive relationship between judged competence and allocation of skilled tasks".

Of the two kinds of jobs found in Susman's research setting, the higher level jobs supported the hypothesis, while the lower level jobs indicated a correlation in a direction opposite to the one hypothesised. Susman concluded:

"The more demanding/interesting jobs were done by those classified higher in the formal way".

That in any group a pecking-order gets created through forces of internal interactions (cohesive and destructive); simultaneously, group norms develop. (See Hollander (1964)). Within the pecking order-group norm contingency, Hollander suggests some individuals get away with certain behaviour that might otherwise be considered dysfunctional to group wellbeing, It is in the frame of reference set up by Hollander and supported by Dalton (1959) cliques form within the group; this explains Susman's observation where some individuals in the group, because of power, be it based on knowledge or charisma, get to do choice tasks and others are allocated the not so desirable. Parker (1977) on the authority of Homans (1962) who studied interactions in small groups, analysing the dynamics of status congruency writes:

"It also operates on the group level - if one job is better than another by most values of a group there will be efforts by the generally higher ranking group to bring all the status factors into line".

In point of fact, this very phenomenon, i.e. individuals, by exerting status-rank, getting the better jobs was witnessed by the author in his own action research study and is reported in Chapter 9.

The method of group design is alleged to transfer control to the group itself. The mechanics of control, to be deduced from the references in the foregoing paragraph, as well as according to White, Mitchell and Bell (1977), are peer group pressure or group norms. White, Mitchell and Bell write:

"One's peers can encourage or discourage one to work hard or to slack off in pursuit of an abolished goal. Peer pressure has been shown to have powerful effect on behaviour, and this pressure may serve to increase performance".

Shaw (1980), on the authority of Portman, Brunner and McGinnies, states that:

"Personal motives and values act as selective sensitizers that alter an individual's threshold for perceiving certain kinds of stimuli. Thus values and motives greatly influence those aspects of the objective environment that come to be realised (perceived) by the individual".

But the group is a unit of organisation. Where groups are created as a consequence of Tavistock like endeavour, the philosophy of this tradition implies exercise of control by the group as a whole. To analyse the effect of this supposed difference a short case will be considered.

Suppose before the design the structure of the unit is as shown in the diagram of Figure 5.18.

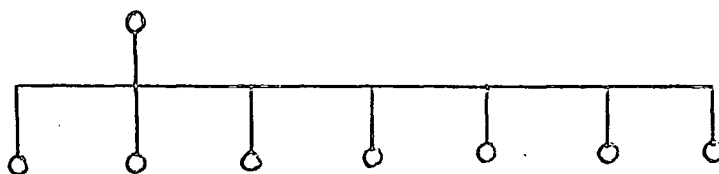


Figure 5.18. Before Group Design structure; one boss and seven subordinates

In the re-design, to group form, the control previously exercised by the boss would be transferred to the newly designated group. The individual who was previously subjected to foreman control now has to live within group norms - his control and freedom may or may not be increased at all, as a consequence of group design. The only change is that whereas previously he was at super-ordinate sufferance now it is the group pressure that he is subjected to. For the individual, then, the situation may not have ameliorated at all - no group job design study reports adjustments at single individual/organisation interfaces.

Wright (1975) reports the following:

"A very thoughtful and successful post war manager started his working life on the shop floor doing extremely boring and repetitive work. He used to keep reasonably motivated and sane by setting himself production targets by the half day. Thus, if he was feeling a bit off colour, he set a lower target. Presumably all this was before the days when unions decreed how hard an individual should work and how much he should be allowed to do".

First of all, the author wishes to insert a disclaimer for disassociating himself from any overt or covert aspersion on unions. Secondly, in the context

of group design, it is suggested that the above text be re-read often substituting the word "group" for the word "union". Mind you, the group is a mini-union and group pressure can be just as stultifying as union pressure. Sayles' (1958) analysis of work groups, in terms mainly of recognition of leadership and tackling of day-to-day problems, is pertinent to this argument.

Does the individual work for sentience (and social support) and the possibility of a desirable future only, or does the present matter, where the present also includes the money and salary linked to his own personal need and ability level matter?

Results of empirical studies by London and Oldham (1977) indicate that earnings linked to individually tailored targets produce the best performance. London and Oldham write:

1. "The results suggest that individuals may be more effective when working under individual incentive rather than group conditions".
2. "Analysis demonstrated that performance was significantly higher under the high performance piece rate conditions ($x = 63.0$) and the individual piece rate conditions ($x = 64.0$) than under the other incentive systems taken together ($x = 54.5$)".

The above results indicate the weakness of group design: if an individual wishes to adjust his contribution to suit his skills, abilities and needs, the group situation would not permit this. The author's evaluation of the group work design could be explained in terms of an analogy. Since Aspirin is known to be analgesic, the medical doctor prescribing it to all patients reporting with complaints of pain would be an analogic situation. Such analysis led Lorsch (1979) to conclude that the practice of creating autonomous groups is in fact a search for the universal, and this comes out forcefully in the analogy presented.

5.4.6. Conclusion to Tavistock approach to job design

In the early work of Tavistock group design was undertaken as a problem solving exercise. That the Tavistock school, during this phase, pursued the ergonomist tradition finds support in Kelly (1978), referenced earlier, and in Shammin's (1974) remark:

"Ergonomists have been instrumental in demonstrating and ameliorating the effects of inadequate design as they relate to the characteristics and capacity of the human operator and the early work on socio-technical systems was concerned with how tasks might be organised using a given technology itself".

Mumford (1973) makes a similar statement, using very nearly the same words, except that she includes the work of Herzberg within this ambit.

Later on the school extended the approach to take into account job design characteristics; but measurements of improvements induced as a consequence of re-design, have not been reported on individual/organisation basis. In those cases where improvements did occur, thus, it would be legitimate to surmise; of the many possibilities, the following are credible:

1. Of a group of, say, 10 jobs redesigned, 7 improved and 3 became worse.
2. Among a group of, say, 10 jobs, all improved but by different proportions, such that a lion's share of the improvement went to a small number of 'powerful' individuals.
3. Among a group of, say, 10 jobs, 6 job holders could claim improvement, 2 no effect, and 2 a worsening.

To the extent that modification in jobs does constitute job design the above cases would pass muster, but to the extent that improvement, and specifically the degree of improvements on each individual/organisation interface is not measured in the Tavistock tradition, the work of this school cannot be regarded as job design effort.

There is empirical evidence to suggest people like to be treated as individuals. That lack of treatment as individuals leads to experience of deprivation is evidenced from Cooper, Morgan, Foley and Kaplan (1979):

"Another critical finding in this area is that, since 1975, the majority of hourly and clerical employees have not rated their companies favourably on treating them with respect as individuals, the gap in rating of the amount of respect shown to each group"

(= hourly paid, clerical and managerial)

"is even wider. Neither hourly nor clerical employees view themselves as being among the privileged recipients of this important source of satisfaction".

Saliency of Tavistock

The analysis of jobs through the application of precepts of open systems theory, which permits analysis of problems rather than presumption on the nature of problems as in the Hackman and Oldham model, and no analysis at all in the Herzberg tradition, is the greatest strength of the Tavistock approach. Although the school, in the work of Davis, does make an attempt at measuring the quality of the design of the job, the measures proposed could be regarded as blatantly biased in favour of the organisation. If the definition of a job were based on individual/organisation interface, Tavistock then, it could be argued, does not design jobs. The technique of open systems analysis, as applied by Tavistock, is limited to finding the limiting size of groups the reduction beyond which affects production negatively.

That the effect of Tavistock is directed at problem solving for production, and any gains to the individual are of secondary importance is evidenced from Rice (1969):

"Our conception of organisation as a tool designed primarily for task performance required that human needs - for satisfaction and for defence against anxiety - should be regarded as constraints on task performance. It has been amply demonstrated that they are significant constraints. For example Trist and his colleagues have shown that, in the coal mining industry if the technical demands of task performance completely determine the social organisation, human needs can be so frustrated that task performance suffers".

The school does regard humans as a constraining imposition. The emphasis on social organisation (sentience) should now be obvious.

Herzberg (1974) evaluating the work of Tavistock school quotes, from a Volvo organisation's press release on the Kalmar plant (for a report on the Volvo experiments see Gyllenhammar (1977)), where extensive use of the group design technique was used, the following text:

"The production team or group work system has been devised to give increased delegation of decision making and to provide improved cohesion of working teams in basic groups

"The team is given a particular assignment for a limited period (for example, a week) and is paid for the overall performance. The actual jobs are divided up by mutual agreement within the team. The team is responsible for planning its own production output, distribution of work and quality control. This means that the team forms a closely knit unit and is able to solve many problems internally".

Herzberg's comments to the above test, interesting, and supporting the author's viewpoint, as they are, will not be reproduced; the author simply wishes to state that the group design technique is a design technique at the level of the organisation, which leaves the individual to blame his own group for some of the shortcomings of his job.

In Chapter 4 was discussed the concept of reification with reference to organisational analysis. Machin (1980) presents a very reasoned argument to show the purposelessness of, and the implied dangers in, this kind of reification. The author sees a similar fallacy in the group design approach. Decision making is delegated to "a group". As to which person exercises this power, is never made clear - the individual with high skills may be called upon to work at a level different from the one he would, on his own, choose to contribute, and consequently be forced to accept rewards at variance with his own wish for contribution.

Golembiewski (1962) cites the case of a study conducted by Newcomb in which the researcher found the group under study to have established a productivity norm. One particular worker wanted to produce more but the efforts were so successfully discouraged by the peer group that the job holder's output finally dropped even below the group norm. This was attributed by Newcomb to group coercion and the effects of ensuing stress.

Whereas organisationally it may even be desirable to have a norm for production - industrial engineers and accountants would love the simple mathematics of, say, 50 widgets per day per person; 20 men could then, by extrapolation produce 10,000 widgets in two weeks. But people are not machine tooled robots; they have different production capacities and moreover different levels of commitment. In groups which adopt too high a norm, individuals unwilling or

unable to contribute at the expected rate could then experience destructive stress. If the norm adopted is low, then for those having the intention of greater productivity coercion of the type discussed by Golembiewski could operate.

While it may appear at surface level that when the group norm is high the organisation benefits, in actual fact the potential for gain may be illusory, for the individual may:

- adopt sabotage behaviour
- leave the organisation

The setting of low norms obviously portends ill for the organisation, but in the final analysis and inexorably, low norms epitomise individual failure for those forced to contribute below their commitment level.

To sum up, then, Tavistock school in their early work, through virtual non-discussion of the job characteristics over which fit on man-job was attempted, could not be said to be involved in job design; in their latter work the job characteristics are more fully discussed but as the effort is limited to group design of jobs without attempting to measure the quality of the design of the job at the various individual/organisation interfaces, it could legitimately be surmised that the effort is to manipulate the individual's surroundings (i.e. create the group) so that

"The individual may perceive, instead of experiencing real, need fulfilment".

As way of elaboration on the foregoing remark consider the following:

1. Van Beinum (1966) discusses the "need for social and economic security", but it is never in his own work or that of the others following the Tavistock tradition, made clear how the group design in fact provides for this.
2. Emery (1959) discusses:
 - (i) The need for influence and control over one's environment . But how is it provided for in the group situation? By curtailing the environment - the group.

- (ii) the need for satisfying curiosity . But how is it provided for in the group design situation? By curtailing the environment - the group.

With respect to other human needs, similar analyses show that the claim of satisfying these needs may be equally questionable - the manipulation of the surroundings may create a perception of satisfaction but real needs may never be met. Hickson, Hinings, Lee, Schneck and Pennings (1971) give an articulate rendering on the concept of "reality" versus "perceived and pseudo" phenomenon.

Gyllenhammar (1977) sees the purpose of job design to be the managerial

"need to find ways to capture the personal involvement of each employee".

In the Tavistock tradition, it is not clear whether or not this personal involvement is affected, and moreover, whether this involvement is work directed (leading to performance) or to group maintenance. In fact, as no measurements of the goodness of fit at the individual/organisation interface are attempted, the whole area remains undefined.

Building on Tavistock

In Section 5.3.2 it was said that the power of open systems method of analysis appeared to give a promising start to Tavistock job design method. Focus on the Tavistock work, however, leads to the conclusion that the promise has not been met.

The author, however, acknowledges the power of the open systems analysis and has adopted this approach for analysing jobs. In an attempt to realise the potential of the open systems approach he has based his job design concepts on three units of analysis, which will be discussed in Chapter 8. Open-systems approach to job analysis offers a framework for making differential diagnosis, provided decisions have already been made on how the quality of the design of a job is to be measured.

Comments on the theory: extensibility to managerial jobs

1. No measures on the quality of the design of the job.
2. Psychological needs, human limitations and individual differences recognised.

3. No criteria for job design acceptance.
4. Recognition accorded to constant need for learning, by implication the design of the job would need to be constantly adjusted.
5. Job designer always used - usually Tavistock undertaken action-research. Recognition given to need to create, as far as possible, self adjusting groups.
6. Organisation recognised as a socio-technical open system.
7. No model of job; groups designed to provide for human need characteristics.
8. Prime motive - group pressure and individuals sum value systems (but only by implication).

The theory is essentially a process theory, i.e. analysis methodology. Synthesis only at group level. No attempt made to conduct analysis or synthesis at the individual/organisation interface.

Theory extendable to managerial level.

5.5. Other threads in, or impinging upon, job design theory

Researchers, a good many of whom are associated with the Tavistock Institute, have developed the concept of "Democracy in the work place" and the associated concept of "Alternatives to hierarchies" which are oftentimes discussed in the context of job design.

Although, at times, the theme of Participative management can be distinct from the related theme of democracy in the work place, in this discussion this theme will also be regarded as related to democracy in the work place.

Participation as a concept is conceptually linked to the de jure and de facto strands in authority presented in Chapter 4. That creation of democratic tradition in the work place is essentially a European concern was stated in Chapter 1. A pertinent question would be: Why this concern for democracy? There is no straightforward answer; it can only be stated that it is a philosophical tradition - it is a value judgement; the experience of democracy at the societal and national, levels prompts individuals to suggest that the major and dominant institution - the work place - of the society should also be democratic. While it can be accepted that to some individuals the experience of democracy might be exhilarating, there is no proof that all men subscribe to the notion so strongly as to place it on top of their list of priorities. This would suggest that, for some, democracy may not be an end in itself. For some others, it could be a means to an end - the participation permitted facilitates the achievement of desired goals, through personal effort.

W. Brown (1964) is among the more recent reporters to argue practice of management should be based on the recognition of the following three "social systems":

1. The Executive system
2. The Representative system
3. The Legislative system

Brown, in fact, argues that together these systems form the "organisation of a company". In Brown's analysis the representative system is in operation when individuals are held responsible for or take upon themselves the task of, conveying feeling of subordinates to superordinates. Thus, the representative

system may not be instituted as a separate entity in organisations - in this case it is an implied representative system; each boss is assumed to represent the views of his subordinates.

The legislative system in Brown's analysis is composed, through interaction, of four related role systems:

- The share holders
- The customers
- The executive system
- The representation system

The interplay of power determines and circumscribes the activities legitimately undertaken by the organisation.

Brown, in fact, instituted the Glacier Metal Company in such a way that all the three systems operated through a system of councils.

Emery and Thorsrud (1976) report on a project, jointly set up Norwegian Government, the Trade Union Council, and the Employers Association. Tavistock researchers were involved as co-respondents. The purpose of the project and support for the earlier mentioned "democratic tradition" nature of project initiation comes out from the quotation below:

1. ".... the Industrial Democracy project aimed at the development and testing of alternative organisational forms and their impact upon employee participation on different levels of the company".
2. "Within the Norwegian cultural framework it was possible in the 1960s to establish a set of starting conditions for large scale social change over a period of at least ten years".

Within the above referenced text the authors relate four fairly large "experiments". The way democracy was established followed the Tavistock precepts on job design.

Herbst (1976) places the discussion of the democratic form of organisation in a philosophical frame of reference. The discussion leads to the conclusion that democratisation of the work place would affect satisfaction and performance beneficially. The theme built by Herbst is progressed in Emery and Emery (1976) and a possible derivative is that democracy in the work place endows the organisation with characteristics which permit adaptation to external change.

Participation, in the form of "Mitbestimmung" i.e. co-determination, has been institutionalised in Federal Germany (see O'Shaughnessy (1976)). The acceptance of the Bullock (1977) Report by the British government sets the scene for further advances in the U.K. and could be precedent-setting for other European countries. Archer's (1979) article comparing the British and German systems of, and Tinker's (1977) article as practical difficulties of instituting industrial democracy speak for themselves.

Clarke, Fatchett and Roberts (1972) distinguish between two types of participation: "power-centred" and "task centred". The domain of the thesis is circumscribed by taking the task centred participation as within, and power centred participation as outwith. This would still leave the Tavistock School work in Norway, which is centred on the job as within the job design domain. This excluded activity is regarded as job design contextual activity which could influence the design of jobs but would on, and of, its own not be regarded as one orientated to designing jobs. The contextual activity could, on one side, shape the jobs as well as suggest methods, in preference to others, for deriving these shapes, and on the other hand, determine the experience-in-job of both the organisation and the individual.

The field of organisational development (OD) is also discussed, sometimes in the same breath as job design. The concept, (OD), is beguilingly pleasing, but the meaning attributed to it is as varied as the practitioners in the field: Bechard (1969), Bennis (1969) and Blake and Mouton (1965) all define the concept in their own particular ways. Varney (1977) presents the objectives of OD in a list of seven items:

1. To increase the basic organisational effectiveness.
2. To build trust among individuals and groups.
3. To create an open, problem solving climate.
4. To increase the sensitivity of people in an organisation to the processes underlying the ability that they have to perform in the organisation.

5. To locate decision making and problem solving responsibility as close to information sources and sources of data as possible.
6. To find ways to increase the sense of ownership and feeling of belonging that people need to experience.
7. To move to a more participative approach between individuals and groups.

Given the above objectives, it could be surmised that success at OD could lead to changes which positively affect the individual experience-in-job.

OD, as the author sees it, is thus a method of training and education; the attempt is to set up more human norms, based on "regard for others".

But as Herzberg points out:

"Attempts to change people's job behaviour apart from the job content have, in the past, proved largely unsuccessful".

The deduction from the above is that OD may work as an undertaking complementary, or perhaps even as a preliminary step, to job design. In, and of, itself OD may not achieve the desired objectives listed earlier: at best, it may teach people to be less bloody minded, or to show understanding (!) at other people's bloody-mindedness; at worst, as pointed out by Whyte (1956), people may become more skilful in getting along with one another yet fail to ask why they should get along; may strive for adjustment but fail to realise what it is that they are adjusting.

In the like vein (but even more assertively) Herzberg (1974) suggests that by learning the human relations techniques, individuals may become simply more devious and manipulative.

Fringe activities at training include those Margolis (1977) covers in his paper on "Human potential movement". Margolis, a training specialist, includes transcendental meditation as one of the techniques he uses. Carsello and Greaser (1978) and Domino (1979) in their studies did not find support for the efficiency of the method in increasing individual effectiveness. However, neither were any negative effects reported.

5.6. Contingency perspective in job design

(1) Requisite conditions for job redesign

When the philosophy of loading jobs came under criticism because of its inherent one-way orientation, a new research tradition developed: that of finding out the characteristics of people and circumstances under which people respond to enriched jobs.

Note should be taken of the fact that a possible interpretation of this line of research is that the job design theorists are claiming that they know what a well designed job should look like, it only remains to find out those individuals who have the aptitudinal wherewithal to respond, and the required circumstantial conditions that are the pre-requisite to well designed jobs.

In terms of an analogy this is tantamount to the suggestion that:

"only tall buildings are well designed;
this being the case let us look for conditions which either
facilitate or require tall buildings".

In application the findings of this research were taken as exclusionary clauses, in the same way as insurance policies, acts of God are not covered; job redesign was only to be attempted if the environment or individuals possessed the predetermined characteristics which were known to facilitate the redesigned job to correspond to the researchers concepts.

Herzberg (1968) suggested that selection of jobs for redesign should be based on the following criteria:

1. The investment in industrial engineering does not make changes too costly.
2. Job holder attitudes are poor.
3. Hygiene is becoming very costly.
4. Motivation will make a difference in performance.

Note the implication of the fourth of the above criteria: raise production.

Following Hulin and Blood's (1965) and Turner and Lawrence's (1965) findings that urban workers were less enthused and responsive to enlarged jobs, than rural workers, a conclusion drawn (see Morse (1973), Luthans (1977)), was that

only the jobs of those who possessed "rural-like" characteristics should have their jobs re-designed. This was, however, and furthermore, a blanket criteria applicable at organisational level (see Shepard (1977)). Shepard (1977), however, gives a long and persuasive argument to the effect that it is wrong to base decisions on whether or not to redesign jobs on such blanket criteria. The essence of his argument is that among those classified urban, there would be some who would desire redesigned (and even enlarged) jobs; similarly, among the ruralites there would be those who would not respond to augmentation in job contents.

Steers (1977) discusses individual based contingencies. He writes:

"Enriched jobs serve to cue the achievement motive for high n-Arch employees, leading to greater effort and performance. Since high performance is not a motive relevant for low need achievers, enriched jobs would be expected to have little impact".

The implication is clear: find out, by whatever means, the type of person requiring enlarged jobs, and enlarge their jobs. Grew (1964) labels this approach, "Fitting the man to the job". Excluded from job design is the complementary approach, in Grew's terms, of "fitting the job to the man".

Altogether then, the above evidence suggests that those who can contribute more should have their jobs redesigned; those whose current jobs are ill designed but who for whatsoever reasons are not able to contribute more, then they have no right to have their jobs redesigned! What a travesty of the job design paradigm.

(2) Contingency as a base for the model of job design

The Hackman and Oldham model is indeed based on the contingency - that of the job holders growth need strengths. However, the potential use of this contingency is different from that discussed under the foregoing heading. Here it is used to measure the fit between the individual and tasks allocated to him.

Hackman and Oldham themselves claim the model measures the motivational potential within the job and that the level of stimulation required (or needed) by the job holder. Others, e.g. Dunham (1977B), have suggested that the model measures "complexity" of the job; in that case the model would be a measure of

the existing complexity of the job and the complexity in the job required by the job holder.

To extend the contingency base of this model, Lowry (1976) conducted a study for establishing whether the addition of individual based contingencies like personal characteristics, work values, age, sex and education would strengthen the model in any way. The data did not support the hypothesis that the additional contingencies would strengthen the model.

Other, later, studies may yet find support for the hypothesis of which Lowry's data was not supportive. But what conclusions could be drawn? An example of a possible conclusion would be:

"Females need less complex jobs".

Such a conclusion would not indicate that the jobs of female incumbents should not be redesigned, nor that every female wants a low complexity job. Lowry's type of research is of questionable utility, but of academic interest.

Contingency as constraints

The Tavistock school, notably Davis (1957), have maintained that contingency act as constraints to the design of the job. (Although Rich, as noted earlier, has even suggested that job holders are a constraint to job design!).

Davis (1957) suggested that job design should seek to optimise the situation along three discussions:

1. The organisational
2. The technological, and
3. Personal

Contingency as alignment of source constructs theory

Of recent, a theoretical standpoint based on contingency theory is gaining greater prominence in the field of job design.

Morse and Lorsch (1970) hypothesised that individual competence motivation and work unit should be highest when the design of the job were in congruence with the organisation design variables. In other words, and to give an example in terms of technology and uncertainty discussed in Chapter 4, if the organisation design is complex to reflect the uncertainty of the environment, the design

of the job should be reflective of the organisational complexity. In Morse and Lorsch paradigm the alignment necessary constructs have two sources - the job and the organisation.

Morse (1973) suggests that job design should attempt to measure the interaction and interdependence among:

1. Task and technical variables
2. Individual personality characteristics
3. Organisation and job design attributes
4. The level of organisational effectiveness
5. The level of individual motivation

And to Morse:

"The inferences are that where and when job design does result in improved organisational climate and performance is where and when it fits both

1. The predisposition and personalities of the individuals whose jobs are being designed.
2. The technology and the tasks".

Furthermore, why an approach tends to be effective in the setting where it fits the people and the technology is not necessarily because it leads to high employee morale and satisfaction. Rather it seems to be because it leads to high employee motivation. Only when all three inputs - a job design, individual predisposition and technological variables are contingent on and fit each other systematically is there likely to be high employee motivation and high task performance.

Later formulation of the contingency theoretical standpoint (see Nemiroff and Ford (1976), Porter et al (1975)), take the constructs on which the alignment is necessary to reside in three sources: the individual, the job and the organisation.

In their conceptualisation Porter et al (1975) took dichotomous variables and measures of alignment as shown in figure 5.19:

<u>Source</u>	<u>Measure</u>
1. The organisation	Organic — Mechanistic (see Burns and Stalker (1966))
2. Job design	Complex — Simple (see Dunham (1977B))
3. The individual	High — Low growth needs strengths (see Hackman and Oldham (1974B))

Figure 5.19. Contingency congruence according to Porter et al (1975)

Porter et al predicted that the three interaction conditions on these variables affect the outcome variables of satisfaction and performance in a way shown in the table of Figure 5.20, where rank order 1 shows the highest and 8 the lowest degree of achievable values on the outcome variables.

<u>Organisational variables</u>	<u>Job design variable</u>	<u>Individual variable (Growth need strength)</u>	<u>Outcome variable Rank</u>
Organic	Complex	High	1
Mechanistic	Simple	Low	2
Organic	Simple	High	{ () (4.5) () () }
Mechanistic	Complex	High	
Organic	Simple	Low	
Mechanistic	Complex	Low	
Organic	Complex	Low	7
Mechanistic	Simple	High	8

Figure 5.20. Organisational variables and individual experience

Pierce, Dunham and Blackburn (1979) arguing on theoretical grounds but providing empirical evidence from other works formulate hypotheses indicative of rank order at variance with that proposed by Porter et al. They found support for their viewpoint from data on nearly 400 subjects. The table in Figure 5.21 shows a comparison between the rank ordering of Porter et al and Pierce et al.

<u>Porter et al</u>	<u>Pierce et al</u>
1	1
2	7
{ 4.5	5
	2
	6
	4
7	3
8	8

Figure 5.21. Comparison of rank ordering on outcome variables

Monczka and Reif (1973) proposed a contingency model as shown in Figure 5.22.

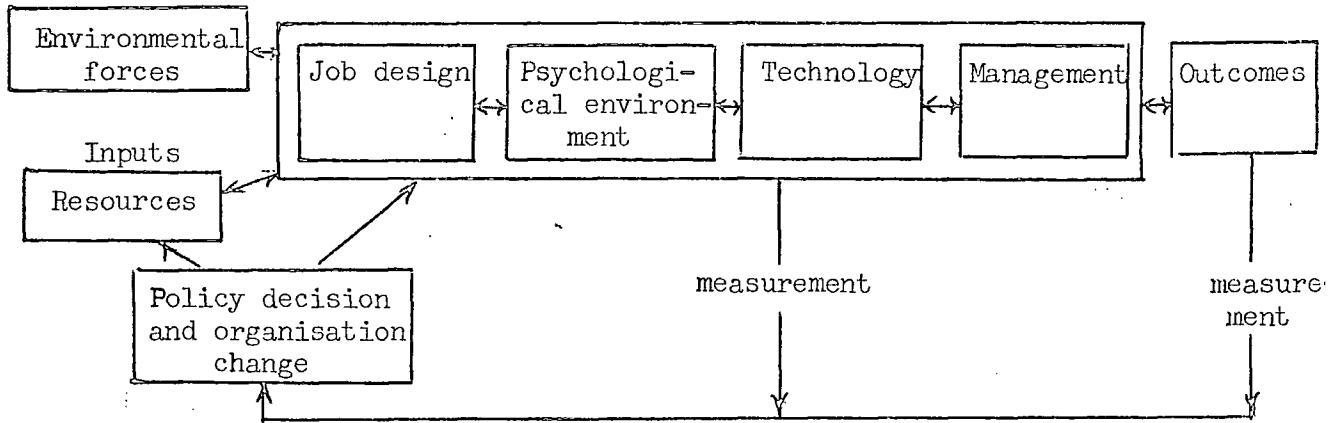


Figure 5.22: Monczka and Reif's (1973) job design model

The essential feature of the model of Figure 5.22 is that, consistent with systems approach, the model stresses the inter-relationships among the parts and components within the parts.

The author takes the contingency models of Monczka and Reif (1972) and Porter et al (1975) as reflective of his own philosophy and his own theory in an attempt to build on these models.

5.7. Participation

Job redesign is a change process. From Seeborg's (1978) study it could be argued that individuals whose jobs are to be redesigned and the organisation should have clear ideas as to the extent of changes that could be implemented. For example, if job holders presume that only restricted/limited changes would be acceptable to management, the individuals choose to introduce social change, i.e. opportunities to talk to fellow workers, etc. In other words, the absence of the possibility, real or perceived, of introducing radical work changes may prompt the job holders to suggest ameliorative changes.

Finally, Wild and Birchall (1976) in their very comprehensive 'State of the Art' survey on job design report, and themselves appear to agree with it, that researchers have stated:

1. "The chance of success may be increased if changes are introduced as part of a larger exercise which includes efficiency and production drives".
2. "The groups of people for whom enrichment is to be performed should be carefully chosen, on criteria of potential acceptability by these people of jobs with wide scope".

The author regards both the above criteria as heavily biased:

- The existing design might be bad because of overload conditions. The linking of job design to 'production drives' appears to be ill conceived.
- Wild and Birchall appear to assume that narrow scope is bad and wide scope is good, whereas the existing design may be bad because it is too wide, too ill defined, etc.

5.8. Insufficient theory and overabundance of techniques

Novara (1973) reports on the experience gained in the course of job (re-) design at Olivetti Company in Italy. In Olivetti, the redesign was undertaken in two stages. Novara writes:

"The purpose of this second change was essentially to improve the quality of parts produced which reduce proportion of 'indirect' production workers which had been tending to increase without any corresponding gain in product quality. The dividing line between the functions of quality control inspectors and that of the tool setters had become somewhat artificial, the former being reduced to mere rubber-stamp approval before machining began. Moreover, it was difficult to keep the inspectors fully occupied.

The focus of attention, in the above passage, is the mechanics of job design. When jobs are modified in situations where prior-to-redesign conditions of job-underload exist, the process of redesign would, more likely than not, involve taking elements from jobs contiguous to positions being redesigned to compensate for the load deficiency. This process may result in a job load deficiency in the contiguous jobs. This may necessitate job re-design with respect to this latter set of jobs.

As this topic will be taken up again in Chapter 8 which deals with characteristics of job design methodologies, for the moment attention is drawn to the fact that while there appears to be an over-abundance of techniques for redesign, most of these techniques do not address themselves to effect on contiguous jobs.

For the individual job design theories, this fact is recognised by Hackman et al (1975).

For group design, the technique being essentially a unit design technique, two unanswered questions are raised:

1. What is the basis of assumption that the individual/organisation fit has been achieved in specific cases?
2. How are the primary task boundaries initially drawn; if different boundaries are possible which boundary should be preferred for redesign experiments?

Deficiency in analysis of the nature of job contract

The analytic frameworks used in the job design theories reported in this chapter are based on the assumption that employee motivation (or the lack of it) is relatable to organisational problems. Typical of this viewpoint is the Monezka and Reif statement on the purpose of job design:

"the solution to motivational and productivity problems in industry".

Hence, where attempt is made to measure the design of a job, it is in terms of the job holder motivation alone.

Analysis of the job contract suggested by radical thinkers, e.g. Baldamus (1961), suggests that the cause of manifest problems could possibly be lack of organisational motivation rather than lack of individual motivation. The author's notion of a job encapsulated in his model of job, presented in the introduction to this chapter, lends itself to radical interpretation as well.

If, in an organisational environment, production is lower than expected, then the source of the problem could lie in organisational lack of motivation. This is an important argument and effort will be made to illustrate this.

If an employee experiences, for example, any of the following feelings:

1. Underpaid
2. Overworked
3. Discrimination with respect to promotion
4. Allocation of undesirable tasks

he might decide to lower his performance in reciprocation (Kelly (1978)). The source problem, here, is not the individual's lack of motivation but rather the organisation's lack of motivation.

This line of thinking recognises the instrumental value of job to both parties of the job contract. Measurements on the quality of the design of the job would, therefore, be more robust were concepts of organisational motivation incorporated into job design theory. Job design theory should, thus, be based on the recognition of the reciprocal and symbiotic nature of jobs.

5.9. Responsibility for the design of the job

None of the theoretical standpoints discussed in the body of this chapter refers to, discusses or specifies as to where the responsibility for design of particular jobs should reside. To ascertain as to what happens in practice, this query was addressed in the Managerial Job Design Survey reported in Chapter 6.

Drucker (1977) in a case study presents a very persuasive argument for holding the boss of the individual, whose performance could be regarded as sub-par, responsible for the job holders failure. In the case Drucker depicts three possible causes of performance failure:

1. The job holder continuing to do in the new job what he did in the last one.
2. The job holder being temporarily indisposed to the new job.
3. The impossibly designed job.

Dyer (1972) would definitely regard the first of the above items as being related to lack of role clarity and/or incapacity for role adaptation. The remedy, then, in the context of this thesis, could be job design. The above argument suggests that from the organisational perspective the boss-man could be regarded as being responsible for the design of the job.

From the individual perspective there appears to be no indication in literature as to who should be held responsible/assigned to ensure that the design is acceptable to the individual. By this is meant that if the person is organisationally responsible for the design of the job, can this person also be expected to adjudicate on the contentions that may arise due to ill design of the job? The concept is important, given the nature of job, i.e. individual/organisation interface. The question that this leads to is whether within an organisation the assignment of authority for designing jobs to a specific person, an "ombudsman" type of appointment thus separating the judiciary from the executive and hence fitting in nicely with the democratic school, would be an operationally viable proposition? This would ensure that if the work group is responsible for the design of the job, or if the boss is responsible for the design, and the job holder is dissatisfied with the design some form of arbitrage,

without the job holder fearing retaliatory action, could take place.

Is it humanisation?

Blackler and Brown (1975) examining and reviewing the job design literature from a humanistic viewpoint write, (the word "managerial" is underlined to draw the reader's attention; the text should read better, in the context of this thesis if the word "managerial" were substituted by the word organisational).

1. "Redesign exercises are studies in managerial terms of their success in providing more humane but also in essence more efficient ways to utilise 'human resources'. A convergence of organisational and individual requirements is assured. This leaves unexamined, and may even support, structural organisational arrangements perhaps as psychologically debilitating as simplified work".
2. "From the managerial viewpoint people are resources to be deployed that display peculiar problems or effective utilisation, they are not persons whose hopes and fears should be valued in their own right".

The use of the term "human resource utilisation" could certainly be regarded as repugnant. It equates the human to a machine. It connotes someone using someone else. The term itself might be a throwback to the time and motion concepts of Taylor or to the industrial engineering orientation of Davis's early work, but in its own way it is also a reflection on the theories that have been discussed in this chapter. Perhaps the concept of job design prompts and deserves a new concept. Towards this end the author suggests

"resource exchange and augmentation"

as a possible, purpose depicting concept to associate with job design. This new concept certainly depicts the author's theoretical standpoints discussed in Chapters 6 and 11.

5.10. Scope of modifications in job design programmes

Herzberg remained uncritically opposed to making any changes which would constitute adding to hygiene, as he defined this term.

Seeborg's (1978) indicates that individuals involved in the job re-design programme base their suggestion for desirable changes on some form of evaluation based on:

1. What they regard as possibly meeting the sponsor's envisaged scope for change.
2. What would meet their own personal needs.

The above analysis leads to the conclusion that if the job holders perceive the sponsor's scope for change to be limited to shallow adjustments, they might choose to suggest changes which instead of curing the disease, suppress the symptoms or worse attempt cosmetic treatment to deflect attention.

Herzberg's (1968) concept "brainstorming" to sieve-out acceptable changes is a practical way of delineating acceptable changes; but while the concept of sieving is good the particular sieve he uses is questionable - for the preconceived notion of hygiene precludes diagnosing of problems which might be located in the nexus of variables subsumed under that title. Kelly's (1968) analysis of the socio-technical systems lends itself to constructing an analogy to explain the above remarks.

Kelly suggests that if individuals, or groups of individuals, feel underpaid they might lower their production, to align it with what they feel would be equitable with the payment system. Following Herzberg's suggestion the payment system would be adjusted in the step preliminary to job design itself. In the job design step, the jobs would get vertically loaded - but this act of loading will once again create an imbalance. The original defects in the salary system, and the degree to which these contributed to earlier dissatisfaction, will once again come into play.

Evidence supportive of the conclusion drawn by the author from Seeborg's study, comes from McDavid (1976). The employees suggested changes like: improved office furniture and redecoration of offices. These suggestions were

rejected. And rightly so, in the opinion of the author, although McDavid fails to explicitly state the criteria, a comparison against which led to their exclusion. However, the acceptance of these would have been tantamount to bribery, for, as far as is discernable from the study report, the state of the office furnishing was in no way connected to derived experience-in-job, or the problem being faced by the unit; the acceptance of these suggestions would have been an attempt at deflection of attention.

However, the main issue under focus in this section is the knowledge of the job holders of the kinds of changes that management will accept. This would involve setting of criteria, prior to the event, against which suggestions will be accepted. Needless to say, the criteria would have to be framed in such a way as to show mutual concern, and may even involve participation of the job holders in framing the criteria, in order to ensure that this does indeed happen.

In problem solving situations, as was the case in McDavid's study, the suggestion for change would, at the same time, have to meet the criteria of having the potential of resolving the problem - curing the disease, as it has been termed above.

This indeed brings to the fore the fundamental problem which the practice of job design has not been able to come to grips with: job design has had application as a curative to problems and not as a problems preventive technique.

Stretching the imagination

Essentially an organisational intervention that solves some real or imagined problem, the solution of which entails changing either:

- What one does
- How one does
- When one does

have been labelled job design studies (Blackler and Brown (1975)).

5.11. Conclusions to chapter

In building his own theoretical viewpoints, the author has used the framework offered by the systems analysis methodology. The relevance and appropriateness of this methodology in the context of organisational studies is stressed by many (among them Cleland and King (1968/1975), Lowe and McInnes (1971), Johnson, Kast and Rosenzweig (1963)). Often the variables involved in social systems are linked, one to another, but the influences of one variable on another is not of deterministic type - the relationships are ever changing both in amplitude and direction. If a relational balance is shattered, efforts to restore it have the capacity to create other imbalances. Lowe and McInnes (1971) write:

"For one thing in social systems it is the transactions or events rather than rigid relationships between elements (or things) which may constitute the best problem-solving building blocks".

Lowe and McInnes had addressed their analysis at the level of the organisation; other researchers, e.g. Scholefield (1968) and Stewart (1978B) have extended the systems analytic approach to the level of the individual job holder. Job design, being a problem of individual/organisation interface, the appropriateness and applicability of the above quoted metaphor from Lowe and McInnes and the author's own comment regarding relational balances should be clear. It is, also, in this context that the following text from Lowe and McInnes is to be interpreted:

"Solving the most relevant cause-and-effect problems of enterprise control is likely to be made by the analysis of control situations and their resolution achieved by completion of the chain of responses between people and organisation".

A re-analysis of the various strands on job design, presented in this chapter, within the framework of chain of events indicates another weakness in the conceptualisation of theory: in concentrating on variables rather than pinpointing the balances between the variables that are of import, research has failed to evolve a wholistic theory of job design.

Still later, in the same article, Lowe and McInnes derive attributes vital

for studying the relationships between variables. They write:

"First, development of an understanding of the way by which outputs result from resources or energy exchange; secondly, understanding how the output gives rise to inputs which produce a further cycle of energy exchange; from this methodological viewpoint it is vital to analyse the system from behavioural, sociological and psychological viewpoints as well as from economic, quantitative and formal institutional viewpoints; and thirdly in the light of understanding so developed, the manipulation of the variables within the control of the enterprise management"

The importance of the above quotation lies in that a re-analysis of the various job design strands presented in this chapter leads to the conclusion that these theoretical standpoints have either ignored or downgraded organisational inputs to the job. As Chapters 6, 10 and 11 develop and build on this topic it will not be pursued here any further.

None of the theories of job design presented in this chapter have considered the values and the dialect tensions that are central to, and loom so large in the theoretical standpoints on motivation (see Chapter 2 for motivation; specifically the Festinger theory). And yet organisation behaviourists argue the necessity of a "value" fit within the job. For example Bartolomi and Evans (1980) write:

"A job should fit not only the skills and abilities but also with motives and values".

In the studies conducted by the author and reported in Part 3, substantive evidence for the degree of importance to be placed on values was collected and this led to the incorporation of the concept into the job design theory promulgated in Chapter 11 and for which support was generated in the study reported in Chapter 12.

Wellin's (1978) differentiation of what is required or wanted against what theorists do is worth reflection: theorists go for the aggregates whereas the individual, in particular, whose job might be ill designed to begin with have no remedial change if modified in accordance with the dictates of existing job design theories is summed up below:

- Taylor: Only financial motives recognised
- Herzberg: Only an increase in job contents

- Hackman and Oldham: Any five work characteristics considered.
All four concerned with increasing inputs to job holder.

- Tavistock: Job remains untouched; may change as a consequence of group design. Organisational responsibility for job abdicated to group. Group considered a "pill for all ills".

5.12. Definition of job design

Burack and Gutteridge (1978) define the job design paradigm as:

".... systematic effort to insure an effective interface between an organisation's human resources and its internal and external environment. An effective interface is one that maximises organisational and individual goal attainment subject to the constraints imposed by each on the other".

Note that the above definition has two parts to it. One dealing with the "noun-sense" which indicates the availability of some measure on the quality of the design of the job - maximal fulfilment, under constraints, of organisational and individual goals. The second part deals with job design from the "verb-sense" - it is the effort put to contrive the design.

The phrase "organisation's human resources" should be taken to indicate the context of job design, i.e. within the organisation; it should not be interpreted as indicative of "ownership", on the part of the organisation, of human resources. Further, note that the word "interface" is interpreted to be one per job, i.e. P-number of jobs, in the organisation, will generate P-number of interfaces. Burack and Gutteridge have used the concept in the statistical sense - the process of job design is repeated over all the interfaces. By this foregoing note the author wishes to stress the individual and specific nature of each job and each job holder.

The above definition substantively subsumes definition operationally adopted by the researchers whose work has been reported in this chapter. This definition reflects the viewpoint of the wholistic theory of job design that the author has endeavoured to build in this thesis and therefore the author adopts as his own.

5.13. A fresh start.

Strong institutionalisation of concepts and practice - be these related to use of psychological texts in the selection of personnel, or in the area of job design or still others - is often taken to be indicative of the criticism being unconvincing. Taking this as a premise, Flanagan (1964) discusses this in terms of whether the arguments are unconvincing or whether it is the case of the critics not presenting alternatives which might be more convincing. Flanagan goes to build a case for the latter perspective and suggests that under these circumstances, the practitioners go on using the tools known to be deficient, but which at least partly serve some specific purpose even if it is served at the level of a placebo, i.e. going through the motions gives the practitioner a certain feeling of having avoided/accomplished something.

The author's purpose in presenting Flanagan's viewpoint is to reassure the reader: having criticised the existing theory, through his own arguments and through supportive literature evidence, the purpose of this thesis would not be served were the matter to be left here - the practitioner holding a placebo.

The next part, Part 3, of the thesis contains 5 chapters, four of which are based on studies conducted by the author. The reader is asked, if necessary to consult back to Figure 1.7, which shows the links and inter-connectivities of the studies and, but again only if necessary, to refer back to Section 1.6 which verbalises the contents of these chapters.

Part III

PART 3

This part of the thesis contains the following six chapters.

- Chapter 6 - Survey of organisational practices with respect to the design of managerial jobs
- Chapter 7 - Studies of job modification and the performance of different types of organisation
- Chapter 8 - Analysis and synthesis of jobs: methodological and application considerations
- Chapter 9 - Action Research: Testing the job design methodology (and gathering evidence for the contingent job design theory)
- Chapter 10 - Managerial heuristics - A study of the linkages between job design primitives
- Chapter 11 - Job balances: Job design as an arbitrage process

In the six chapters of this section the author derives three theoretical concepts related to analysis and synthesis of jobs. Each of the three theories is derived from open systems theory and supported by empirical evidence. The three theories themselves constitute components of the wholistic theory of job design.

The components of the wholistic theory are:

1. The measures on the quality of design of a job.

These measures get defined from the data gathered in the survey on job design practices - reported in Chapter 6.

2. The characteristics of job design methodology.

The characteristics are defined, on the one hand, from theoretical and literature based consideration of how the process of job design is likely to, and should, take place within an organisation, and on the other hand, how modification to jobs actually get made, as well as evidence on how jobs are imparted features of design. This latter mentioned, evidence on modification was acquired in the job modification studies reported in Chapter 7; the theoretical consideration as well as the use of empirical

and literature evidence results in the definition of job design methodology characteristics in Chapter 8. A methodology possessing the defined characteristics is tested in an Action Research situation reported in Chapter 9. This is the second component of the wholistic theory of job design.

At this point of the research effort, with the learning gained during the Action Research behind him, the author re-evaluated the fundamentals of job design theories - motivation. In the earlier review of motivation literature the author had rejected Herzberg's work as having much to do with motivation. On this second, review, evaluation the author saw Herzberg's work in a new light: the theory of heuristics built from Herzberg's findings provides an explanation for the "Herzbergian phenomenon" and offers the opportunity of further applied exploitation. The heuristics study is reported in Chapter 10.

3. The theory of job balances.

The additional knowledge gained from the heuristics study, together with the knowledge acquired in the studies reported earlier, helped to define the third component of the wholistic theory of job design. This theory is reported in Chapter 11.

The three theories together constitute the Wholistic Theory of Job Design. The wholistic theory transcends the narrow bounds built into, and around, existing theories of job design - it incorporates into a "whole" the, so-called, extrinsic and intrinsic characteristics of jobs, as well as the characteristics of the process of job design.