

Research Note 86-31

RESEARCH ON INTERORGANIZATIONAL DECISION MAKING
WITHIN A BRITISH AIRPORT

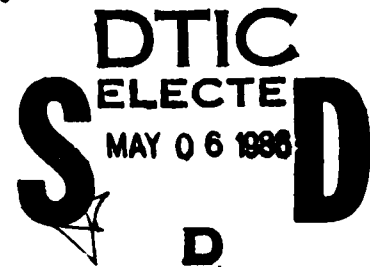
Frank Heller

Tavistock Institute
Centre for Decision Making Studies

for

ARI Scientific Coordination Office, London
Michael Kaplan, Chief

BASIC RESEARCH
Milton S. Katz, Director



AD-A167 332

DTIC FILE COPY



U. S. Army

Research Institute for the Behavioral and Social Sciences

March 1986

Approved for public release; distribution unlimited.

86 5 6 070

U. S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Field Operating Agency under the Jurisdiction of the
Deputy Chief of Staff for Personnel

EDGAR M. JOHNSON
Technical Director

WM. DARRYL HENDERSON
COL, IN
Commanding

Research accomplished under contract
for the Department of the Army

Tavistock Institute
Centre for Decision Making Studies

Technical review by

Steven Kronheim

This report, as submitted by the contractor, has been cleared for release to Defense Technical Information Center (DTIC) to comply with regulatory requirements. It has been given no primary distribution other than to DTIC and will be available only through DTIC or other reference services such as the National Technical Information Service (NTIS). The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other official documentation.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER ARI Research Note 86-31	2. GOVT ACCESSION NO. AD-A167332	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) RESEARCH ON INTERORGANIZATIONAL DECISION MAKING WITHIN A BRITISH AIRPORT		5. TYPE OF REPORT & PERIOD COVERED June 83-June 84 FINAL REPORT
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) FRANK HELLER With the assistance of MRS ELISABETH SOLOMON		8. CONTRACT OR GRANT NUMBER(s) DAJA 45-83-C-0032
9. PERFORMING ORGANIZATION NAME AND ADDRESS Centre for Decision Making Studies Tavistock Institute of Human Relations Belsize Lane, LONDON NW3 5BA, England		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 2Q161102B-74D
11. CONTROLLING OFFICE NAME AND ADDRESS USARDSG (UK) Box 65 FPO NEW YORK 09510		12. REPORT DATE March 1986
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) U.S. Army Research Institute for the Behavioral and Social Sciences 5001 Eisenhower Avenue ALEXANDRIA, Virginia 22333-5600		13. NUMBER OF PAGES 100
		15. SECURITY CLASS. (of this report) UNCLASSIFIED.
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES Dr. Michael Kaplan, Contracting Officer's Representative. The full title of Contract No. DAJA 45-83-C-0032 is : "Interorganizational decision processes over time : Further longitudinal research within a British airport."		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) DECISION-MAKING LEADERSHIP LONGITUDINAL RESEARCH PARTICIPATION EMPLOYEE INVOLVEMENT SEMI-AUTONOMY		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The research investigated the complex process of decision making over time, its effectiveness and achievement. Participation by lower level employees and high status of consultative committees are characteristic of democratic effective decision making. Other major influences are Meta Power (external influences) and Turbulence (uncertainty). A key finding is the existence of four fairly clearly recognizable phases of the decision cycle. The variables under investigation in decision making show significantly different impact in the four phases.		

RESEARCH ON INTERORGANIZATIONAL DECISION MAKING

WITHIN A BRITISH AIRPORT

CONTENTS

ACKNOWLEDGEMENTS

FOREWORD AND OVERVIEW (1)

INTRODUCTION 1

SOME BACKGROUND TO STANSTED'S HISTORY 2

FIRST STAGES OF FIELD WORK 6

 Objectives 6

 Infrastructures 8

FIGURE 1. THE RELATIONSHIPS BETWEEN A FOCAL ORGANIZATION,
THE BRITISH AIRPORTS AUTHORITY, A MAIN
CONTRACTOR AND ITS SUB-UNITS 11

THEORETICAL CONSIDERATIONS FOR STUDYING DECISION
PROCESSES OVER TIME 12

 Limitations of Classical Theory 12

 Space in Organization Research 14

 Time - A Critical Factor in Decision Making 16

 Variations in Longitudinality 17

OPERATIONALIZING THE DIACHRONIC MODEL 18

FIGURE 2. THE DECISION CYCLE 18

 Some Aspects of the Model 20

FIGURE 3. THE INTERNAL SPACE DIMENSIONS 20

FIGURE 4. THE EXTERNAL SPACE DIMENSIONS 21

 Integrating the Space-Time Dimensions 21

FIGURE 5. THE CORE ELEMENTS OF THE MODEL 22

THE DATA BASE 22

FIGURE 6. CORE ELEMENTS IN THE LONGITUDINAL
STAGE-PHASE PROCESS 23

FIGURE 7. DECISION ISSUE CODING SHEET 25



	<input checked="" type="checkbox"/>	
	<input type="checkbox"/>	
	<input type="checkbox"/>	
ity Codes		
and/or		
Special		

A-1

CONTENTS continued

	Page
ANALYSING THE DECISION PROCESS OF THE AIRPORT LOCAL JOINT CONSULTATIVE COMMITTEE	26
The Method	26
FIGURE 9. RETROSPECTIVE TRACING AND PROCESS ANALYSIS	26
FIGURE 8. STANSTED INTERVIEW SCHEDULE	27 and 28
Retrospective Analysis of Minutes	29
TABLE 1. CONTENT CATEGORIES	30
TABLE 2. FREQUENCY OF DIFFERENT ISSUES AS "MATTERS ARISING" DURING LOCAL JOINT CONSULTATIVE COMMITTEE MEETINGS 1977-1980	31 and 32
TABLE 3. FREQUENCY OF DIFFERENT ISSUES TREATED AS "ANY OTHER BUSINESS" DURING LOCAL JOINT CONSULTATIVE COMMITTEE MEETINGS 1977-1980	33
TABLE 4. THE DIRECTION OF DECISION INITIATION	34
TABLE 5. OUTPUT OF THE COMMITTEE DECISION PROCESS	34
TABLE 6. UNFINALIZED RAW DATA BEFORE FEED-BACK	36
Validation of Restrospective Tracing through Feed-back Methods	37
FIGURE 9 OUTLINE OF STANSTED FEED-BACK MEETING June 23, 1981	37
FINAL STAGES	39
ANALYSIS OF THE DIACHRONIC RESULTS	40
STATISTICAL METHOD	43
TABLE 7. Analysis of Hypothesis 1 Step 1	44
TABLE 8. Analysis of Hypothesis 1 Step 2	
FIGURE 9 PATH-LIKE PRESENTATION OF RESULTS IN RELATION TO HYPOTHESIS 1	47
TABLE 9 ECTA ANALYSIS OF HYPOTHESIS 2	47a
FIGURE 10 PATH-LIKE PRESENTATION OF RESULTS RELATING TO HYPOTHESIS 2	48
TABLE 10 ECTA ANALYSIS OF HYPOTHESIS 3	50a

CONTENTS continued

FIGURE 11	PATH-LIKE PRESENTATION OF RESULTS RELATING TO HYPOTHESIS 3	50b
TABLE 11	ECTA ANALYSIS OF HYPOTHESIS 4	51a
FIGURE 12	PATH-LIKE PRESENTATION OF RESULTS RELATING TO HYPOTHESIS 4	51b
TABLE 12	ECTA ANALYSIS OF HYPOTHESIS 5	52a
FIGURE 13	PATH-LIKE PRESENTATION OF RESULTS RELATING TO HYPOTHESIS 5	52b
SUMMARY		54
APPENDIX 1		57
APPENDIX 2	Part 1	58
	Part 2	63
	Part 3	67
REFERENCES		79

ACKNOWLEDGEMENTS

We are grateful to the three scientists who were in charge of the European Behavioral and Social Science Office during the negotiation and execution of the project. They are Doctors William Helm, Arthur Drucker and Michael Kaplan. The original concept was enthusiastically approved by Dr Joseph Zeidner, when he was Technical Director and Chief Psychologist at the Institute for the Behavioral and Social Sciences.

The research reported in this document has been made possible by Contract number DAJA 45-83-C-0032 from the U.S. Army Research Institute for the Behavioral and Social Sciences through its European Science Coordination Office at the European Research Office of the U.S. Army, London, England. The opinions expressed are those of the author and do not necessarily represent those of the U.S. Army.

FOREWORD AND OVERVIEW

This report describes a three year research project on decision making at a medium-size British Airport. The study was supported by the European Science Coordinating Office of the US Army Research Institute. Three reasons for this investigation were :

- (i) Airports will play an increasingly important role in the growing leisure industry as well as in military use, but their decision processes had never been studied.
- (ii) More and more organizations operate through subgroups, that is to say decentralization, as it seems to be more effective. Airports offer unusual opportunities for the study of semi-independent subgroups.
- (iii) Organizations are affected by environmental factors like uncertainty and unpredictability. Airports offer a good opportunity to study this phenomenon.

This final report was written over the three year period of the project and faithfully reflects the developing stages of thinking and data gathering. It addresses itself mainly to social scientists and uses technical terms when this is appropriate. Most of these terms are explained in the text or in the operational definitions of the variables (pp 27-8).¹

In the Foreword and Overview we want to reach policy makers rather than social scientists and will avoid technical terms wherever possible. We will describe the essential features of the research where it differs from most previous studies and the conclusions the findings suggest.

1 For the finer points of the statistical method, the reader is referred to the original sources.

The research opens up an important approach to the study of decision making in organizations. It is based on a series of antecedent studies which developed the theoretical model, the measurement of variables and a special approach to gathering verifiable data in the field. These antecedents are briefly referred to in the technical report with references to the original sources.

Although the research took place on a single site, the focus is not the organization but 108 specific decisions. We believe that the findings make a contribution to the understanding of decision making in general and apply to many organizations, including the military. The expectation that our results can be generalized is based on the fact that the project we are reporting upon is the culmination of a series of studies going back to 1969 which give broad support to our conclusions. Therefore we believe that a realistic model, from which predictions can be made, has been developed. There are lessons for subjects like leadership and morale and, in particular, for the effective use of human resources like experience and skill.

Most field studies of decision making in organizations use one of two alternative approaches. Case studies describe in varying degrees of detail what is observed or what respondents tell the researcher about organizational life. They use verbal description of events, although figures can also be used to support the overall picture. Case studies assess what goes on over a period of time varying from days to years. The conclusions from this type of research usually derive from a single organization and may not easily be generalized.

The main alternative model treats a sample of organizations or a sample of organizational events by means of what can be called a "snapshot method". It obtains results in the form of data at a given moment of time. Questionnaires or interview schedules produce the statistical data. The researcher has made a selection of variables and sets out to test predictions that one variable - for instance job satisfaction - will show a statistical relationship with another - for instance productivity or efficiency. It is then often assumed that positive statistical findings can be interpreted as describing the impact of job satisfaction on productivity.

While one can call case studies descriptive, the snapshot statistical data type of research can be called analytical. Its purpose is to analyse relationships between clearly defined variables and, if possible, to derive predictive conclusions.

Both types of research have advantages and disadvantages, which tend to be complementary. Case studies look at real events over time, but cannot usually measure statistical relationships. They produce qualitative material and because they tend to be confined to a single organization, cannot predict future events with conviction.

The snapshot measurement of a sample of organizations suffers from two major problems. In the first place, the researcher spends only a short time in each place and therefore fails to obtain the "in depth" understanding of the events he purports to measure. His data is confined to specific answers, usually quantified into figures, and he cannot be sure what the statistical answer to a verbal question actually means to the person who answered. No revision is possible, although our experience shows that people confronted with their own results sometimes want to change their answer or the interpretation placed upon it by the researcher. However, if one assumes that the statistical data is valid, then interesting conclusions can be derived from a study of the relationship between variables. The second problem is potentially more serious. Conclusions based on the snapshot method assume that the moment of time when the data was collected is representative of other times, such as the following week or month. However, there are many aspects of organizational life when such an assumption is quite unrealistic. This is particularly true of decision making.

Psychologists often test for changes over time by repeating the interview or questionnaire administration. If the result is very similar to the first administration, it is called reliable. If it is dissimilar, it is called unreliable. But what if the later event is meant to be different from the first event? This is exactly what one should expect in behaviour like decision making. The snapshot method does not allow for this.

We believe, therefore, that the understanding of organizational life requires a method of research which combines the advantages of the case study and the measurement of specific events. Such a method has to obtain accurate data at avarious phases of time. It can be called longitudinal. Measures at different periods of time could use the snapshot method. Like a series of photographs of a tree in spring, summer, autumn and winter, it would reveal great changes in colour and foliage. Such a longitudinal picture yields predictive results, but it may fail to give some essential understanding of cause and effect. The four snapshots do not tell us what went on between each season. If leaves are green and fresh looking in September (in the Northern hemisphere) in one year, but yellow and frail in another, this will be due to events occuring between the times when the two snapshots were taken and may be due to drought or extreme temperature changes. These intervening events have to be monitored.

From this analogy we argue that organizational analysis, too, requires a method of research which obtains data of the process of change. We call such a method "processual"¹ to distinguish it from a longitudinal snapshot design. For scientists to be present all the time over a period of years is, however, unreasonably expensive and probably unnecessary. We have therefore developed a fairly economical procedure for obtaining processual data.

The Airport research has used some established and several new approaches to field research on decision making which can be summed up as follows :

(A) The cycle of decision making is divided into four distinct phases :

1. Start up phase
2. Development phase
3. Finalization
4. Implementation

1 The technical term used for combining measurements of data at predetermined stages with a monitoring of the process between successive measurements is "diachronic".

(B) Nine factors are assumed to be of particular importance for understanding decision making (See Figure 8, pp 27-28) :

1. Uncertainty and unpredictability
2. Effectiveness in using time and other resources, like money
3. Achieving the expected results (through implementation)
4. Delay (wasted time)
5. Influences from outside the organization (the Airport)
6. Conflict. How intense is it?
7. Skill. How much experience and skill is required for the decision and how much is used.
8. How much influence and power is shared between different levels or the organization (involvement and participation) .
9. How much formal influence does a group or committee have? We call this Status Power. For instance the constitution of a committee may specify whether it can take decisions or give advice.

(C) Some of the nine factors are assumed to influence, predict or cause changes in the other factors. These relationships are described in a model (see Figure 5, pp 22).

For instance variable 9, Status Power, and variable 8, Influence in decision making, are called predictors of factors like Skill Utilization (variable 7) and Achievement (variable 3).

(D) Most of the nine factors are expected to have different characteristics in the four phases of the decision cycle. Consequently they have to be measured in each phase.

(E) Our unit of analysis is the decision. Our sample is 108 separate decisions. In most research projects, the unit of analysis is the organization or the people in it.

(F) We have developed a field method which allows us to carry out the necessary measurements fairly economically and with quality checks. Interviews about present and past events (using tape recorders), attendance at committee meetings, analysis of past committee meetings and a procedure called Group Feed-back Analysis are combined to produce data from the whole process of decision making.

- (G) Since we get data from each of the four phases of the decision cycle, we set out to test causal assumptions. For instance, we predict that people who can exert influence in earlier stages of the decision process will help to speed up the implementation of the decision (avoid delay).
- (H) Whilst most organizations have sub-groups, airports operate with a substantial number, like baggage handlers, airport cleaners, etc. We identified eleven such sub-groups (p 9) which operate within the Airport but are responsible to their own parent organization or Head Office outside the Airport. We say that each one has a measure of independence or autonomy.¹ This independence requires a certain style of leadership and it is now widely believed that sub-grouping leads to more effective work behaviour.
- (I) The research was designed to test a number of assumptions (hypotheses) predicting relationships between the variables described under (B) above. Some of these relationships are expected to be confined to certain phases of the decision cycle and a number of them are causal. We can test cause effect between variables because in the decision cycle, causes precede effects in time. The statistical method we use tests for causality.

Overview of the most important results

Real life decision making, unlike laboratory situations, is complex. In this report we test four simple and five complex hypotheses. A fairly clear overall picture emerges. Democratic leadership practices, defined as giving lower level employees and consultative committees real influence in the decision process, have beneficial effects on the organization. Democratic organizations leave sub-groups to get on with their own tasks without interference, and they accord high status

¹ The technical phrase is semi-autonomous groups.

to consultative committees. The outcome is an effective use of resources, achievement of the expected results, no delays in implementation and - perhaps most significantly - a high utilization of people's experience and skill. Some of these results confirm previous findings, but they are particularly clear-cut and more specific. For instance, we now see that democratic decision making practices are especially important in certain phases of the decision cycle and not in others.

The ten conclusions which are summarized below have implications for policy makers, leaders at all levels and those engaged in training and organizational design :

1. Decisions are rarely made instantaneously. The time cycle varies, but the four phases described in (A) above could always be identified (see Figure 2, p 18).
2. People behave differently in the four phases (see Figure 6, p 23). For instance, the amount of employee involvement during a decision on the acquisition of new equipment was considerable in phase 4 (Implementation) and much less in phase 2 (Development). There was no involvement at all in phase 3 (Finalization) and phase 1 (start up). This suggests that averaging out a measure of employee participation over the four phases could be quite misleading and even useless. It follows that research methods which use snapshot measures may fail to get meaningful results. This reasoning could explain why most research on leadership and decision making has produced weak statistical relationships.¹
3. Consultative committees cover a limited range of issues each year and the frequency of discussion for each topic varies from year to year. Discussion on training, for instance, came up once during 1978-79, but not at all in the preceding or following years (Table 1 p 30). Even a subject as important as health and safety, which came up eight times in 1978-79 and four times in the preceding year, was not mentioned at all in the twelve meetings during 1979-80. A lot depends on who

1 That is to say low correlations. Low correlations produce poor predictions because they account for only a small amount of the variation in the behaviour they set out to explain.

takes the initiative in raising issues for the agenda. It varies from year to year and is a function of the leadership style of management and the chief union representative (see Table 4, p 34).

4. Most time in consultative committees is taken up with one-way communication (81%) and not with reaching agreement on outstanding issues (see Table 5, p 34). Although these results were summarized for one committee, they were typical of the three others we attended and whose minutes we also analysed.
5. A detailed analysis of 108 decisions supports the theoretical model which puts employee participation as a determinant or predictor of outcomes like Skill Utilization, Achievement and Efficiency (see Figure 5, p 22).
Speaking very broadly, the results suggest that when employees at lower levels of an organization are able to exert influence on the decision process, the outcomes are more positive than when they do not exert influence (see for instance Figure 10, p 48).
6. The formal influence and power which constitutions give to committees or which custom and practice give to different groups in an organization (called Status Power) is an important predictor of outcomes. For instance, the high Status Power of a Joint Consultative Committee leads to a high degree of skill utilization of workers - particularly in the Development and Implementation phase of decision making. It also leads to high Achievement (Figure 9, p 47).
7. Substantial delays in the Implementation phase of decision making seem to be due to two circumstances. Firstly uncertainty or unpredictability of events in an organization, and secondly the inhibiting influence or interference from Head Office. In our experience at the Airport, unpredictability was due to poor planning more than weak leadership.

The negative effect of Head Office attempts to intervene in the affairs of some independent sub-groups inside the Airport (Catering is a good example) was due to Head Office not having the knowledge and experience

which the independent unit had. Head Office wanted to recruit workers from a wider geographic area, while the catering unit in the Airport wanted to recruit locally. The result was a long delay before high labour turnover of staff recruited by Head Office convinced them that local recruiting was preferable (Figure 11 p 50b).

8. However, when external influence (from Head Office) is used through a process of consultation with the local sub-group, the results are positive.

This kind of Head Office influence reduces conflict in the implementation phase of decision making, although it also reduces the skill utilization of senior staff in the sub-group (Figure 12, b 51b).

9. Conflict in the Implementation phase of decision making is caused by two factors. Firstly, autocratic senior management and secondly, uncertainty and unpredictability due to events outside the organization. Most of the uncertainty in the case of this Airport was due to a Government-sponsored enquiry which will decide whether the Airport is to expand or contract.

10. Employee participation in the Development and Finalization phase has two positive outcomes. It increases the efficiency of decision making and it speeds up the implementation phase. Both these outcomes, that is to say Efficiency and speedy Implementation, are related to Skill Utilization of lower level employees (Figure 13, p 52b).

We believe that these findings have implications for policy makers.

RESEARCH ON INTERORGANIZATIONAL DECISION MAKING

WITHIN A BRITISH AIRPORT

INTRODUCTION

This longitudinal project was planned to cover three years and can be divided into three stages.

Stage 1 (1980) is intended to establish the base from which to proceed. It covers the following activities:-

- (i) obtaining sanction. Management at various levels, unions as well as subcontractors, have to understand the project and agree to collaborate. In obtaining these sanctions, the researcher will also learn about the personnel involved in the decision process and about some of the dimensions specified in the research design.
- (ii) Select a sample of decision issues which it is proposed to follow through over space-time dimensions.
- (iii) Pre-test the interview schedule instrument derived from a previous research but adapted to the new research design as specified in the application.
- (iv) Identify the semi-autonomous units and their boundary relations to the airport decision process.

Stage 1 can be called the descriptive and pilot stage but a great deal of decision behaviour information will be accumulated through tape recorded interviews and their content analysis.

A good start was made early in 1980 and intensified after April. The first Progress Report described the early work.

SOME BACKGROUND TO STANSTED'S HISTORY

The development of Stansted began early in 1942 with the arrival of the 817th US Engineering Battalion, followed by the 825th and finally the 850th Engineering Aviation Battalion. The wartime British Government had decided that a United States Air Force Base would be built at Stansted. An area of nearly 2,000 acres was acquired in 1943 and a main runway of 6,000 feet by 150 feet in the north east/south west direction was built. There were also two subsidiaries: the first one 420 feet by 150 feet, north west/south east, and the second 420 feet by 150 feet, north/south were also constructed.

Two squadrons of B25 aircraft operated from this site on raids over Germany and the occupied territories until August 1945. A major maintenance base for American aircraft was also constructed on the south side of the airfield and Boeing Flying Fortresses and Lockheed Liberators were flown in for major repairs. The operational work finished in May 1945 and in August 1946 the United States Air Force withdrew while the airfield was absorbed into an RAF base under a maintenance command (maintenance unit 263). At almost the same time German prisoners-of-war were housed in some of the isolated huts on this airfield site.

The first civilian operators began work at Stansted towards the end of 1946. An organization called London Aero Motor Services used six modified Handley Page Halifax aircraft carrying freight and in the summer of 1947 Kearsley Airways Limited began chartered flights from Stansted with three DC3s and a Proctor aircraft. In December 1948 the British Minister of Civil Aviation started a plan which considered using Stansted for three purposes:

- (i) as a principal airport in the London area for charter operations.
- (ii) as a base for charter operations from Gatwick and other airports.
- (iii) as a main diversion airfield for charter and schedule services operating in the London area.

In April 1949 the airfield was transferred from the Air Ministry to the Ministry of Civil Aviation.

The United States Air Force considered the possibility of using Stansted with their new type jet aircraft and obtained approval for an extension of operating facilities which were to extend the runway and strengthen its surface. The 803rd United States Engineering Aviations Battalion started to use Stansted in February 1954 and continued there until December 1956. During this time the runway was reconstructed and other taxi ways were built. A considerable number of passengers passed through Stansted between 1954 and 1956; these passengers were mainly troops. The United States Air Force Engineering Battalion finally withdrew from Stansted in April 1957 and the Air Ministry in Britain decided that the military need for this airport was no longer justified.

Since 1961 the airport has had a very chequered career with a variety of uses, depending on local circumstances and changing needs both of the potential operators and central Government. There was no overall plan. To begin with the airport was used as a fire service training school and during that time the United States wartime church became the principal lecture room. A very large number of students attended courses in firemanship up to advanced level. For a short time between 1961 and 1962 the airport was used for the production of a line of Carvair Aircraft, while other organizations used it for trooping flights and the training of pilots by British European Airways and British Overseas Airways. The fluctuation in passenger movements was very considerable, varying between 13,000 and 105,000 over the period 1959 to 1964.

Government policy on airport extensions has been characterized by uncertainty and U-turns. Government white papers in 1961 and 1964 recommended that Stansted should become one of Britain's four major international airports, along with Heathrow, Gatwick and Prestwick. Local opposition to the Stansted plan was very intense and the Government abandoned the planned extension. In 1971 the Roskill

Commission was set up and the Government then announced its intention to create an entirely new airport at Maplin on the Essex coast near Southend. The economic recession of 1974 led the Government to cancel the Maplin Plan which would have cost £1,000M. Another white paper on airports was published in February 1978, where the Government recommended limited expansion of Stansted to increase the terminal capacity from one to four million passengers a year. It must be emphasised that Stansted has one of the longest runways in Britain and the opening of a new motorway, the M11, gave it exceptionally good access from London by 1977-78. The present capacity of Stansted is for one million passengers but at the moment only one third of this capacity is used. Expansion to its full utilization could take place without a substantial increase in manpower.

The position in 1980 is that the present Government has decided that Stansted will indeed be London's third airport but in order to confirm this decision and make it operational, a public inquiry will have to be held. This will take some time. At the moment the airport is not economical; it is losing approximately £2M a year because it has to be kept open 24 hours even if there are few or no aircraft using the facilities. Charter airlines are reluctant to use Stansted until the Government has made a firm decision and, in spite of recent attempts to publicise the facilities and easy access of this airport, the general public has hardly heard of it and is more attuned to using the smaller airport at Luton or the two main London airports.

These circumstances and particularly the recent sad history of Government reports, followed by protests and changes in policy, has had a substantial impact on the attitudes of staff at Stansted. The so-called "Stansted Saga" which has lasted over sixteen years and is likely to continue over the next half-decade, will have to be documented to account for many of the problems which we encounter on the site at this moment.

It will also be necessary to enquire into the more general conditions relating to air travel as it affects the process of decision making at Stansted. During the 1970s air travel expanded by about 10% in Europe but during the 1980s this is expected to fall to 5% because of current economic difficulties. At the same time the costs of using airports and constructing new ones are likely to increase very sharply. It has been estimated that during the 1980s airport construction in different parts of the world will cost about £50B.

For various reasons there has been a sharp change in the technological needs of airport expansion during the last decade. To begin with there was a tendency to extend runways to allow bigger aircraft to land and for more runways to be built to make it possible for several aircraft to land simultaneously. With the development of wide bodied aircraft which could carry twice the previous number of passengers, the problem shifted from building runways to designing buildings which could handle very large numbers of passengers in very short bursts of time. These problems had considerably increased the need for rapid decision making and careful planning.

Environmental demands are increasing and it is now necessary to reduce or stop flights during the evening or night hours. This means that all the scheduled flights have to be pushed into the remaining hours of the day and this too increases the turbulence surrounding airport managements' decision processes.

FIRST STAGES OF FIELD WORK

Objectives

Beyond the obvious purpose of getting to know each of the main (potential) decision makers in the organization, the early interviews were designed to: (i) obtain role specifications, (ii) areas of responsibility, (iii) patterns of communication with other employees in hierarchical as well as lateral positions, and (iv) first indications of problem areas.

The Top Team

Early negotiations and discussions had taken place with the Director of Personnel of the British Airport Authority, the General Manager at Stansted and the Director who is in charge of Gatwick as well as Stansted Airports. These interviews established the organizational structure, functions and some preliminary ideas about problem areas.

The main preoccupation of the top team is with the problems emanating from the possible designation of Stansted as the third London airport. The circuitous history of this policy has already been described. The British Airport Authority (from now on BAA) will be subjected to considerable stress as a number of well organized local government and environmental pressure groups rehearse and intensify their battle to oppose the designation of Stansted.

This area of macro decision making is outside the scope of our research project but will inevitably affect some of the internal decision processes. In particular, we expect that these external events will increase the importance of one of our independent variables, namely: turbulence and uncertainty.

The impact of turbulence on the decision process has received some attention in the literature since Dill's (1958) early paper. It is now widely accepted that its effect on the behaviour of organization members is a function of their capacity to cope with

turbulence rather than simply to experience it (Crozier 1964, Hickson et al 1971). From this it seems to follow that measures of perceived uncertainty are likely to be more useful predictive indicators than objective assessments of it (Weick 1969, Duncan 1972, Heller 1976, Heller and Wilpert in press).

The effect of turbulence on dependent variables like the Influence-Power-Continuum and skill utilization is not clear. Some tentative evidence suggests that perceived uncertainty is accompanied by more participative behaviour (Lawrence and Lorsch 1967, Heller and Wilpert in press). This relationship is based on the assumption that the responsible decision maker either lacks necessary information and/or experience, and consequently seeks help to improve the quality of the decision. Under such circumstances, skill utilization of the subordinates would take place. Alternatively, participative behaviour under uncertainty and turbulence could be due to wanting to share risks and responsibility as a way of avoiding personal failure. However, if neither of these contingencies exist, turbulence could lead to centralized autocratic behaviour.

Turbulence due to external pressure groups opposing Stansted's development is probably not seen by BAA as a rational problem capable of a logical solution requiring knowledge and experience. The long history of opposition to airport and road developments could be perceived as having predictable structures and arguments or even preconceived stereotypical inputs. Moreover, the dispute is really between pressure groups and the Government with BAA occupying an intermediate position. Under such circumstances, the process of coping with turbulence may be seen to require centralization of decision making at high levels rather than influence sharing with subordinate groups.

It is also possible that the relationship between turbulence and influence sharing is curvilinear. Very low turbulence may not make it worthwhile to spend much time on participation, while very high degrees of unpredictability associated with turbulence could be perceived as requiring rapid decisions and "a firm hand on the tiller".

This situation would certainly apply to decision making under conditions of emergency.

The top levels of Airport decision makers also draw attention to another factor which makes the centralization - decentralization choice complicated. BAA operates to some extent like the headquarters of any large organization (See Appendix 1). It has responsibility over seven airports: Heathrow, Gatwick, Stansted and four Scottish sites (Prestwick, Edinburgh, Aberdeen and Glasgow). It is BAA's policy to decentralize decisions to each airport as far as possible; the only formal exception is pay and conditions of employment. In practice, it seems, there are a number of obstacles to the implementation of the decentralization policy.

Infrastructures

We will use the term organizational infrastructure to "draw attention to the presence or absence of mechanisms, procedures, technologies and socio-psychological conditions which facilitate (or obstruct) the use of existing human skills" (Heller 1976: 705). The term 'infrastructure' is borrowed from economics where it is used to describe resources like roads and airports which enable potential riches like minerals to reach a point where they can be put to economic use. Organizations require similar mechanisms and these should become the subject of study. In the present stage of social science knowledge, it is usually the negative infrastructures, that is to say obstacles, which are most readily identified.

Two simple examples of obstacles to decentralization can be briefly mentioned. Muddy conditions at Stansted led local management to agree to the provision of gum boots to the local labour force. Within days there were demands for the issue of free gum boots from other airports where the physical conditions did not require them. Similarly, but more predictably, the local offer to provide dental services at Stansted led to immediate

demands for similar facilities from other airports. The highly effective informal communication system between airports is an infrastructure which inhibits autonomous local decision making in some circumstances.

This example poses two questions. Firstly, are there countervailing factors or forces that can neutralize the inhibiting infrastructure? Secondly, which decisions can in fact be decentralized within the existing framework of conditions? At the moment, examples of autonomous decision making are shift rotas and recruitment of staff up to middle management levels. There is a management-union participation structure at every airport. It is called the Local Joint Committee and it might be possible to analyse the scope and limitation of airport decision making if access can be obtained to these meetings. This will require the agreement of all five unions as well as management.

A major objective of the present research is to analyse the function of another infrastructure variously called: concessionaires or subcontractors. These are semi-autonomous groups within the overall control of each airport. Their management operates both inside and outside the airports and is, in theory, able to make its own decisions within the contract agreed between themselves and the airport as approved by BAA. The extensive use of concessionaires and subcontractors is a very unusual feature in modern organizations and has not been studied. It constitutes a form of decentralization as well as differentiation. As Lawrence and Lorsch (1967) have pointed out, differentiation has many advantages but requires mechanisms of integration for effective functioning. These mechanisms will be the subject of our study. At the moment the following semi-autonomous units have been identified, but not all operate at every airport:

Baggage Handling
Aircraft Servicing
Passenger Servicing
Cleaning of Airports
Maintenance of Buildings
Security

Duty Free Facilities
Banks
Post Office
Airport Expansion Work
Civil Aviation Authority Work

Most current theories and evidence relating to autonomous work groups (for instance Herbst 1962, Klein 1976, Davies and Cherns (Eds.) 1975, Vols. 1 and 2) concentrate on shop floor level organizations. This is where most experience has accumulated and where research has been carried out. It is proposed to extend this area of social science work to the study of decision making between the focal organization (the airport) and major units of semi-autonomy within it (concessionaires and subcontractors).

The study of the relationship of the focal organization and major units of semi-autonomy is complicated by at least four circumstances:

- (i) The semi-autonomous units have their own independently selected and organized management structure, industrial relations system, work history, technology and tradition of decision making.
- (ii) The semi-autonomous units are sub-units of larger organizations (called main contractors) which are largely or completely independent of the focal organization or its parent body (the BAA).
- (iii) The parent body directly as well as through other subsidiary organizations (the other six airports) has contractual as well as less formal relationships with the main contractors.
- (iv) The semi-autonomous units in one focal organization (Stansted) may have informal communications or links with sister semi-autonomous units in other airports.

These relationships are illustrated in Figure 1. Let us assume that semi-autonomous unit 1 (SAI) is a baggage handler at Stansted. Its parent body is a private company of baggage handlers which supplies similar services to a range of other organizations, including one or more other airports under the BAA. The parent body of SAI will therefore have some relationships with Stansted, with the BAA and with its sub-units in other airports.

It is possible that the baggage handlers at Stansted will have some informal work relationships with another semi-autonomous unit within Stansted, for instance Passenger Services. Baggage handlers at Stansted may also influence or be influenced by the baggage handler unit at Heathrow. These informal relationships are drawn as dotted lines.

As an illustration of the potential complexity of these relationships one need only think of the interaction between unionized personnel in the focal organization and unionized or non-union personnel in the semi-autonomous units. Even if both groups of workers belong to unions, they may be in different unions.

The study of decision making within and between these organizations and sub-organizations will draw on the concept of boundary and boundary control (see Miller 1959, Katz and Kahn 1966: 80-81, Thompson 1967: 96, Cummings and Srivasta 1977: 68-9).

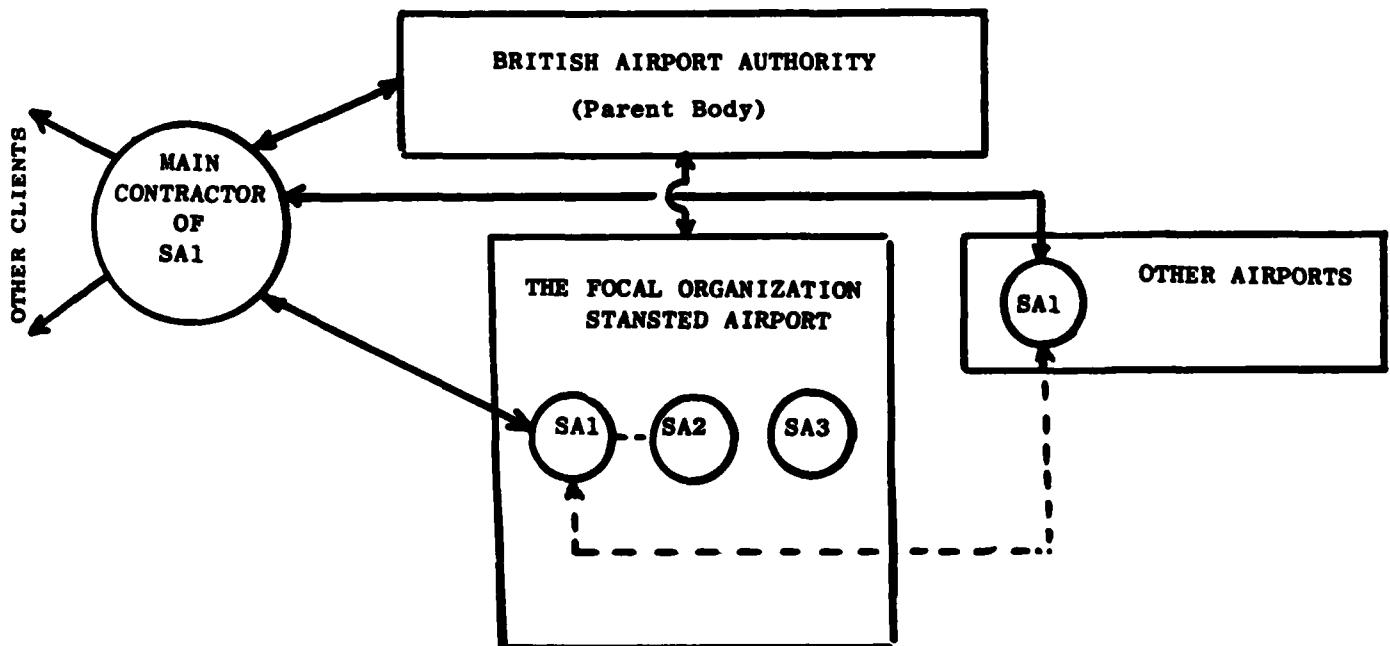


FIGURE 1. THE RELATIONSHIPS BETWEEN A FOCAL ORGANIZATION, THE BRITISH AIRPORTS AUTHORITY, A MAIN CONTRACTOR AND ITS SUB-UNITS.

SA1 = Semi-autonomous unit of baggage cleaners within Stansted Airport and other airports.

SA2 = Other semi-autonomous unit, for instance Passenger Servicing.

THEORETICAL CONSIDERATIONS FOR STUDYING DECISION PROCESSES OVER TIME

Among the principal objectives of this research is the expectation that it will help to develop and refine a model of decision making which has special relevance for the assessment of longitudinal processes under conditions of uncertainty. From the model we expect to specify theoretical considerations leading to specific hypotheses which will be subjected to empirical assessment during stages 2 and 3 of this project.

Limitations of Classical Theory

Classical decision theory has a number of characteristics which makes it unsuitable for our objective:

- (i) In the first place it tends to assume that decisions are made by a single person; in organizations this is rarely the case.
- (ii) Secondly, it identifies decision as a point in time and not as a process over time.
- (iii) Thirdly, it often postulates a binary choice model taking the form of a decision tree. But in previous research (Heller 1971) it was suggested that such a model did not match our findings and we preferred a flow process model (Heller 1976).

Among the more challenging tasks of developing a longitudinal theory for the analysis of organizational decision processes is the design of a time-space model which has empirically valid measurement units. From such a model, hypotheses can be put forward which, after appropriate testing would lead to a theory. We believe that models as well as theories should be considered as transitional schema rather than as final structures representing reality. The stress on transitionality is important; it recognises the inevitability of imperfection and the need for evolution and adaptation to complex realities. It avoids long heated (and in the end arid) controversy as in the case of Fiedler's fixed eight cube structure based on three

dimensions (Fiedler 1967: 33). Fiedler's contingency theory was an important breakthrough in leadership thinking (Fiedler 1965). However, although some of its original variables have been re-named, (Miner 1980: 297), its assumption that there are only three contingencies or moderators and only one measure of leader-member relationships, has prevented its steady evolution towards the more empirically valid position of other investigators, especially Vroom and Yetton (1972).

Another difficulty with most scientific approaches to decision making analysis is the tendency to develop them on discrete levels: at the molecular level of the individual (Broadbent 1971, MacCrimmon and Taylor 1976, Hogarth 1980); sometimes also the group, (for instance, Wallach et al 1962); or at the molar level of economic-political processes (Allison 1971, Braybrooke 1974, Friend and Jessop 1969). In between these two extremes lies the work of organizational sociology, with its emphasis on the firm as the unit of analysis (Thompson 1967, Woodward 1965, Crozier 1964).

A few successful attempts of linking individual with organizational level of analysis are available mainly from the Carnegie-Mellon school (Cyert, Simon and Trow 1956, March and Simon 1958, Cyert and March 1963). Their work, as well as that of some more recent scholars, bridging these two levels (i.e. Pettigrew 1973) has been through a combination of theoretical statements supported by case study descriptions. The measurement of variables, spanning different levels of analysis, has rarely been attempted (Feldman & Kanter 1965, MacCrimmon and Taylor 1976, Carter 1971).

Within a limited range of variables, Heller (1971) suggested a multilevel model to look at intra-organizational and intra-departmental decision processes at two senior strata of management. Measurements were taken at three levels: the micro level of the person system, the level of job environmental conditions and at the organization structure level (Heller 1971: 7). An extended version of this model (Heller 1976: 700, 710) was adapted for an eight country comparative study, the results of which have recently been reported (Heller and Wilpert 1981). Up to

this point operationalization of the model has made the usual assumption that decisions are made instantaneously or at least that any variations over time can be satisfactorily collapsed into some measure of central tendency which remains valid over the whole process. We have already said that such an assumption, though convenient, is probably unrealistic.

Space in Organization Research

Galbraith's description of decision making in large modern corporations using complex technology requires a consideration of space. He argues that embedded in the bowels of these organizations there is a technostucture which absorbs problems, converts them into solutions and then sends them up the hierarchy for scrutiny, costing and seals of approval (Galbraith 1967: 65-70). This is a fairly rational approach, but similar space considerations apply to models that stress the haphazardness of decision making or the art of muddling through (Lindblom 1959). Here the emphasis is on tracing the tentative or disjointed steps which move problems from one position to another, up or down or sideways in search for some reasonably acceptable solution. Disjointed incrementalism is characterized by a search process with inadequately formulated values, strained cognitive abilities, disorganized information and difficult cost analyses (Braybrooke and Lindblom 1963). This unflattering description of organizational meandering has attracted much attention in recent years. Researchers have caricatured the older, more static models of rational behaviour by descriptions of cases which resemble "organized anarchy". Decision makers move about like animals in a maze, using trial and error procedures, learning through accidents, imitation and invention resulting from crises (Cohen and March 1974). A garbage can model has been used to describe decisions by oversight or by running away from the problem (Cohen et al 1972).

The space dimension seems to be particularly necessary for an understanding of so-called political processes which can be pictured as inputs and outputs to a machine or a series of machines (Braybrooke 1974). The machine ingests issues or problems and applies various test questions consisting of alternative policy options, for instance to the problem of traffic congestion. The outcome can be rational or irrational, depending

on the mechanisms used by the machine. "Loose coupling" is a term used by organizational analysts to describe mechanisms with components that are imperfectly connected to each other. For instance, technologies may be loosely fitted to social structures or departments may try to operate in isolation from each other, etc. (Benson 1979, Aldrich 1977).

While organizations have always existed in an environment, theorists have made use of this aspect of organizational space only recently (Thompson 1967, Burns and Stalker 1961, Emery and Trist 1965, Lawrence and Lorsch 1967). As so often happens, the pendulum has swung from having largely ignored the external dimension, to recent attempts to give it primacy over most others. (Leavitt et al 1974, Starbuck 1976, Miles et al 1974, Pfeffer and Salancik 1978, Aldrich 1979, Crozier and Thoenig 1976).

A special aspect of environmental space is the recent recognition that strategic decision making takes place between as well as within organizations. Friend et al, looking at the local government planning process, developed a theory of strategic choice which related different organizations to each other (Friend et al 1969). This was later expanded into what is now a new field of analysis called inter-organizational decision making. The authors argued that "The more comprehensively organizations seek to plan, the more they find themselves dependent on the outcomes of other agencies, both public and private" (Friend et al 1974: xxii). Such inter-organizational perspectives have been used for the analysis of power (Hickson et al 1971, Hinings et al 1974) and in the broader area of industrial relations (Berry et al 1974, Metcalf 1976). It is an expanding field for research which could be applied to relatively new areas of analysis (Van de Ven et al 1974) as well as to old problems (Lammers 1980).

The organizational system of Stansted Airport as described in Figure 1 above (page 11) lends itself to analysis with a space dimension. In addition, we will have to consider how to extend the analysis to take account of time.

Time a critical factor in decision making

The patent obviousness of "time" as a factor in decision making has not prevented it from being ignored in the majority of research projects. Herbert Simon, more than any other academic, has re-conceptualized decision making, rendering it increasingly difficult to continue with static analyses; but it has taken a long time (Simon 1945, 1957, 1959). Most longitudinal research has gone no further than case study descriptions of events and even there, little explicit use is sometimes made of time as an explanatory factor (for instance, Crozier 1964). The critical nature of time sequences has been brought out in a number of recent studies, particularly those that have stressed the political implications of the process (Pettigrew 1973). However, until Mintzberg's (1976) important contribution, almost no consideration was given to the nature and importance of specific phases in the decision cycle. Mintzberg's study was confined to a small sample of a particular type of decision, namely those concerned with strategic issues and the material was collected by a substantial number of students working in small teams on their Masters' dissertation. It seems likely that variations in quality and emphasis would have been difficult to avoid under these conditions.

A small team of social scientists from three countries was working on the analysis of four specific phases of the decision cycle at about the same time as Mintzberg (Heller, Drenth, Koopman and Rus 1977). Three of their four phases are similar to his, the fourth is called "implementation" and continues the analysis of events after "finalization" to the point where the decision is implemented (for instance, where a machine is installed and starts working). One of the main objectives of the three country study was to devise measurements of the space-time dimension and relate specific decision behaviour, like leadership style, to it. The research took five years and collected data in seven organizations on three different decision sets: (i) short term issues closely connected with the shop floor, (ii) medium term issues like budget forecasting to which middle as well as senior organization levels contribute, and (iii) long term strategic decisions which appear to be of greatest concern to higher levels of the organization. Significant

differences in support of the space-time model were discovered (Drenth et al 1979). The emphasis of the three country research was on the analytic, that is to say, the relational and quantitative aspects of the longitudinal process. The objective was to challenge the implicit assumption of case studies that measures of co-relation between variables is impossible or unnecessary. This objective, as well as the aim to discover variations over time, were achieved. (Rus, 1980)

A number of important problems remained unresolved. Some critical variables had been omitted and the method^{of} investigation was very costly in scientific manpower and in the demands made on the host organizations. Moreover, the emphasis on objective measurement and nomothetic procedures had left inadequate resources for the collection of idiographic and phenotypical data to supplement the quantitative material. The pendulum had swung^{too} far and led to a loss of understanding of causal dynamics and consequently reduced predictability. The airport research is designed to overcome most of these problems.

Variations in longitudinality

There are different forms of longitudinality. The most widely used method is to obtain cross sectional data at different points of time. In laboratory research, the "before" and "after" method is well established. There are historic analyses which trace changes of data as in economic time series and there is research which re-visits old sites after a few years to see whether changes have become established. All these links between cross sectional data can be called linked synchronic research.

We will use the term processual for research which stays with the process of events continuously or almost continuously through field contacts. Finally, the term diachronic (derived from the French linguistic philosopher de Saussure) will apply to studies that are less continuous and person centred than processual methods, but study the development or change of events over time through regular planned field work. Diachronic research seeks to establish a close contact with the total process by various means of interrupted but closely interrelated data gathering. The airport research is largely diachronic.

To achieve economy we concentrate much attention on going backward over events that occurred before the research started (retrospective tracing) and validating this kind of data through follow-up interviews and Group Feed-back Analysis (Brown and Heller 1981). In addition, regular site visits, interviews with personnel at all levels and attendance of four different decision making committees (process analysis), traces events step by step over the time of the research.

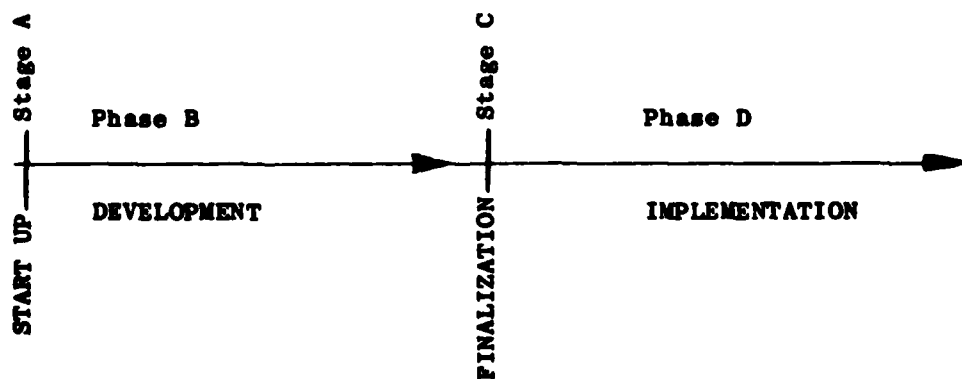
OPERATIONALIZING THE DIACHRONIC MODEL

We are now working with a process model which has two stages and two phases. The cycle starts with the INITIATION of an issue (Stage A), it goes on to the DEVELOPMENT of the issue (Phase B) and then to its FINALIZATION (Stage C). This is followed by IMPLEMENTATION (Phase D).

Initiation and Finalization are treated as short cycle events, hence the term "stage". They can be traced to activities which usually last hours rather than days. Development and Implementation, however, are "phases" which may last weeks, months or years. The cycle is illustrated in Figure 2. Previous experience suggests that A and C



Figure 2.

THE DECISION CYCLE



can be treated as synchronous events, while B and D are diachronic. Together they constitute the cycle and usually occur in the order

A → B → C → D. While Mintzberg et al report very frequent departures from their three phase sequence, the three country study reported relatively few. However, feed-back cycles exist and the model must allow for an analysis of such events. We hypothesize that the most frequent variations to the full cycle are likely to be as follows:

- (i) A → B (no finalization. The decision is not made)
- (ii)  A → B (the development phase is unsuccessful and a fresh start has to be made)
- (iii) A → B → ~~C~~ (no implementation)
- (iv)  A → B → ~~C~~ → D (the implementation encounters difficulties and further work has to be done on developing the issue)

We expect that the advantage of the two stage, two phase model over the previous one is in achieving greater accuracy of data collection. It had proved difficult to agree on the most appropriate cut-off point between "initiation" and "development". Similar boundary problems had occurred in relation to "finalization". The development phase will now include the whole time span from the beginning of an issue, its expectation, the investigation of choices and so on, until a formal decision is made by a person or group. Implementation starts immediately after the decision is formally taken. In some cases it will have to be recognised that there are two divisions within this phase (Phase D). Usually, the end of the implementation stage is fairly clear: a product is launched, a machine begins to operate, a new work schedule starts, etc. Occasionally, problems arise after the first phase of implementation. A product launch may fail, a machine may turn out to incur much heavier than anticipated production costs or people first accept but then reject a new work schedule. Under these circumstances the decision processes have to loop back to an earlier stage as in (iv) above.

Although we now operate with two synchronic stages (A and C) and two diachronic phases (B and D), measurements of most variables in our model will be taken at points A, B, C and D. The main difference between the assessment of stages and phases is in the kind of descriptive detail and in the assessment of time and delays for the diachronic phases.

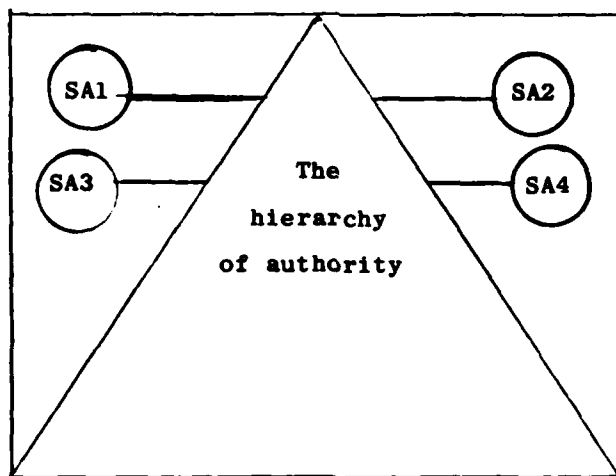
Space aspects of the model

We are concerned with two internal and three external dimensions of organizational space. The internal dimensions are illustrated in Figure 3. As in Figure 1, on page 11, the rectangle describes the

Figure 3

THE INTERNAL SPACE DIMENSIONS:

(i) Hierarchy (ii) Semi-autonomy.



THE FOCAL ORGANIZATION:

Stansted

Airport and the small circles SA1 etc. are the various semi-autonomous units working within the airport. The triangle describes the power structure of the organizational hierarchy.

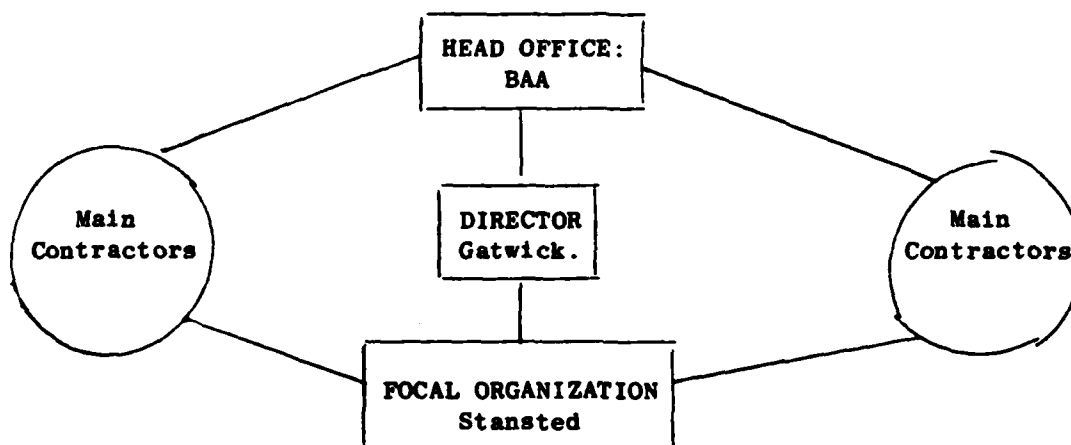
The external space dimensions are illustrated in Figure 4 below.

The space dimensions are not unique to Airport management although they are more pronounced there than is usual elsewhere. In manufacturing and service industries, there has in recent years been a tendency to explore various decentralization

Figure 4.

THE EXTERNAL SPACE DIMENSIONS

- (i) Head Office (the British Airport Authority: BAA)
- (ii) Gatwick Airport (seat of the Director with special responsibility for Stansted)
- (iii) The main contractors whose units operate inside Stansted



structures, leasing of equipment and services, and sub-contracting. It is often claimed that such arrangements: (i) increase organizational flexibility, (ii) reduce overhead costs, (iii) spread risks, (iv) contain industrial relations problems, and (v) harness motivational energy based on the assumption that "small is beautiful". It is also thought that (vi) these structures have advantages under conditions of uncertainty.

Since airports have developed these space dimensions over a long period of time, the design of our analysis is intended to test a number of hypotheses which should throw some light on the validity of the claims made.

Integrating the space-time dimensions

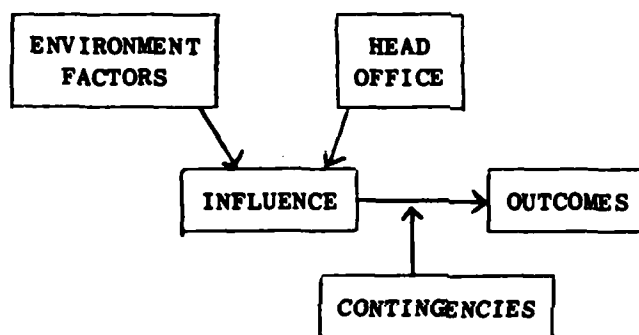
Modern organizations are complex entities. While research must concentrate on essentials, excessive simplification is counterproductive. We are able to cope with a reasonably complex model because: (i) some aspects of it have been operationalized in preceding research, (ii) some variables relating to the model have been validated, (iii) changes have

been introduced to overcome problems previously encountered and finally, (iv) exceptionally favourable cooperative relationships have been established between the research team and the client system.

The core components of the model are illustrated in Figure 5. They should be seen in relation to the more detailed specification of the internal (Figure 3) and external space dimensions (Figure 4).

Figure 5.

THE CORE ELEMENTS OF THE MODEL



These core elements are being analysed longitudinally in the two stage, two phase diachronic decision cycle illustrated in Figure 2 (page 18 above). The sequence is shown in Figure 6.

THE DATA BASE

A substantial data base has been established during the first year. It is based on two elements: retrospective tracing and process analysis.

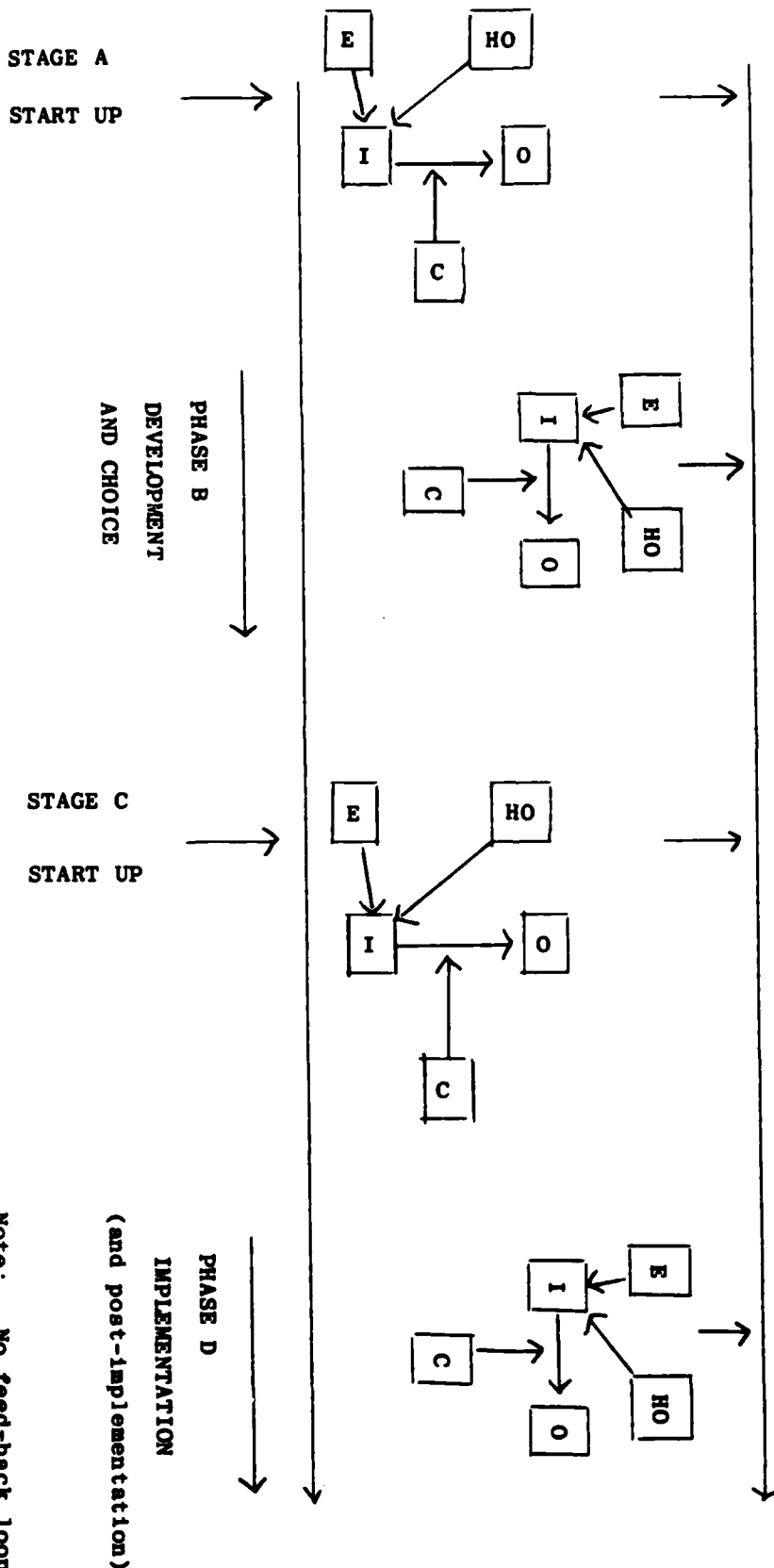
We started with process analysis of current ongoing events by means of interviews, group discussions and attendance of internal decision making committees. Later we were given access to two external committees. As confidence built up we were able to ask for

Figure 6.

CORE ELEMENTS IN THE LONGITUDINAL STAGE-PHASE PROCESS

Explanations:

- E = Environmental factors, including turbulence
- HO = Head Office and External Director
- I = Influence in the decision process
- O = Outcomes (see specification in Interview Schedule)
- C = Contingencies (see Interview Schedule)



Note: No feed-back loops are shown.

back minutes of the various committees. We are attending each of the following committees:

- (i) Local Joint Consultative Committee
- (ii) Safety Committee
- (iii) Passenger Services Group (external)
- (iv) Stansted Airport Committee (external)

The interviews and group discussions were concerned with the internal managerial decision process. We have access to all managerial staff and have held regular interviewed meetings with the representatives of all trade unions.

We have now obtained the back minutes of committees (i) and (ii) above. We have not yet asked for the back minutes of (iii) and (iv).

The Interview Schedule illustrated in Figure 7 has been devised and field tested. It is the principal element in structuring our data in relation to the decision process shown in Figure 6 above. The Schedule will be used for retrospective tracing as well as process analysis. Retrospective tracing starts with a detailed content analysis of (a) minutes of a committee, followed up by (b) interviewing "key informants" to fill in the missing details. Finally, the results will be extended, checked through (c) Group Feed-back Analysis (Heller 1969, Brown and Heller 1981).

Process analysis starts with tape recorded interview and group discussion data (for a sample see Appendix 2). This is content analysed and later extended and checked through GFA.

Since the whole research design is based on the longitudinal model (Figure 6) the data is being coded and stored for analysis at the end of a cycle.

Figure 7. DECISION ISSUE CODING SHEET

NATURE OF DECISION:

INDIV./COMMITTEE

CONTEXTUAL ISSUES:

1. TURBULENCE-UNCERTAINTY

1.1. Internal 1-5

1.2. External 1-5

2. STATUS POWER 1-6

A	B	C	D	E	F
E =					
F =					

OUTCOMES:

3. EFFECTIVENESS 1-5

(In terms of resources)

4. ACHIEVEMENT 1-5

(In terms of implementation)

TIME & STAGES	DELAY 1-3	METAPOWER INTENSE 1-3	CONFLICT INTENSE 1-3	RESOL 1-5	SKILL REQ USE 1-5	COMMENTS
START UP	X					
DEVELOPMENT						
FINALIZATION	X					
IMPLEMENTATION						
TIME & STAGES	INFLUENCE-POWER/LEVEL					
	COMMENTS :-					
	A	B	C	D	E	F
START UP						
DEVELOPMENT						
FINALIZATION						
IMPLEMENTATION						

NOTES:

Conflict: 1 = Agreement; 2 = Agreement after difference (consensus)

3 = Mild disagreement; 4 = Conflict; 5 = Irreconcilable differences.

Stages:

1 = Start Up is instantaneous; 2 = Development Incl. search (please

indicate by S); 3 = Finalization is instantaneous; 4 = Implementation.

Levels:

A = Worker; B = Supervisor; C = Middle Management; D = Top Management

(Focal Org.); E = H.Q. Level; F = Committee (Specify).

ANALYSING THE DECISION PROCESS OF THE AIRPORT LOCAL JOINT CONSULTATIVE COMMITTEE

The Method

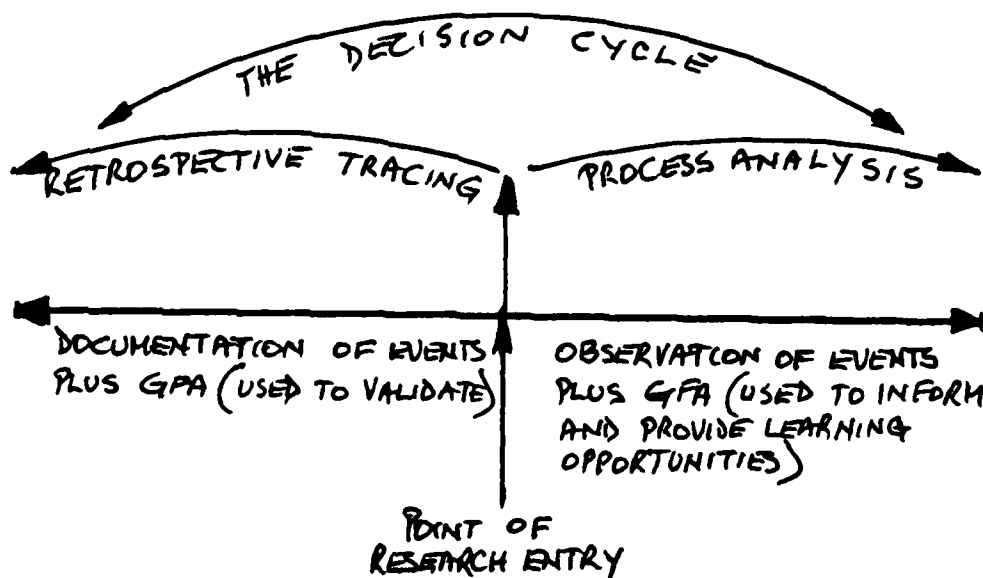
We have attended these committee meetings since the project started in April 1980. In addition we have obtained minutes of the last three years and have analysed their content and dynamic, using the Decision Coding Sheet (Figure 7, page 25).

The meaning of the categories used and the scoring range are described in Figure 8. We use the Decision Coding Sheet for retrospective as well as process analysis. Retrospective analysis begins at the point when the research starts and traces events backward over time. In our case we expect to analyse events going back to 1978. For this purpose we begin with the available committee minutes and follow this up with individual and group interviews to fill in the many missing details. We base our scoring on a combination of minute analysis and interviewing.

Process analysis begins at the same time but traces events forward by attending all meetings of the committee and, where necessary, interviewing participants between meetings. These two complementary methods are described in Figure 9.

FIGURE 9

RETROSPECTIVE TRACING AND PROCESS ANALYSIS



STANSTED INTERVIEW SCHEDULE

SCORING DEFINITIONS

Turbulence - Uncertainty

- 1 = none
- 2 = little
- 3 = high
- 4 = very high

Outcomes

EFFECTIVENESS

- 1 = Very poor use of time, money, etc.
- 2 = Reasonable use of time, money, etc.
- 3 = Very good use of time, money, etc.

ACHIEVEMENT

- 1 = Very poor results in terms of implementation
- 2 = Reasonable results in terms of implementation
- 3 = Very good results in terms of implementation

TIME AND STAGES CATEGORIES

Delay (Is over and above what the decision process appears to require)

- 1 = No delay
- 2 = Moderate delay
- 3 = Extensive delay

Meta Power (External influence. External is from outside Stansted, i.e. BAA or other source. In comments column state which source)

- 1 = None
- 2 = Some
- 3 = Extensive

Conflict

INTENSITY 1 = Agreement; 2 = Agreement after difference (consensus)
3 = Mild disagreement; 4 = Conflict; 5 = Irreconcilable difference.

Resolution of Conflict

- 1 = Forcing (one party unilaterally overrides objections)
- 2 = Smoothing (finding a cosmetic or temporary solution)
- 3 = Open Facing (realistic tackling of the problem. Can include compromise)

FIGURE 8. continued

Skill

Requirement (How much experience and skill does the work on this decision require from the participants)

- 1 = None or very little
- 2 = Fair amount
- 3 = High amount

Use (How much skill and experience is actually used by the decision makers? Separate management = M and workers = W.)

- 1 = No use or almost no use is made of available experience and skill
- 2 = Some use is made
- 3 = Extensive use is made

INFLUENCE-POWER-CONTINUUM

- 1 = No or minimal influence
- 2 = Information only
- 3 = Opportunity to give advice
- 4 = Advice taken into consideration
- 5 = Joint decision Making
- 6 = Complete control

Status Power

As in the case of the IPC, it is a range of INFLUENCE- POWER.

It is a measure of the FORMAL influence each group (or committee) has with regard to each decision. Formal influence can be due to a legal backing or to a company's accepted policy, or to the written rules governing the procedure of a committee. The word "formal" does not, however, require written documentation in all cases. Long established and accepted custom is sufficient.

The scale is as follows:-

- 1 = None
- 2 = Unspecified information must be given
- 3 = Specified information must be given
- 4 = Consultation is obligatory (or invariably given)
- 5 = Joint decision making (with the objective of consensus)
- 6 = One party or group has complete control (veto power is the negative aspect of this)

IPC	STATUS POWER
1 = No or minimum influence _____	None
2 = Information only _____	Unspecified information must be given
3 = Opportunity to give advice _____	Specified information must be given
4 = Advice taken into consideration _____	Consultation obligatory
5 = Joint decision making _____	Joint decision making (group has veto power) Decision is result of bargaining
6 = Complete control _____	Complete control

Retrospective tracing is much more economical but it is more difficult to identify the variables in our model. Memories fade, the written minutes omit much that goes on and they often introduce bias. By interviewing both management and employees in relation to each decision and complementing individual interviews with small groups, we get over some of these difficulties. Small groups of three or four people remind each other of events. One person's recollection triggers off another's memory. Often they disagree with each other but sometimes they do not and this leaves gaps in the record. Certain disagreements are in themselves revealing.

Process analysis gives a richer and more accurate picture. Some decisions begin before the researcher arrives on the scene but continue for some time afterwards. This is a good combination; memories are still fresh and dynamic events like conflicts tend to linger and can be picked up fairly easily.

Retrospective Analysis of Minutes

Sixteen clearly identifiable major decision issues occurred in the Local Joint Consultative Committee in the three years 1978-1980. The frequency with which these items came up on the Agenda is shown in Table 1. In addition, many issues came to the surface under "Matters Arising" and this often provides substantial further material (see Table 2). Another category of decision is often brought up at the end of meetings under "Any Other Business" (see Table 3).

Each of the major decisions is written up as a short case study. This material is based on the tape recorded interviews (for an example, see Appendix 2).

We start our decision analysis by seeing how management and trade union representatives interact. How often do management and unions bring up issues for discussion and resolution? Do they collaborate in bringing up a topic so that the problem is not seen to "belong" to one side rather than the other. The first tabulation is produced in Table 4. During the three years 1977-1980, the largest number of major topics was put forward by the unions.

TABLE 1.

CONTENT CATEGORIESLocal Joint Consultative Committee 1977-1980

(Numbers for each column indicate how often a given item came up during committee meetings in a given year.)

Category	Content Categories	1977-78	1978-79	1979-80*	1977-80 Totals
	Health and Safety	4	8	0	12
	Staffing	3	1	4	8
	Benefits	9	10	9	28
	Canteen Services	1	2	1	4
	Suggestion Scheme	0	1	1	2
	Training	0	1	0	1
	New Equipment	1	4	0	5
	Property Repairs and Improvements	0	7	7	14
	Expansion of Airport	2	1	0	3
	Parking and Auto Damages	1	2	0	3
	Policies and Planning	0	1	1	2
	Financial Management	4	3	3	10
	Financial Reports	5	1	6	12
	Miscellaneous	6	5	0	11
	Interactions with BAA Head Office	0	2	0	2
	Interactions with sub contractors	0	0	0	0

* has 13 months

TABLE 2.

FREQUENCY OF DIFFERENT ISSUES AS "MATTERS ARISING" DURING Local Joint Consultative Committee Meetings
1977-1980
(Each column represents a meeting)

CONTENT MATTERS ARISING	1977-1978	1978-1979	1979-1980	TOTALS	COMMENTS
Uganda Airlines	XXX			3	Last 15 meetings. 1st Dec. '77 to 30th Dec. '80 Included two special meetings; therefore only one regular agenda - no matters arising section Arrangements inconsistent; therefore hard to analyse.
Four Day week	X			1	
Upgrading of ACO's	X			1	
New Uniforms	XXX	XX	XX	8	Subjects given Agenda Status: Uniforms Safety Shoes Resurfacing Safety Committee Fumigation for Infectious Diseases
Passenger Searching	X			1	
Safety Shoes		X	XXX	4	
Fumigation		XX		2	
Safety Committee		XXX		3	
Fuel Pump		X		1	Subjects in general take on an information sharing quality unless they become a regular agenda item.
Heavy Lifting Gear		X		1	
Path at Restroom		XX		2	
Apron Control Office A/C		X		1	Note: Each X represents a different Local Joint Consultative Committee meeting.
Remote Control JTV		XX		2	
Runway Resurfacing		XX	XX	4	

TABLE 2. Continued

CONTENT MATTERS ARISING	1977-1978	1978-1979	1979-1980	TOTALS	COMMENTS
Quorum for LJC		X		1	
Security Staff		X		1	
Consultative Committee		X		1	
TAC			X	1	
Retirement Policy			X	1	
British Cargo			XX	2	
Catering Facilities			X	1	
Staff Suggestion Scheme			X	1	
Terminal Alteration			XX	2	
Security Access & Flexibility			X	1	
News Letter Sheet			XX	2	

TABLE 3.

FREQUENCY OF DIFFERENT ISSUES TREATED AS "ANY OTHER BUSINESS" During Local Joint Consultative

Committee Meetings 1977-1980

Note: During 1979-80 no items came up under this heading.

CONTENT: "ANY OTHER BUSINESS"	1977-1978	1978-1979	TOTALS	COMMENTS
New Oil Burner	X		1	Subjects given Agenda Status: Pay and Grading Luncheon Vouchers Security Staff Shortage
Canteen Prices	X		1	
Pay and Grading Team	XX		2	
Toilets	X		1	
Car Parking	X		1	
Car Damage	X		1	
Annual Staff Meeting	X		1	
Air Anglia License	X		1	
Quora. for LJC	X		1	
Security Staff Shortage	X		1	
Management Staff Meetings	X		1	
Promotions Information		X	1	
Luncheon Vouchers		X	1	
Car Allowance		X	1	

TABLE 4.

THE DIRECTION OF DECISION INITIATIONLocal Joint Consultative Committee 1977-1980

Direction of Input	1977-78	1978-79	1979-80	Totals as %
Management → TU (Employees)	6	0	3	24
TU → Management	4	6	4	37
Management + TU (Sub committee)	0	2	5	18
Management + TU (Discussion)	1	2	5	21
Totals (38)	11	10	17	100

TABLE 5.

OUTPUT OF THE COMMITTEE DECISION PROCESSLocal Joint Consultative Committee 1977-1980

Type of Resolutions	1977-78	1978-79	1979-80	Totals as %
Agree - Endorse	2	2	0	5
Record Information	19	16	0	48
Separate Management - TU Statement	4	4	16	33
Oppose, Further Study	4	3	3	14
Totals (73)	29	25	19	100

We also take a first look at the manner of resolution of issues (see Table 5). An interesting change can be observed for the year 1979-80. While in the two previous years the great majority of items came up and remained for record and information purposes only, in 1979-80 there were no such items. In that year 16 out of 19 issues ended as separate management-union statements and none of the issues led to consensus agreement. The reasons for this abrupt change in style is the subject of analysis through Group Feed-Back methods (and will be reported later).

The third stage of retrospective minute analysis is based on the variables described in Figure 8 and the Decision Coding Sheet (Figure 7, page 25). In preparation for quantification and statistical analysis, the scores can be tabulated, decision by decision, stage by stage. A summary of the raw data relating to seven decisions from retrospective analysis is presented in Table 6. This data is being refined and checked through feed-back meetings as described earlier.

It can be seen that the seven decisions present a very noticeably different profile on our variables.

Decisions A and D, for instance, are high on internal as well as external turbulence, while B, C, E and F are very low on both. Status power is significantly differently distributed, so is conflict intensity, and the Influence-Power-Continuum Achievement and Effectiveness are low on only two out of this small and unrepresentative sample.

A simple measure of the distribution of influence between management and employees has been devised called PE (power equalisation). It takes the difference between the IPC score for the lowest and the highest level (level A and level D). Its scoring is illustrated in the last row of Table 6. By simply reading it across horizontally for the four phases of each decision cycle, the differences between phases stands out clearly. This is a demonstration of the validity of our diachronic model and longitudinal methodology.

TYPE OF DECISION		RAW DATA BEFORE FEED BACK															
VARIABLES		A	B	C	D	E	F	G									
TURBULENCE— UNCERTAINTY :																	
INTERNAL		3	1	1	4	1	1	4									
EXTERNAL		4	1	1	4	1	1	2									
STATUS POWER LEVELS	A	1	5	2	1	5	1	1									
	B	1	2	2	2	5	1	1									
	C	1	4	3	2	5	1	3									
	D	1	5	6	5	5	6	6									
	E	6	2	2	5	1	1	5									
	F	1	2	2	2	2	1	2									
EFFECTIVE		1	3	3	1	3	1	2									
ACHIEVE		3	3	3	1	3	1	3									
TIME STAGES		START	DEV	FIN	IMPL	START	DEV	FIN	IMPL	START	DEV	FIN	IMPL	START	DEV	FIN	IMPL
DELAY		3	1	2	2	1	1	3	1	2	1	1	1	2	1	2	2
META-P. INTENS		3	1	2	1	1	1	3	1	3	3	3	3	1	1	1	1
META-P ±		+	+	+	+			+	+	+	+	+	+	-	-	-	-
CONFLICT INTENSITY		4	3	3	2	1	1	1	1	4	4	2	2	1	1	1	1
CONFLICT RESOLUTION		1	2	1	3	3	3	3	3	2	2	2	2	3	3	3	3
SKILL REQUIREM		1	2	2	3	1	1	1	1	3	3	3	3	2	2	2	2
SKILL USE MAN		1	2	3	3	3	3	3	3	1	1	1	1	2	2	2	2
SKILL USE WORK		1	1	2	3	3	3	3	3	2	2	2	2	3	3	3	3
THE INFLUENCE— POWER CONTINUUM	Level A	1	1	1	5	5	2	5	2	1	2	2	2	1	2	3	2
	" B	1	2	2	2	5	2	5	2	1	2	2	2	2	2	2	3
	" C	2	2	3	3	5	2	5	2	1	4	4	4	2	3	3	3
	" D	4	6	6	5	5	6	5	6	1	6	6	6	5	2	2	5
	" E	6	2	2	2	2	2	2	2	6	2	2	2	6	6	6	1
	" F	2	4	4	5	2	2	2	2	3	3	4	2	2	2	2	2
① INFLUENCE		26	28	30	37	40	27	40	27	22	32	33	30	20	30	35	30
PE = D-A		3	5	5	0	0	4	0	4	0	4	4	4	0	2	1	2

② Divide by 10

Validation of Retrospective Tracing through Feed-back Methods

The accuracy of behaviour analysis from Retrospective Tracing of documented information varies (see Figure 9, page 26). We take steps to improve the accuracy of our information by interviews with key informants to whom we give access to the information we have collected. There are two stages and two objectives. We start the feed-back with the neutral question: "Here is the information, what do you make of it?" The discussion is tape recorded. At this point subjects often help to check or amend our data. Errors are often trivial but occasionally important (see Brown and Heller 1981).

The feedback information takes the form shown on Table 6 (page 36) but is presented in broken down and more manageable format.

The second objective is in the use of the feed-back session to enrich our qualitative understanding of the decision process. We find that subjects frequently use these sessions (under suitable probing) to tell us about what happened "below the surface". They begin to enlarge on background, causes and outcomes. When the feed-back session is in small groups from the same organization, these comments are unlikely to be incorrect. Furthermore they often spark off further comments on the decision process from other members of the group. We find these sessions very valuable. They enable us to combine nomothetic and idiographic data triangulated towards the same behaviour description. Both sources of data are enriched. The method has been refined over the years but was first used on leadership description research in the mid 1960s (Heller 1969, Heller and Yukl 1969). In Figure 9 we give the framework for a feed-back meeting typical of this method. It was held on June 23, 1981 and should be read in conjunction with data similar to that presented in Tables 1-6, pages 30-36.

FIGURE 9.

OUTLINE OF STANSTED FEED-BACK MEETING June 23, 1981
(To be read in conjunction with Tables 1-6)

Objectives of the Research

1. To learn about Decision Making
2. To learn to adjust

Stages

1. Data gathering
2. Checking quality
3. Getting airport personnel (management and unions) help in interpreting our data
4. Feed-back our learning and encourage utilisation (self-criticism, self-congratulation, etc.)

What We Have Learned about LJCC in General

Comments and Explanations

- (A) A well functioning committee
low profile, low conflict.
- (B) SUBJECTS HANDLED 1977-80
TABLE 1.
- (i) Few interactions with
Headquarters
 - (ii) Few topics related to
sub-contractors
 - (iii) Health and Safety
suddenly peters out
 - (iv) Main regular topics
 - Benefits
 - Finance
 - Property Repairs
- (C) ISSUES UNDER "Matters Arising"
- (i) Regular items
 - New uniforms
 - Safety shoes
- (D) ISSUES UNDER "Any Other Business"
- (i) No regular item
 - (ii) No item at all 1979-80
- (E) WHO DOES WHAT? WHO INITIATES?
TABLE 4.
- (i) T.U. initiates more items.
Why?
 - (ii) Growing tendency to delegate
some items to a sub-committee
 - (iii) Growing tendency to use
management plus trade union
discussion
- (F) RESULTS-OUTCOMES of COMMITTEE D.M.
TABLE 5.
- (i) Sharp change in pattern from
1977-8-9 to 1979-80.

- (a) Info Recording
outcomes
- (b) Substantial Increase
in separate Management-
Trade Union Statements

(G) SOME SPECIFIC DECISIONS

Effectiveness (use of resources)
Achievement (implementation)
Conflict intensity
Skill requirement

In general is disagreement in LJCC
something to be avoided?

How much skill is necessary for
LJCC work?

For management?
For workers?

Could LJCC be doing other jobs?

FINAL STAGES

The project was designed to trace and assess both quantitatively and qualitatively the four phase decision process of a reasonable sample of issues over three years.

These objectives were described above (see pp. 12-18) and require a painstaking process of data collection over the total time span before data analysis can take place.

We have now got detailed documentation from six committees and a large number of interviews covering the total management team at Stansted, all personnel in the semi-autonomous units, in unions and in the head offices of the semi-autonomous teams. Similar data and documentation is being accumulated for the remaining time phases of the decision cycle.

Our data bank will eventually consist of three components:

- (a) Scores on the Interview Schedule validated through feed-back
- (b) Content analysis of minutes of as many committees as we can cover with the available resources
- (c) Content analysis of the tape recorded interviews from typed transcripts.

The analysis will proceed on the basis of the four phase division of the cycle as described on pp. 22-35 and illustrated in Figure 6, page 23.

ANALYSIS OF THE DIACHRONIC RESULTS

Introduction

Previous sections (see pp 12-20) produced various theoretical considerations in favour of a longitudinal-diachronic research method (see also Heller, 1984). We also described how the data was collected by a variety of methods, including attending committee meetings, and tape recorded interviews using retrospective tracing and process analysis (p 26 above).

Most of the evidence was coded from the interview schedule (Figure 8, p 27) and took the form shown in Table 6 (p 36). This was the raw data which served as the basis for a variety of statistical analyses, which will be described in this section. The sample consists of 108 decisions.

Hypotheses

The first longitudinal-diachronic research using variables similar to those in the present study was the three-country Decisions in Organization project (see Heller et al, 1977; DIO, 1979; DIO, 1983; Drenth and Koopman, 1984).

From the experience gained in that project, the present design was evolved. In the DIO research it had not been possible to measure all relevant variables in each of the four phases of the decision cycle and this made it less easy to derive firm causal conclusions. Nevertheless, the results from that study helped in the formulation of the five hypotheses which form the basis of our Airport data analysis.

For a definition of variables see pp 27-28.

Hypothesis 1

A Joint Consultative Committee which enjoys high status power (SP) and a high degree of influence and power sharing (IPC) at the lowest level of the organization (Levels A and B) in Phases 1 and 3 of the decision cycle and low Power Distance (PD) in those Phases, will :

1. Operate in a semi-autonomous group system;
2. Enable workers (Level A) to use their skills - particularly in Phases 2 and 4 of the decision cycle; and
3. Show high Achievement.

We abbreviate this formulation as follows :

+ SP/E		+ IPC/F
+ IPC/A & B (Ph 1 & 3)	—————→	+ SU/A (Ph 2 & 4)
- PD (Ph 1 & 3)		+ Ach

Hypothesis 2

In situations where lower levels of the organization (Levels A and B) have little influence and power in Phases 1 and 3 of the decision cycle and where the power distance (PD) in these Phases is high, the following conditions will appear :

1. The organization or unit will have low Achievement (Ach);
2. There will be low skill utilization of lower level employees (Levels A and B) in decision Phases 3 and 4; and
3. There will be high conflict intensity in Phase 4.

We abbreviate this formulation as follows :

- IPC/A & B (Ph 1 & 3)		- Ach
+ PD (Ph 1 & 3)	—————→	- SU/A & B (Ph 3 & 4)
		+ C.I. (Ph 4)

Hypothesis 3

Where an organization is exposed to considerable negative Meta Power (MP), that is to say interference from outside the organization, and when senior management's Status Power (SP) is low, the organization will be relatively ineffective and delays in the decision process will occur in the final phase of the decision cycle (Phase 4). High internal turbulence will act as a contingency, that is to say increase the strength of the postulated causal relationship.

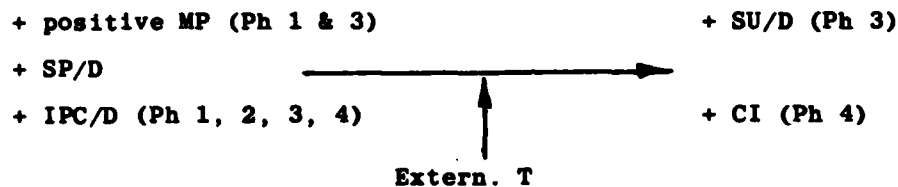
We abbreviate the formulation as follows :

neg MP (Ph 1 & 3)		Low E
- SP/D	—————→	+ Delay (Ph 4)
	↑ + Intern. T	

Hypotheses 4

Where the intervention from outside an organization (MP) is seen to be positive, particularly in Phases 1 and 3 and the Status Power of senior management (Level D) is high and their influence (IPC) is also high (in all Phases), then senior management's skill utilization will be high, particularly in the finalization phase (Phase 3), but conflict in the implementation phase (Phase 4) will also be high. High external turbulence will increase the strength of this postulated causal interaction (e.g. act as a contingency).

We abbreviate the formulation as follows :



Hypothesis 5

Where lower levels of an organization as well as the Joint Consultative Committee have substantial influence in the decision making process in the Development and Finalization phase of decision making (IPC/AB (Ph 2, 3) and IPC/E), the result will be quick implementation (low Delay (Ph 4)), high Effectiveness (Eff) and high Skill Utilization of workers in phases 2 and 3 (SU/A (Ph 2, 3)).

We abbreviate this formulation as follows :



STATISTICAL METHOD¹

the
We have chosen / method of Log linear and Logic analysis

which has a number of features specially appropriate to our need for causal analysis of longitudinal data and the nominal and ordinal measurements we use (Goodman, 1973a; 1973b). The method sets out to achieve an analytical framework for qualitative variables, be they dichotomous or multilevel and it goes well beyond the traditional significance testing of association between variables as in the chi square test.

Log linear methodology

Goodman's / uses the analogy of regression techniques and analysis of variance to develop statistical measures of a variety of effects in a complex contingency table. For such tables one can derive estimates of first order as well as higher order interactions of the specified variables. These computed estimates are known as Goodman's λ s (λ) if they derive from the additive loglinear model. From the corresponding multiplicative model, the estimates are called betas (β) and in this case it is necessary to specify independent and dependent variables, thus leading to the possibility of reaching causal conclusions.²

linear

Log/ analysis leads to saturated or unsaturated models. The former allows for all possible interaction effects (1st, 2nd, 3rd order etc.) while an unsaturated model is useful when existing hypotheses clearly specify that certain interaction effects are not important and can therefore be set to zero (in an additive model or one (in a multiplicative model).

The following analyses are based on unsaturated models using the hypotheses given in the previous section. One is entitled to accept the results of the analysis of the degree of fit measured by chi square is associated with a probability greater than .5. To err on the conservative side, we will accept the validity of our model only if the obtained chi square probability is greater than .10.

1 The statistical analysis and design was devised by Dr Wilfried de Corte of the Psychological Laboratory of the University of Ghent in Belgium. Some of the more technical aspects of these analyses and underlying theory will be published separately in a co-authored paper.

2 In the tables that follow, λ s are given as "standardized" λ s. If a "standardized λ is more than 2 or less than -2, it is significant. Doubling the value of λ gives tau.

RESULTS

To test the causally formulated hypotheses we use a two-step procedure, using log-linear analysis. In the first step we look at the interrelationships between the set of independent variables only. The second step analysis examines the contingency table made up of both independent and dependent variables. This second step uses the log-linear model in a specific way to perform logit analysis which obtains parameter estimates reflecting the interdependencies between independent and dependent variables. The sample consists of 108 decisions.

In relation to each hypothesis we will present the results of both steps. The results of Hypothesis 1 Step 1 are shown in Table 7.

TABLE 7

Analysis of Hypothesis 1 Step 1

Row	EFFECT	Lamda	Standardized Lamda	Multiplicative log linear (B)
	1	2	3	4
1	SP/E IPC/A,B(1,3)	.805	3.054	2.236
2	SP/E PD (1,3)	-1.216	- 4.633	0.296

$$\chi^2 = 0.41 \quad df = 2 \quad p = 0.8138$$

We conclude that hypothesis 1 (as described by Step 1 of our analysis) is supported with a chi square in excess of the stipulated minimum (.10). The standardized lamda for the interaction SP/E - PD (1.3) is - .4633 and is therefore greater than the standardized lamda of 3.054 associated with the interaction SP/E - IPC/AB (1.3). This implies that the effect of interaction in Row 2 is more ^{certain} than in Row 1. The magnitude of the lamda also indicates that it has the strongest interaction.

The results of the table can be interpreted as follows :

A Joint Consultative Committee (Level E) which has high Status Power (SP) also gives the lower levels of organization (Levels A and B) a considerable measure of influence (IPC) in Phases 1 and 3 of the decision cycle. More specifically, the table shows that the probability of Levels A and B having a high degree of influence in Phases 1 and 3 is greater when the Status Power of the Consultative Committee is high.

Furthermore, the results also show that Status Power of the Consultative Committee (SP/E) is significantly and negatively related to Power Distance (PD) in Phases 1 and 3 of the decision cycle.

These results show concurrency between sets of variables but do not lead to any causal implications.

In Stage 2 of the contingency table analysis (see Table 8) we explicitly assume that variables IPC/F; SU/A (2, 4) and Ach are dependent on, that is to say influenced by, the three variables analyzed in Table 7. For Table 8 the log-linear program is used to perform logit analysis.

TABLE 8

Analysis of Hypothesis 1 Step 2

Row	EFFECT	Lamda	Standard Lamda	Multiplicative log linear	Logit Parameter
	1	2	3	4	5
1	Ach; SP/E	.621	6.019	1.861	1.242
2	SP/E; SU/A (Ph 2,4)	.681	5.993	1.975	1.362
3	PD (Ph 1,3) IPC/F	.433	3.756	1.542	0.866

$$\chi^2 = 50.27 \quad df = 50 \quad p = .4625$$

Note : The value of τ in column 5 is always twice the value of Lamda in column 2.

Looking at the standardized Lamdas in Column 3 we can see that there is a clear difference in the order of importance of the interaction between the variables in Row 1, 2 and 3. The most significant relationship is in Row 1 (the highest standardized Lamda). It can be interpreted as follows :

Status Power of Consultative Committees (SP/E) has a positive influence on Achievement (Ach).

The results in Row 2 are interpreted as :

Status Power of Consultative Committees (SP/E) exercises a positive influence on the Skill Utilization of workers (SU/A) in Phases 2 and 4 of the decision cycle.

The results of Row 3 show :

If the difference in power between lower and higher levels of the organization in Phases 1 and 3 (PD Ph 1,3) is small, we can describe the group as semi-autonomous; that is to say its high level of influence gives it independence.

In each of these three analyses we are entitled to talk of the influence of one variable (the independent) on the other (the dependent variable) as postulated in the causal formulation of the hypothesis. The statistical results are highly significant and it is important to notice that these results are achieved without any third order interaction, that is to say without contingencies.

The two-step approach to causal analysis requires not only significant outcomes for each step, but that the combination of Step 1 and 2 should also show acceptable results. The calculation is as follows :

Step 1	$\chi^2 = 0.41$	df = 2
Step 2	$\chi^2 = 50.27$	df = 50
Total	$\chi^2 = 50.68$	df = 52

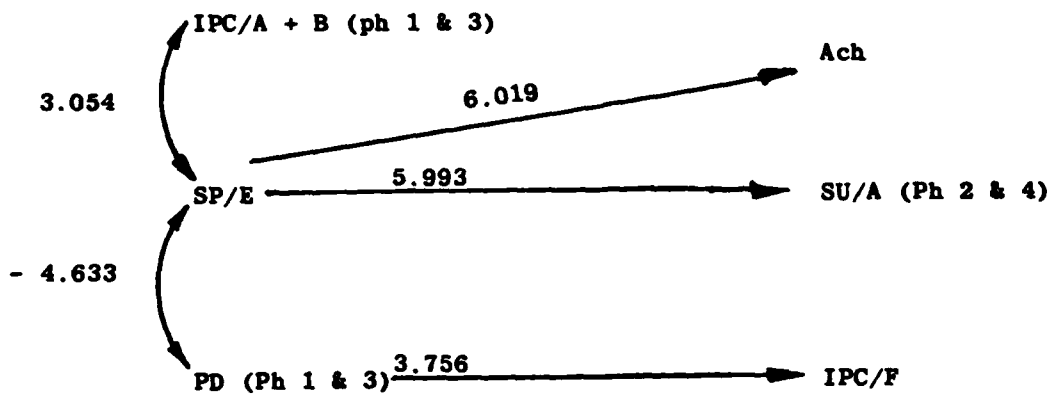
The probability for this result is well above 0.10.

A useful graphic way of presenting the results relating to hypothesis 1 are shown in Figure 9. The results fail to contradict the hypothesis.

FIGURE 9

PATH-LIKE PRESENTATION OF RESULTS RELATION TO HYPOTHESIS 1

The figures are standardized Lamdas from Table 8



Note : Single-headed arrows indicate relationships. Double-headed arrows indicate influence or causality.

For the remaining four hypotheses we will use an abbreviated procedure by presenting Stage 1 and 2 analysis in a single table supplemented by a Path-like diagram. The results will be interpreted from the diagram and related to the hypotheses.

The results from Hypothesis 2 are summarized in Table 9.

47-2
TABLE 9

ECTA ANALYSIS OF HYPOTHESIS 2

STAGE 1

Row	EFFECT	LAMDA	STAND. LAMDA	MULTIPLIC. Log-linear
	1	2	3	4
1	IPC/AB(3) IPC/AB(1)	1.079	4.072	2.943
2	PD (1,3) IPD/AB(3)	-0.968	-3.723	0.380

$$\chi^2 = 0.03 \quad df = 2 \quad p = .9873$$

STAGE 2

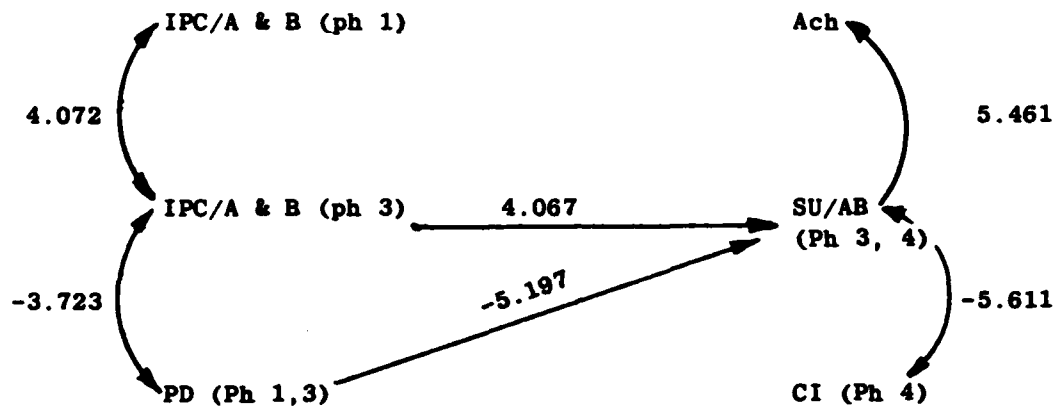
Row	EFFECT 1	LAMDA 2	STAND. LAMDA	MULTIPLIC. Log-linear	LOGIT PARAMETER
1	Ach SU/AB(3,4)	.535	5.461	1.707	
2	SU/AB (3,4) CI (4)	- .585	-5.611	.557	
3	SU/AB (3,4) IPC/AB(3)	.525	4.067	1.691	1.050
4	SU/AB (3,4) PD(1,3)	- .646	-5.197	.524	- 1.292
$\chi^2 = 52.84 \quad df = 49 \quad p = .3280$					

Global Evaluation Hypothesis 2 $\chi^2 = 52.87 \quad df = 51 \quad p = .10$

FIGURE 10

PATH-LIKE PRESENTATION OF RESULTS RELATING TO HYPOTHESIS 2

The figures are standardized Landas from Table 9



Note : Double-headed arrows indicate relationships, single-headed arrows indicate influence or causality.

The most significant directed relationship is between Power Distance in Phases 1 and 3 (PD (Ph 1,3)) and Skill Utilization of lower level employees in Phases 3 and 4 (SU/AB (Ph 3, 4)) with a standardized Landa of -5.197. It signifies that when the influence-power distance between high and low levels of the organization is high, skill utilization of lower level employees will be low in Phases 3 and 4 of the decision cycle.

The second significant directed relationship with a Standardized Landa¹ of 4.067 shows that when lower level employees have influence over decisions in the Finalization stage of the cycle, their skill utilization will be high, both in the Finalization and Implementation of decisions (IPC/AB (Ph 3) → SU (Ph 3, 4)).

1 From now on abbreviated St. Landa

The other relationships are interpreted as follows :

- (a) When lower level employees have influence at the beginning of a decision cycle, they also tend to have influence in the Finalization phase (St. Lamda 4.072)
- (b) When the skills of lower level employees are used (in Phases 3 and 4) the organization's level of Achievement is also high (St. Lamda 5.461). At the same time, the skill utilization of lower level employees (in Phases 3 and 4) of the decision cycle is associated with a low intensity of conflict in the implementation phase of the decision cycle (St. Lamda - 5.611).
- (c) There is a significant relationship between the influence of lower level employees (IPC/AB (Ph 3)) in the Finalization stage of decision making and the Skill Utilization of these lower level employees in the last two phases of decision making (St. Lamda 4.067).

When we aggregate these path-like findings from Figure 10, we obtain an interesting picture in support of Hypothesis 2 :

Organizations in which senior levels have considerably more influence than lower levels, particularly at the Start up and Finalization phase of decision making, produce low Skill Utilization of these lower level employees and this low Skill Utilization is associated with low Achievement and a high intensity of conflict in the critical Implementation phase of the decision cycle. Since our variable Achievement is defined as the extent to which planned decisions are implemented, the picture which emerges from this analysis shows considerable internal as well as construct validity.

The results from Hypothesis 3 are shown in Table 10 and Figure 11.

Since this hypothesis specifies the existence of Internal Turbulence (INT.T) as a moderator or contingency variable, a special preliminary model was analysed using a five-way contingency table using high and low levels of INT.T. The chi square was not acceptable.

This finding gives a certain amount of support to the idea that INT.T is a moderator. However, as can be seen from the two-stage results in Table 10, and the Path-like Figure 11, the best interpretation is probably to treat INT.T as an additional independent variable.

The results can be interpreted as follows :

- (a) The most significant directed relationship indicates that Internal Turbulence leads to Delay in the Implementation phase of the decision process (St. Lamda 1.483).
- (b) Interference from outside the core organization or Negative Meta Power (MP) in Phases 1, 2 and 3 of the decision cycle also leads to Delay in phase 4, the Implementation phase. (St. Lamda 0.440).
- (c) Negative Meta Power is, however, associated with Status Power of senior management. Where negative Meta Power (Phases 1, 2, 3) is high, senior management's Status Power is also high (St. Lamda 2.951).
- (d) When Internal Turbulence is high, the Status Power of senior management tends to be low (St Lamda - 4.963).

Since undue delays in implementing agreed decisions is often thought to be a major problem in modern organizations, these findings are of some interest in pin-pointing potential causes, namely Internal Turbulence (the undertainty and unpredictability of events inside the core organization) and the intrusion of external influence.

TABLE 10

ECTA ANALYSIS OF HYPOTHESIS 3STAGE 1

ROW	EFFECT	LAMDA	STAND. LAMDA	MULTIPL. LOG-LINEAR
	1	2	3	4
1	SP/D nMP(1,2,3)	.571	2.951	1.770
2	SP/D INT.T	- 1.402	-4.963	0.246

$$\chi^2 = 2.51 \quad df = 2 \quad p = .2848$$

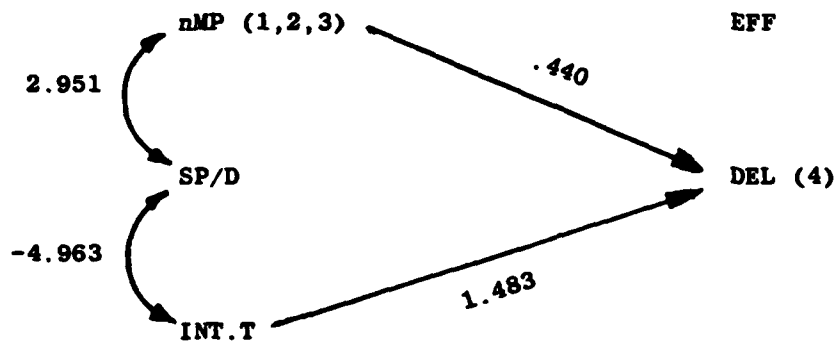
STAGE 2

ROW	EFFECT	LAMDA	STAND. LAMDA	MULTIPL. LOG-LIN	LOGIT PARAMETER
	1	2	3	4	5
1	DEL (4) INT.T	.394	2.024	1.483	0.788
2	DEL (4) n MP (1,2,3)	-.807	-5.600	0.440	- 1.614
$\chi^2 = 22.27 \quad df = 20 \quad p = .3259$					

Global Evaluation Hypothesis 3 $\chi^2 = 24.78$ $df = 22$ $p = .10$

FIGURE 11PATH-LIKE PRESENTATION OF RESULTS RELATING TO HYPOTHESIS 3

The figures are standardized Lamdas from Table 10



Note : Double-headed arrows indicate relationships, single-headed arrows indicate influence or causality.

The results fail to contradict the hypothesis. However, one of the interactions was unexpected, namely (c) above. We suggest one of two explanations for the co-existence of high Status Power of senior management with negative Meta Power. One explanation is by way of analogy with the Public Relations dictum that 'all news is good news' - even if it is critical. The interest shown by outside management in the affairs of the core organization may be interpreted as legitimating and adding status to senior management in the core organization even if senior management's own interpretation is that the outside interest constitutes an interference with their own position. The alternative explanation is that the interaction $n.MP \text{---} SP/D$ is an artefact of other circumstances. It is possible that high Status Power, even in juxtaposition with negative Meta Power, is due to other factors, for instance high Internal Turbulence (St. Lambda -4.963).¹

The results from Hypothesis 4 are summarized in Table 11 and Figure 12. As in the case of Hypothesis 3, which also specifies a contingency variable, a preliminary analysis was carried out, but as can be seen from Table 11 and Figure 12, external Turbulence is more appropriately classified as an independent variable.

The results of Hypothesis 4 analysis are complex. It will be seen that in Stage 1 of Table 11 we give interaction effects which yield non-significant levels in Row: 3, 4, 5, 7, Some seem to imply higher order effects (for instance Row 7 and 8) and help to obtain a better overall model. They will not be used in the interpretation of results. In Figure 12 these Lambdas are given in brackets.

The main results can be interpreted as follows :

- (a) High levels of external management intervention in phases 1 and 3 (+ MP(Ph 1,3)) lead to low conflict intensity in the Implementation phase of decision making.

¹ We are aware that the causal implication of this explanation exceeds the findings from ECTA.

TABLE 11

ECTA ANALYSIS OF HYPOTHESIS 4

STAGE 1

ROW	EFFECT	LAMDA	STAND. LAMDA	MULTIPL. LOG-LIN.
	1	2	3	4
1	SP/D - IPC/D (1,2,3,4)	- .727	-3.032	0.483
2	SP/D - Ext.T	.665	2.838	1.944
3	+MP(1,2) -IPC/D (1,2,3,4)	.353	1.532	1.423
4	+MP(1,2) - Ext.T	.063	.280	1.065
5	+MP(1,2) -SP/D	.319	1.452	1.376
6	Ext.T -IPC/D (1,2,3,4)	.678	2.383	1.970
7	SP/D -IPC/D -Ext.T	-.467	-1.864	0.627
8	+MP(1,3) -IPC/D -Ext.T	-.845	-3.812	0.430

$$\chi^2 = 3.85 \quad df = 3 \quad p = .2780$$

STAGE 2

ROW	EFFECT	LAMDA	STAND. LAMDA	MULTIPL. LOG-LIN.	LOGIT PARAMETER
	1	2	3	4	5
1	CI(4) + MP(1,3)	- .354	-2.695	.702	- .708
2	CI(4) IPC/D (1,2,3,4)	.654	5.128	1.924	1.308
3	CI(4) Ext.T	.563	4.569	1.755	1.128
4	SU/D(3) +MP(1,3)	- .394	-3.832	.675	- .788
$\chi^2 = 48.74 \quad df = 42 \quad p = .2201$					

Global Evaluation for Hypothesis 4

$$\chi^2 = 52.59 \quad df = 45 \quad p = .10$$

(b) High levels of external management intervention in Phases 1 and 3 (+MP (Ph 1,3)) produce low Skill Utilization of senior management in the Finalization stage of the decision cycle (St. Lamda -3.832).

(c) When senior management has substantial influence and power in all phases of the decision cycle (IPC/D (Ph 1, 2, 3, 4) this leads to considerable conflict in the Implementation stage of decision making (St. Lamda 5.128).

These three outcomes described above have causal implications.

(d) When external Turbulence is high, Status Power of senior management is also high (St. Lamda 2.838).

Hypothesis 4 is contradicted by the results of the ECTA analysis. Findings (a) and (b) were predicted in the reverse direction and External Turbulence is not usefully described as a contingency but plays a useful role as a predictor of low conflict and low skill utilization.

The results from Hypothesis 5 are shown in Table 12 and Figure 13. There are two significant directive relationships :

(a) Low Delay in the Implementation phase is a consequence of high influence by lower levels of the organization in phases 2 and 3 (St. Lamda - 3.624).

(b) When Joint Consultative Committees exercise high influence in Phases 2 and 3 of the decision cycle, the decision process is effective (money and other resources are well used) (St. Lamda 4.654).

Three non-directive relationships are significant :

(c) There is a highly significant relationship between lower

TABLE 12

ECTA ANALYSIS OF HYPOTHESIS 5STAGE 1

ROW	EFFECT	LAMDA	STAND. LAMDA	MULTIPL. LOG-LIN.
	1	2	3	4
1	IPC/E(2,3) IPC/AB(2,3)	.705	4.654	2.025
$\chi^2 = 0$		df = 0		

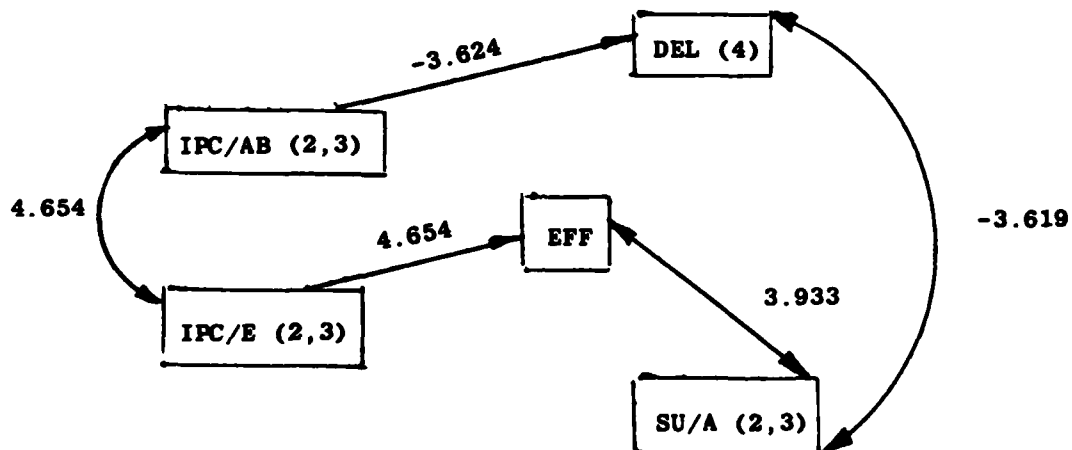
STAGE 2

ROW	EFFECT	LAMDA	STAND. LAMDA	MULTIPL. LOG-LIN.	LOGIT PARAMETER
	1	2	3	4	5
1	DEL(4) SU/A(2,3)	- .384	-3.619	.681	
2	DEL(4) IPC/AB(2,3)	- .525	-3.624	.592	-1.050
3	EFF SU/A(2,3)	.569	3.933	1.767	
4	EFF IPC/E(2,3)	.705	4.654	2.025	1.410
χ^2 1 25.30		df = 24		p = .2343	

Global Evaluation : $\chi^2 = 25.30$ df = 24 p = .10

FIGURE 13PATH-LIKE PRESENTATION OF RESULTS RELATING TO HYPOTHESIS 5

The figures are standardized Lamdas



Note : Double-headed arrows indicate relationships, single-headed arrows indicate influence or causality.

management influence and the influence of the Joint Consultative Committee (St. Lamda 4.654).

- (d) There is a significant relationship between Skill Utilization of workers in Phases 2 and 3 and the Effectiveness of the decision process (St. Lamda 3.933).
- (e) There is a significant relationship between Skill Utilization of workers in Phases 2 and 3 and an absence of Delay in the Implementation phase of the decision process (St. Lamda -3.619).

The hypothesis is not contradicted by the results of this analysis.

SUMMARY

Objectives

The research set out to study some critical aspects of the process of inter-organizational decision-making over time. Ten dimensions (see pp 27-28) are identified as being critical to this process and each was measured over a four phase diachronic cycle. An airport was chosen as the site for the study for three reasons :

- (i) the decision process of airport organizations had never been investigated, although they were likely to play an increasingly important role in the growing leisure industry as well as in military use;
- (ii) airports had developed an organization structure of semi-autonomous units, and this mechanism is likely to grow in other organizations, particularly those that are subjected to turbulence and where low morale is due to the excessive size of the organizational unit;
- (iii) it was hoped that variations in turbulence could be assessed fairly easily in an airport setting.

The theoretical model (Figures 5 and 6, pp 22-23) was developed from previous research and sets out to identify organizational infrastructures which facilitate the utilization of competence (Heller & Wilpert, 1981). The exercise of influence in the decision-making process is seen as the major independent variable. There are two aspects to influence. One is identified on the level of an individual's behavior. It is measured by the Influence-Power Continuum (p 28). The other is measured in relation to the role exercised by an organizational level (for instance Foremen), a group, or a committee. It is called Status Power (p 28). Both measures are developed from previous research (Heller, 1977; DIO, 1979; DIO, 1983). The main dependent variables are Skill Utilization, Achievement and Effectiveness (p 27-28).

It will be seen that our decision-making research is conceptually as well as methodologically very different from the classical deterministic and probabilistic approach (see for instance Pask, 1976).

Field Research Methods

The research method aims at obtaining very accurate information on the selected variables at each phase of the diachronic process. This is achieved by a multimethod approach combining individual interviews, group sessions, attendance of committee meetings, content analysis of committees and, in particular, Group Feed-back Analysis (see pp 26-39). Group Feed-back Analysis (Heller, 1969; Brown & Heller, 1981) is in this research used primarily as a way of checking on the validity of the researcher's assessment of the data. Where necessary, several feed-back sessions were used until the respondents and the researchers felt confident that accuracy had been achieved. The objectives of this kind of feed-back are very different from the more traditional survey feed-back procedures (see for instance US Army, 1977).

Tape recording was used on all individual interviews and group sessions. This material was content analyzed and used for the quantitative data of Tables 1 - 5 and for checking the accuracy of scoring in the analysis of 108 major decisions which are shown in all other tables. Samples of the voluminous transcripts are collected in Appendix 2.

Results.

Stansted Airport operates with a highly decentralized organization. We identified eleven semi autonomous units and studied the decision process of four of these in some depth. Their relationship with their own Head offices and the local organization of the airport is complex but follows the scheme described in Figure 1 (p.11). The semi autonomous structures are particularly well suited to cope with the uncertainties created by external interventions (Meta Power)

It seems that the existence of so many semi autonomous units creates a democratic decision making style which gives lower levels of the organization a substantial amount of influence in certain phases of the decision cycle. By studying the events in each separate phase, we are able to reach causal explanations with a substantial degree of accuracy. In testing five specific hypotheses by means of ECTA we found that third order or contingency variables did not add significantly to the statistical results. Influence and power variables are the most important predictors of skill utilization. Achievement and efficiency as well as conflict intensity were the main dependent variables. To fully understand the

inter-relations and causal effects of the measured dimensions, the analysis by phases was essential. The findings therefore support the theoretical framework (Figure 5 and 6. pp.22-23). Four of the five specific hypotheses are supported by ECTA results. In the case of the fifth hypothesis, the interactions were as predicted but causality was reversed.

This chart shows lines of responsibility and functions but not necessarily the relative status of individual posts.

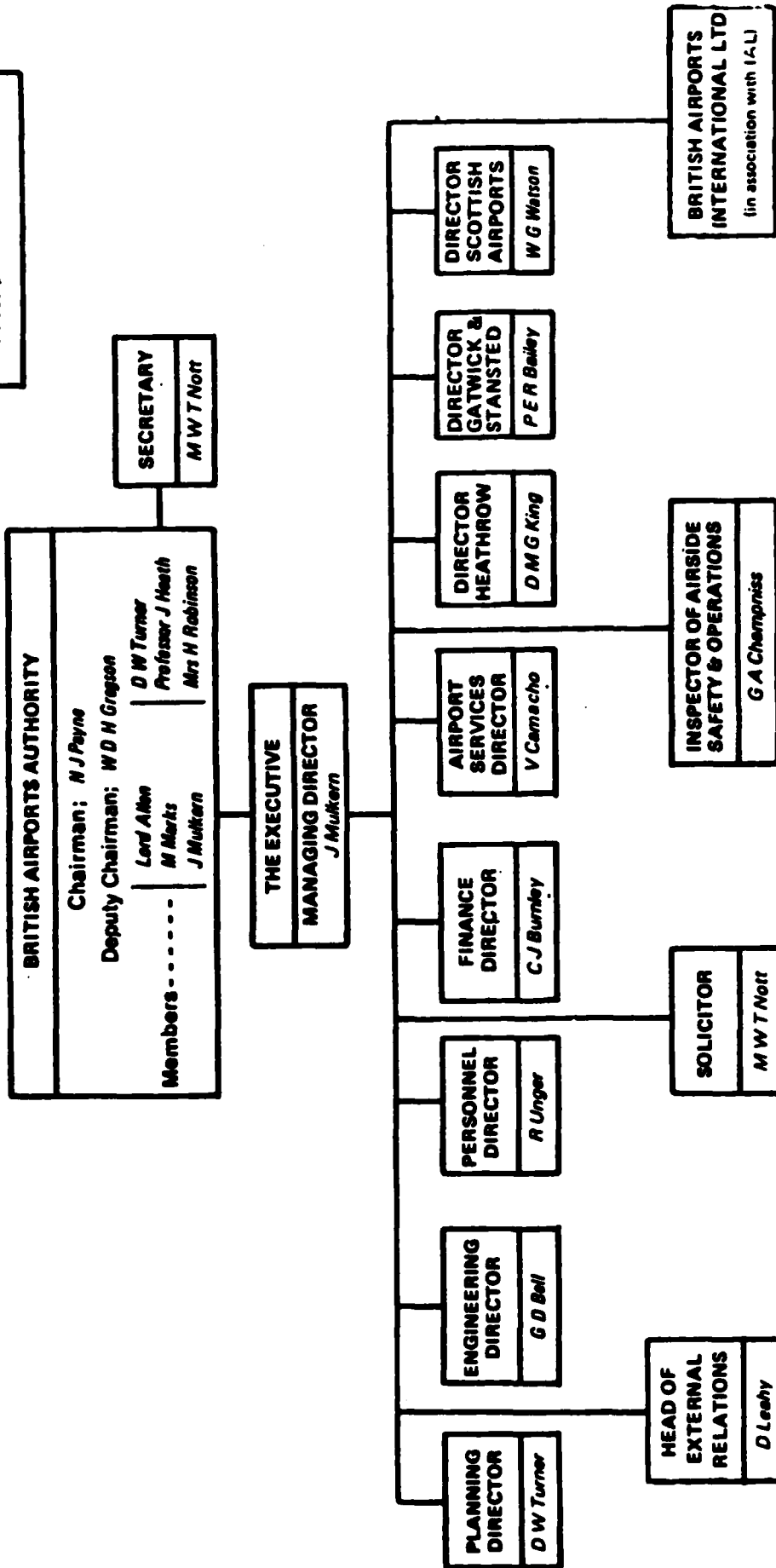


Chart No. 1

July 1980 , ORGANISATION OF THE BRITISH AIRPORTS AUTHORITY

APPENDIX 2

SIMPLE TRANSCRIPTS OF INTERVIEWS

57

AIRPORT RESEARCH: INTERVIEW WITH RON UNGER ON DECENTRALIZATION

30/7/80

They attempt to 'maximise local decision-making'. He does not want local decisions referred to him, e.g. he has just refused to accept a complaint from a Heathrow employee about holiday dates because it is a matter for the local personnel manager.

However, there are some exceptions to this rule. All pay negotiations, including terms and conditions of employment, are settled centrally. The aim is consistency throughout all airports. No one would want this policy changed. All other matters may be dealt with locally providing they do not interfere with any other airport. Unfortunately, most issues do involve other airports. Again, most people accept the reasonableness of this rule.

He cites the example of Stansted, where because of muddy conditions on the airport, the staff requested gum boots some two years ago, and the local management agreed, and issued the boots. 'Immediately there was a claim for gum boots from all other airports', although at Heathrow there is no possible need for boots - the staff simply wanted to take them home for their gardening. For this reason local decisions have to be centrally monitored.

Another recent example happened at Gatwick, where

the local personnel manager wanted to introduce a free dental service for employees. RU had to stop it, because there would have been similar demands from other airports. The local manager should 'have known better'.

There was also the recent occasion of the Chairman's annual staff meeting, for which staff are brought to Central London from all over Britain to hear the Chairman's report and to ask questions on it. This year it was decided that people would be responsible for making their own way to the meeting, but a group of Heathrow people suggested to the local Personnel Manager that coaches might be laid on to transport them to the meeting, and he agreed. Again RU had to stop it. They 'don't want trouble,' so they 'have to be sensitive' to the climate.

As to how he heard of these local difficulties, in the case of the gum-boots the Personnel Manager of another airport rang him up about it when the demand was made by trade unions of other airports, and with the Gatwick dental scheme he saw a memo about it. The case of the Heathrow coaches was stopped when one of his staff picked up the scheme and told him about it. Most of his Personnel Managers support him in instances like this, and admit to not having seen the implications of a decision if it has to be reversed.

The general attitude of the unions is 'to get the maximum benefits for their members', but the better ones also see management's point of view. The less responsible ones try to circumvent central control, even to trying to trick local management into making concessions dishonestly. The unions often recognise this, and don't object to management disciplining such people.

30 The major disadvantage of decentralization is that 'it enables branch units to be picked off one against the other'. However, local working practices are decided locally, as are shift rosters and time off. Recruitment up to lower management levels ^{is} ~~are~~ done locally, although RU himself monitors it.

Many people in industry and politics would like to see participation go away, but 'they're just burying their heads in the sand', and the Prior approach is correct. BAA has worked hard at participation, and will continue to do so. They have 'total union participation and negotiations right up to a high level of management'. Only Directors, 40 deputy Directors, and General Managers, are not unionized. Each airport has its own representative system, and super-imposed on that is the central machinery.

- 4 -

Of course, representation is not necessarily participation. But the local managers are obliged to negotiate through the trade union machinery. They do have informal discussions with work groups, but these have to be ratified by the unions. Local negotiators are expected to be familiar with central policy, and this is facilitated by meetings of all personnel managers once a month. These meetings are designed to secure a common approach.

He feels his own style is 'to direct, guide, persuade and convince, not to order or command'. For example, he is seeking a consensus opinion on a common system for handling job applications, but doesn't want to be autocratic about it.

Quality circles 'can be an enforcing policy or an enabling policy', and to decide on either would require discussion and agreement.

50 They have no control over who the trade unions appoint as their representatives, whether lay or official. The levels of competence and integrity vary considerably, but those who are incompetent or dishonest are in a minority. TU reps are usually appointed without training, but not necessarily without experience. Management appointments, on the other hand, are always subject to training. Decisions on training are made both locally and centrally, for example an information girl is trained locally, but a central campaign may sometimes

- 5 -

be mounted to try and raise levels of competence. This would be superimposed on the local job training. Each airport has its training managers, who are part of the personnel function.

64
STANSTED AIRPORT

Meeting with Two Union Representatives - Mike Bowen(?) and Steve Calinder(?)

Airport Feedback - 23rd June, 1981.

60

Interaction of sub-contractors did not come up at all on the minutes; why? It was dealt with separately because it was not BAA business. However, when the union representatives thought about it, things which were strictly relating to sub-contractors did sometimes come up, such as the canteen or cleaning machines or runway resurfacing. But the actual interaction itself did not come up, the relationship between the sub-contractor and BAA management.

Did anything about the minutes strike the union reps as unusual or interesting? Nothing really.

F. Heller was interested that although the balance was fairly even, there were more trade union initiated items than management initiated ones. Did this surprise union reps? No, after all the proportion of workers to management was greater! Were they surprised that there were as many management items as there were? They couldn't remember what all of them were.

F. Heller drew attention to Table 5. Union reps thought a rather large percentage were just recorded information but Elisabeth Solomons reminded everyone that this included the General Manager's Reports which were regularly given.

F. Heller made the point that in the year '79/80 there was a very strong emphasis on separate trade union/management statements. Did union reps think this suggested a new style of operation? They thought they had been through a transition period. Mr. Payne from BAA had been down to the airport to urge staff to support the airport case. It was admitted that there had been 'quite a few disagreements'. Security had been the main problem because of the way it had been handled. It was still unresolved. This was the problem of passenger search and access.

- 2 -

F. Heller showed union reps a tabulation of decisions. Why the delay in Health and Safety? Uncertainty - the firm didn't know what it was required to do in respect of legislation and confusion arose. Only in the last fortnight had they published a draft copy of the Health and Safety. It was four years ago that the Act was passed! It was a case of 'there is a law but we're not quite sure how it operates'.

Elisabeth thought that the pay and grading was not effective.

Did union reps agree that it didn't achieve much? Elisabeth Solomon emphasised that she was not talking about the pay and grading review process; she was only analysing what happened to those questions related to pay and grading in LJC. Unions said that pay and grading as such was nothing to do with the LJC; it was a BAA implemented scheme in which staff were invited to take part and it was dealt with at Head Office. There were only one or two minor points which came out as a result of that at the LJC level. The LJC had no say in it; whatever the representative said at Head Office was done. Was it useful to have it brought up at the LJC meeting? "Only to get it off your chest." Mike thought it was quite a good exercise but said that Tony would say it achieved nothing because of craftsmens' ratings going down and Steve would agree with Tony. But did it achieve anything specifically within the Stansted LJC? No, it was recorded information about which one could do very little. It was not part of the LJC process.

70 Apron Control scored ineffective and no achievement as well. Did union reps think this a fair assessment? It was a completely wrong design and had not been rectified in any way, so union reps agreed with the assessment.

Did the union reps remember the issue of Security shifts and double manning? Yes, that was over closing at night and it was resolved at that time.

How about pole testing? That only came up once; had they spoken to Tony about it? Yes Elisabeth Solomons had.

New style uniforms dragged on a long time; it was resolved in the end and was scored 2. However, it was hardly effective; should it have been scored 1? Head Office had tried to make a standard uniform representing the authority and staff could only pass their comments on what was proposed. But it did take a lot more time than it should have done? Yes. Was it justified to have this issue discussed so frequently in LJC? From a union angle, it was because they could see problems which they didn't know the answers to, but there were problems which there were quick answers available for.

Skill requirement was a difficult issue. For instance, when the Health and Safety Committee proposal was initiated, it seemed to require no particular skill, but to develop it needed more, and the implementation of it in particular seemed to require a high amount of skill. Pay and Grading was down as requiring high skill throughout the cycle. "Yes it did".

End of Side 1.

Side 2.

Did they think the double manning was a complicated issue? Very. Did it require a lot of skill on the part of the committee to understand it? Yes, understanding other peoples' work patterns is always hard at the best of times, and understanding particular problems related to how they work is even harder.

Did pole testing require a fair amount of skill? Unions felt the committee understood the issue in general terms when Tony brought it up. It was agreed that the issue took a moderate amount of skill to understand.

Uniforms required no special skill to understand in the Committee.

There was some relationship between conflict intensity and skill requirement. For instance under Pay and Grading, there was high conflict and also high skill. Functioning of Health and Safety Committee - fair amount of conflict: moderate amount of skill.

This made sense. But was there any relationship between conflict intensity and effectiveness or achievement. This was ultimately the objective of the research. If there were achievement where conflict was high, then conflict might be no bad thing. Union reps thought that in the cases just discussed, high conflict went with low achievement. Low effectiveness may have been the reason for high conflict.

22
STANSTED - Taped Interviews - 27 June 1983

FAH summarised the complex relationship between Ground Services and the Airport. He described the management structure of Service Air, and the way in which it impinged on the day to day management at the airport. It could lead to difficulties. Did the interviewee experience problems in his dealings with management as a result of the organizational structure? Also, the Airport authorities did not always use the extensive experience which Mr Lynton (sic) had accumulated and which he said was available to the airport. On the other hand, because of the nature of the contract between Service Air and the airport and the relationship which had developed over the time of its existence, Service Air did have a degree of influence and independence which could be valuable. That all seems very accurate. Our Head Office management, we feel, is a bit complex. It does seem to work well, actually. Our station manager here will be dealing direct with our head office management and I suppose by the time they've dealt with it among themselves and it comes down to the lower management at Stansted, that everything is quite straight forward - or as much as it can be. We don't seem to get involved in all the complexities.

SERVICE AIR

FAH

When you say it gets down to lower management at Stansted do you mean your organization or Stansted's?

SERVICE AIR

I mean Service Air's.

FAH

How long have you been with Service Air yourself?

SERVICE AIR

Five years.

FAH

So you feel that that is exactly what is happening under Mr ?'s managership - that the relations with head office, although potentially complex, work quite smoothly.

SERVICE AIR

Yes. Because I think you mentioned the accessibility of all the directors, and the senior people at head office. They are very accessible. Anyone really can talk to them. There is no problem.

FAH

They don't come here often, do they?

SERVICE AIR

Not often. They do come down several times during the year - not very regularly. But you know, a telephone call - and you can get through to them.

FAH

Where are they situated?

SERVICE AIR

Audley Edge. Manchester way.

FAH

So they are situated in the middle of the country because you service a number of different airports.

SERVICE AIR Yes. Mainly in the North of England. Jersey, Guernsey and Stansted are the only ones really in the South. The rest are in Scotland and northern England.

FAH You've explained the relationship between your organization and your own service area organization as being good, because the people are accessible. Now here, you have a different sort of management, to whom you are also responsible in a sort of way ...

SERVICE AIR The airport managers.

FAH There is always then the potential of difference between the Service Air management and the Stansted management and the fact that there are several managers here that have an interest in your kind of activity - that also struck us as being a bit complex.

SERVICE AIR That's right. The airport managers have changed. There's the general manager - and he's changing again shortly - and then there's the terminal manager, and the operations manager. So it's much the same - the structure of the airport management, as the structure of the office management. I think we find it more of a strain and more of a problem dealing with the airport management, than with our own. I suppose it's because we're that much more removed from them. Having said that, I know when Mr Lynton (?) was manager, relations were quite strained at some times between ourselves and the airport. We've had a change of manager and the airport itself has, and things do seem to be a bit smoother.

FAH This is due to the personalities of the new people?

SERVICE AIR I think that had a lot to do with it. We still have our problems and disagreements, but on the whole it does seem to run smoother.

FAH Even at the time, we noticed that the personal relations were good and that made what could be very awkward The point of complexity is that if the people themselves are not very well tuned to this working, if you don't get on well, then the fact of six people bearing down on you could be a problem. If everybody's perfect and easily accessible and so on, then that becomes manageable ... maybe not even a problem. But the potential is there. There are about 55 people at head office and you say there's 19 other airports. As you said, you may get very easy access when they're all there, but they can't all be there all the time, with 19 other airports around. The question, I suppose, is this: How much independence was Mr Lynton given, and how much did you have to

give up vis a vis top management, and how many constraints were there ... what feelings did you have about that?

SERVICE AIR

At times you get the impression that you can't do anything without referring to head office - things where expenditure is involved there's a certain limit as to how much you can authorise for spending. He does have quite a lot of leeway to make his own decisions most of the time. Things like finances are usually referred back to head office. Most of the airlines are on credit with a contract negotiated with our head office. You might have someone turn up - a little known airline - out of the blue. We have a series of ad hoc rates for them. Something often is negotiated here amongst ourselves and it would be referred to head office just for their confirmation or OK. So they have the final say in most things. And employing staff as well. Our station manager would make a recommendation to head office for what he sees would be the requirements, and head office will say Yea or Neigh to that.

PAH

Your new manager, Mr Carter, has been here now for a year nearly and did he come from another airport?

SERVICE AIR

He came from Cardiff; he was the station manager there. That's quite a considerably smaller station.

PAH

And the staff? Has that changed? Are you more or fewer now than you were previously?

SERVICE AIR

Just about the same, I would say. We have seasonal peaks in summer and employ temporary staff. But I think we're just about at the same level as earlier.

PAH

Let's just leave it at that.

SOLOMON

When your company has to make a decision here at Stansted, who would have more influence on the decision - the Stansted airport people, or your head office?

SERVICE AIR

It's very tricky, actually. The final say would be down to our people at head office - the directors. It depends on what sort of problem it involves. Just the day to day but if it's a major item, in that case then the station manager if he didn't have his own opinion would consult a few choices and then make a recommendation to our head office.

PAH

I haven't got this clear in my mind, but it seems that from the point of view of relations with head office, it is less complicated than it is in terms of here - there are fewer bosses around. On the other hand, the relations with local management are more likely to be fraught with

*continuing
negotiations?*

difficulties because catering is a very emotional subject. Everybody eats or wants to eat more and better ... so that there's this potential that who also have a contract (I think it's a five year contract) and a contract like this gives you shelter within limits. Subject to the contract you can go ahead and do things and that's the unusual aspect of the whole of this management - decentralization. Nevertheless on a day to day basis there is this considerable need to relate to what is going on, and therefore to relate to management (airport management) preferences, which create strains in terms of maximizing your own interests and making a reasonable return for your business and yet pleasing the local people. But the turbulence or uncertainty, therefore, seems to be quite high - obviously there are different things that will evolve at short notice. You'll get a load of people coming in or a cancellation, or something, and this is not something that head office can manage. You really have to manage this on your own here within your own organization, or get your requests and your orders or whatever it is from the local airport management. So that seems an area where friction ...

SOLOMON

I guess we could test ... we had a lot more data back then.... but perhaps if we had the right information - our perception from what we studied was that the manager here is left on his own and

WOMAN

I don't hear from them for days sometimes. The only time we really have contact is if they want some paperwork or if they've lost a copy of something. All the functions that are done - I may mention it to them in conversation or I may not. It's that situation. We run it here and they run it there.

SOLOMON

So you are in charge and if there are any decisions to be made, then you make the decision with the assistance of the airport management - whatever things would be governing their decisions ...

WOMAN

That can be a problem sometimes, more so probably than Service Air's or the cleaners, because I have a set menu - a very vast menu, but a set menu and where my directors in London do have their two other restaurants (one's a small cafeteria type restaurant) ... if they fancy putting on something special : strawberries and cream, then it does. I can't do that. I have to ask for permission first. It may take a week. Ten weeks ago I asked for permission to put a hot pie machine on the counter. It's still in stores. It's not come out yet, because they were deciding about it. My director said well can't you just put it on the counter and plug it in? You can't do that. You must ask permission.

And until permission comes, it just sits in the stores.

FAH They got it for you?

WOMAN No, it came from a company that supplies all our meat pies. That's something that you learn to live with. It doesn't bother me any more. It did at first, I used to get very upset about it all because you had all these things you wanted to sell, and you couldn't sell them. It doesn't bother me now - I'm used to it.

SOLOMON So you wait until they make a decision? Do you try to influence them?

WOMAN Yes, I may mention something in conversation and say "Do you remember that we're waiting for a decision?". "Oh, yes, yes - we will decide." It's something you do get used to. But the directors, again, have never had an airport to run. They had no idea, no idea. They've had to conform so much. They felt that they could just come in and run it exactly as they do their Rose Garden and the Cake House in London. 15,000 people go through there a day in the summer. The Rose Garden, Regent's Park. And again in the Cake House. You have Trooping of the Colour. It isn't just one week, it's three weeks. Two weeks run up to it and then the actual thing. So they're dealing with 10-15,000 people a day. We don't see that in a month. We don't see it sometimes in three months. This is what they couldn't understand. They thought they were getting into an airport - and that's fantastic!, you know - and their little mental tills were ringing like mad and it hasn't taken off the way they expected.

FAH The Cake House? Where is that?

WOMAN Birdcage Walk. Near to Buckingham Palace, just behind Whitehall.

It is a good location and you see, they've had that 25 years.

FAH But they haven't expanded it?

WOMAN No, and you see, they were offered the airport catering. By then the BAA Catering Advisory Officer had run down. Because every morning when he was in his office, which is just opposite there, he used to pop down for his coffee and his fresh Danish pastry, you see, and he used to enjoy that.

FAH Ah, that's Buckingham Palace ... they have this personal contact. They just talked about these things ...

WOMAN Exactly. ---- were pulling out and "Why don't you try for an airport? Your catering's good." And that's how it all came about. And of course. I think they were expecting the same turnover and the same sort of people. OK it is a nice restaurant. In the wrong place,

but it is a nice restaurant. And they thought "This is lovely!". They thought "We're going to have all this and BAA are going to do this for us and that for us", but it didn't materialise.

FAH

But they must have been told that this airport wasn't

WOMAN

I'm afraid my directors tend to live in the future, not the past and not the present. They are always looking towards what they can make and what they can do, and we've tried to explain to them that this is an airport. It's been here a long time and it's going to be a long time before they actually do anything with it. If they're really interested, they've got to be in here at least 10 or 15 years before they find anything materialises out of it.

FAH

What did they say to that?

WOMAN

Well, at the time - "No, no, it won't take that long." But of course, it will. Most of us will probably be looking towards retirement before anything actually happens, I would have thought. It's bound to be at least 20 years before this kind of thing actually takes off. Probably if they do give it, it will be 10 years and the buildings will be here and everything else, but as far as my company is concerned, I don't think they will hang on. I was surprised that they took the five year contract. Because they came in at the end of the first year and took the five year contract. And - the sort of company they are - they didn't tell the staff; didn't tell their own staff here at the airport. They just all went back to London. And I said "Aren't you going to tell the staff?" I mean, they were all sitting up there, coming in in their own time - you see they don't look at it that way. They're not used to dealing with fulltime staff. They only have casual labour and part-time staff in London. So they've never had people that are concerned about their jobs. This was something that was new to them. And when I went to the terminal after the meeting, and they were all there waiting to hear whether they'd got their jobs for the next five years - because with a new company coming in, it doesn't necessarily mean that they'll take the staff. This is what Tesslers (?) did. Tesslers didn't take the staff - they took 7 out of 29 and brought in 15 of their own. They interviewed and brought them in. None of them had catering experience. They just left them on our doorstep and away they went.

FAH

So why did they change over, do you think?

MAN Well, they interviewed the staff and they all thought they were Grandmet-orientated. They didn't want Grandmet. They wanted Tesslers. But as I say, it's changed. And they've had to appreciate, and I think now they do, that we've now gone back to something like 14-15 Grandmet that stayed. We've trained them up and they've stayed Airport catering work is a very special work. You can come in at 6 o'clock in the morning, where Richard and Pat are slightly different ... They may need their staff to stay on a little while ... but they've had regular shifts and they come in and out, don't they? Where we are, we're cut down to the minimum staff anyway and some days you're falling over one another, and everybody says "God", you know "All these people!" "We don't need them." So my directors' impression would be "Send them home". Which is what they do in London. But they're contracted to work 30 or 40 hours. You can't suddenly send them home. You have to keep them there and find something for them to do. Another time, like a Saturday, there was a delay for four or five hours - they needed feeding. The unit should close at 6, but we were open right the way through until Sunday night. We didn't close down at all Saturday night. We fed the people. We were very short of staff towards the evening. But you couldn't call on anybody. They had to come back for Sunday, which was a very long day. So you're really stretched. And they are special staff. They'll do 18, 20 hours some days and they'll be back at 6 in the morning. I doubt whether they have that within the other unit, because they have shift work, which we just cannot keep to, because we've tried having shift work. We tried them in at 6 and out 2, in at 2 till 11 or 12. But you'd find that nothing happened in the morning, but the 6 staff that were on in the evening were so pushed that they need a couple of the other staff to help them. So we had to call them back. Which meant at 6 in the morning again, they were still coming back, but they were tired. It didn't work at all, really. I used to get in at half past 8 in the morning, or 9 o'clock and close it at 5. No problem at all. Breakfast - a little late, I think - I would prefer to be open at 7, so that's something they're thinking about and considering, because I do feel that people go off their shift at 7 and come on at 7; they want breakfast then. They don't want breakfast at 9 o'clock in the morning which is - to me - rather late. So we're working on that one. But as it stands at the moment, it closes at 5.

FAH You have a different staff for the canteen? An entirely different staff?

WOMAN They're all old Grandmet.

FAH Tell me now about the relationships. You say there's no problem, no complexity, between yourself and the Airport management. We have the impression, following through the local joint consultative committee meeting that from time to time there were the usual kind of problems.

WOMAN Oh yes. Like the hot pie machine. You bring them something in for the use of the airport, thinking it will be useful to them and it will help them and everybody else, and it takes so long for them to decide whether they want to use it or not.

FAH Were there other problems - like they wanted subsidised meals at different times, they wanted different hours of opening. Are you on the committee? (JCC)

WOMAN No. I'm on the security committee and on the airport users.

FAH And do these items come up? These problems?

WOMAN No, not really. No one really brings them up. Perhaps catering is one of the ones it has been only very, very rarely brought up.

FAH How many committees are you on?

WOMAN Two

FAH The facilitation and security? That's security - not Health and Safety?

WOMAN That's a good change. You do make a lot of because when we did our first few years, I don't think that

FAH How did it change?

WOMAN When the new company came in. My director was asked to come to these meetings, but he didn't. So I had to come instead in his place. And I've come to all the meetings ever since.

SOLOMON Is Reliance Cleaners involved in the facilitation committee?

WOMAN No.

FAH You were also with Grandmet, weren't you? OK, so you feel that the relationship between yourself and the airport is smooth. You don't get many complaints about food, timing, quality?

WOMAN You get the occasional complaint, and it's dealt with straight away.

FAH From the airport staff?

WOMAN You get the airport staff that complain at the canteen - the portions have got smaller ... things like that. I mean, they use the same scoop every day, but to them the portions have got smaller. When the prices went up, we went in for a real hammering. We really did. I had to put a letter up in the end saying that the staff would not be abused, and

if they were, they would be reported to BAA, because it was BAA's price increase and the staff really took a hammering over that.

How did that come about - the price increase?

They brought in a new finance manager and he took a good look at the prices and he decided they hadn't gone up for some considerable time and they really should be brought in line with Gatwick, so up they went. I think it was about 25% overall. If didn't go down too well.

Whom does this benefit - why not you?

We are only managers of the canteen. We manage the canteen for the BAA.

So you get a fixed amount of pay irrespective of any new company - Kessler?

They get a management fee for running it irrespective of throughput?

Well, like the shuttle. It was opened up for five days, day and night.

It makes no difference to us. It all goes to the canteen, to the BAA.

And the management fee is fixed for the whole five years?

I'm not sure on that, but I would think so.

And the airport restaurant goes on a percentage?

Yes. That's a concession.

So when you say 'fixed' you mean the staff canteen - and that's where the prices went up. What about the airport restaurant? The prices are under your control, are they?

No. They're under BAA.

But you benefit from any change in prices?

Yes. We take out a percentage.

Do you negotiate with them from time to time?

Yes. We should have negotiated in October. The prices should have gone up in October, but my company are just not used to airports. They were told to bring in their prices by the end of September, so that at the end of October the prices could go up. We had the meeting in October for the price increase, and they hadn't prepared anything. Nothing at all. They just brought us sheets that said what they expected it to go up to, but you can't do it that way. You have to do percentages ... you have to go right the way through exactly the costings of everything. And they hadn't done it. So instead of saying "Well I haven't done it, but I'll go away and do it and be back next week." My director said "Right. Forget the price increase. We won't have one." So we didn't. We should have had one on April 1. He was late getting his prices in again

and we didn't get the price increase until the middle of May. He over-estimated on a number of things. We had tills presented to us - brand new tills - with all the prices in them and we couldn't use the tills for six weeks because they were all programmed wrong. The prices he'd asked for, he hadn't got. And he'd wasted all that time and money having these tills programmed with prices he hoped to get and hadn't. The price increase arrived early one morning and straight up it went. We have big boards that they go up on, and from the moment they went up we started charging the new prices. We're back to square one again with people complaining that the prices have gone up, but again, it isn't our increase. It's BAA's.

FAH But the people who buy their meals here are passengers, aren't they?
WOMAN Yes, there's passengers. But there's also a lot of people that - we do a salad bar up there, and a lot of people like to come round from the service area and the shops and the banks ... rather than come down here. And you also get people like coach drivers, who are in Gatwick and Heathrow and they have concessions there. And they're not very happy (with the prices) either.

FAH All the details I've seen in relation to your previous management
WOMAN There doesn't seem to be much difference.

FAH The relationship with head office is different. For instance we didn't know so much of the details.

SOLOMON It sounds to me ... I think even the similarity is an interesting question. The catering in this airport - I don't know the other airports - seems to be given to inexperienced caterers and the actual decision making that the manager of manageress has to do is more influenced by the airport, BAA and Stansted than by the parent company.

WOMAN Our directors have said this on a number of occasions. "You do work for Tessler's and not for Stansted Airport". And heated arguments that we've had with them But with respect to him, we may work for Tessler's, but Tessler's are going to pull out one of these days and we're still here, and we still must work for the interests of Stansted as well. Stansted has as much power as Tessler's does.

FAH You imagine that if there were another concessionaire coming in, you would be able to take over and your job would be ...

WOMAN Well, we proved that, I think, with the last takeover with Tessler's.

As we said - he took seven ... and we told him at the time, if he didn't take the rest, he wouldn't run his unit. And within a month we were struggling. The people we had ... We opened up on a Sunday morning, which is the busiest morning of the week, at 6 o'clock. We had three staff that knew what they were doing and four for the evening shift, and we had a function for 200 and we had to run that unit day and night with seven staff and we had another seven that didn't know where a knife and fork went. I mean, it was unbelievable. We had a Chinese cook that he'd employed that couldn't cook an egg and we didn't find out for about three days until we realised that every time we walked past, he bowed, and that's all we got out of him. And he was so polite it was unbelievable. But we found out that he couldn't cook at all. He'd interviewed him and he'd said "Yes, he'd worked in kitchens". Which was correct. He'd washed up! This is the sort of people he employed. One was an engineer out of work and he liked him, so he employed him. That's what we got. It was unbelievable.

FAH

BOHANNON

Metropolitan was more experienced in airport management than that, wasn't it? They were more experienced in catering, because they did industrial catering. Their other business was more industrial catering, and they had more than one airport, but the airports they served : Stansted and the Scottish airports - that was a new venture, and so when they started they had no experience and the manageress here, she also was left pretty much on her own, and I think it was even a pattern. I could close my eyes and pattern the two periods. Her beginning and progressing and what you are doing and how you're progressing, and it's almost identical. But of course, here you are ... Grandmet finally decided that there was no future, that this was not the kind of ... they closed that whole section. They closed their airport catering section. That was their decision. Of course, we don't know what role BAA had in that decision. I don't think BAA had much on that, because we moved out in November, but it was in June that we'd had a meeting on the Friday and nothing had been said. We were all quite happy about pay and different other things. On the Saturday nothing was said. It was very quiet, a normal day. Then on the Sunday Mrs Stocks, who was the then manageress, she spent the whole day in waiting and called in members of staff so she could tell them. We weren't allowed to repeat it. Our husbands work here, boyfriends work here, sisters, brothers, because its a very family unit Stansted Airport, and everybody was sworn to secrecy, because no one was allowed

WOMAN

to say ... Because on Monday morning at 9 o'clock in were going all the letters into all five airports. And I think the whole idea was "We've had enough. And the impact will be that everybody will be picking up the phone and saying: "I've just had Grandmet give their notice in, they're pulling out in six months." The other manager would be saying "Yes. They've done it here." And literally, that's how it went. They pulled out of all five at 9 o'clock on Monday morning. So I don't really think BAA had much to do with it. Yes, but they did make the ultimate decision. Grandmet said "We are pulling out if ..." and they gave this proposal ... and BAA said "We're not going to approve your proposal" and so I would interpret that ...

Concludes meeting with concessionaires

REFERENCES

ALDRICH, H. (1977), Visionaries and Villains: The Politics of Designing Inter-Organizational Relations. In: BURACK, E.H. and NEGANDHI, A.R. (Eds.), Organization Design: Theoretical Perspectives and Empirical Findings, Kent, Ohio: Kent State University Press.

ALDRICH, H.E. (1979), Organizations and Environments, Prentice Hall.

ALLISON, G. (1971), The Essence of Decision: Explaining the Cuban Missile Crisis, Boston: Little, Brown & Co.

BERRY, D.F., METCALF, L., and McQUILLAN, W. (1974), Neddy: An Organizational Metamorphosis, Journal of Management Studies, 11, 1-20.

BRAYBROOKE, D. (1974), Traffic Congestion Goes through the Issue Machine, London: Routledge & Kegan Paul.

BRAYBROOKE, D. and LINDBLOM, C.E. (1963), A Strategy of Decision, New York: The Free Press.

BROADBENT, D.E. (1971), Decision and Stress, London: Academic Press.

BURNS, T. and STALKER, G.M. (1961), The Management of Innovation, London: Tavistock Publications.

BROWN, A. and HELLER, F. (1981), The Application of Group Feed-Back Analysis to Questionnaire Data in a Longitudinal Study, Human Relations, Vol. 34, No. 2, 141-156.

CARTER, E.E. (1971), The Behavioral Theory of the Firm and Top Level Corporate Decisions, Administrative Science Quarterly, 16, 413-427.

COHEN, M.D. and MARCH, J.G. (1974), Leadership and Ambiguity, New York: McGraw Hill.

CROZIER, M. (1964), The Bureaucratic Phenomenon, London: Tavistock Publications.

CROZIER, M. and THOENIG, J-C. (1976), The Regulation of Complex Organizational Systems, Administrative Science Quarterly, 4, 547-570.

CUMMINGS, T.G. and SCRIVASTA, S. (1977) Management of Work: A Socio-Technical Systems Approach, Kent State University Press.

CYERT, R.M., SIMON, H.A. and TROW, D.B. (1956), Observation of a Business Decision, Journal of Business, 29, 237-248.

CYERT, R.M. and MARCH, J.G. (1963), A Behavioural Theory of the Firm, Englewood Cliffs, New Jersey: Prentice Hall.

DIO (Decisions in Organizations) - A Comparative Study. In Industrial Relations, 1979, 18, 295-309

DIO (International DIO Research Team) - "A Contingency Model of Participative Decision Making : An Analysis of 56 Decisions in Three Dutch Organizations. In Journal of Occupational Psychology, 1983, 56, 1-18

DAVIS, L. and CHERNS, A. (Eds.) (1975), The Quality of Working Life, Volumes 1 and 2, New York: The Free Press and London: Collier Macmillan.

DUNCAN, R. (1972), Characteristics of Organizational Environments and Perceived Uncertainty, Administrative Science Quarterly, 17, 313-327.

DRENTHE, J.D., KOOPMAN, P.L., RUS, V., ODAR, M., HELLER, F.A. and BROWN, A. (1979), Participative Decision Making in Organizations: A Three Country Comparative Study, Industrial Relations, April 1979, 18, 295-309.

DRENTHE, Pieter and KOOPMAN, Paul. "A Contingency Approach to Participative Leadership : How Good?. In James Hunt; Dian-Marie Hosking; Chester Schriesheim and Rosemary Stewart LEADERS AND MANAGERS : International Perspectives on Managerial Behavior and Leadership. New York, Pergamon Press, 1984

EMERY, F.E. and TRIST, E.L. (1965), The Causal Texture of Organizational Environments, Human Relations, 18, 21-31.

FELDMAN, J. and KANTER, H. (1965), Organizational Decision Making, In: MARCH, J. (Ed.), Handbook of Organizations, pp. 614-649, Chicago: Rand McNally.

FIEDLER, F.E. (1965), Engineer the Job to Fit the Manager, H.B.R., 43, 115-122.

FIEDLER, F.E. (1967), A Theory of Leadership Effectiveness, New York: McGraw Hill.

FRIEND, J.K. and JESSOP, W.N. (1969), Local Government and Strategic Choice, London: Tavistock Publications.

FRIEND, J.K., POWER, J.M. and YEWLETT, C.J. (1974), Public Planning: The Inter-Corporate Dimension, London: Tavistock Publications.

GALBRAITH, K. (1967), The New Industrial State, Boston: Houghton Mifflin.

GOODMAN, L.A. (1973) "Causal Analysis of Data from Panel Studies and Other Kinds of Survey" in American Journal of Sociology, 1973, 78, 1135-1194

GOODMAN, L.A. (1973). "The Analysis of Multidimensional Contingency Tables When Some Variables are Posterior to Others : A Modified Path Analysis Approach" in Biometrika, 1973, 60, 178-192

HELLER, F.A. "Group Feed-back Analysis : A Method of field research". Psychological Bulletin, 1969, 72, 108-117

HELLER, F.A. "The Role of Longitudinal Method in Management Decision-Making Studies" in James Hunt; Dian-Marie Hosking; Chester Schriesheim and Rosemary Stewart (Eds) LEADERS AND MANAGERS : International Perspectives on Managerial Behavior and Leadership. Pergamon Press, New York, 1984

HELLER, F.A.; DRENTHE, P.J.D.; RUS, V.; and KOOPMAN, P. "A Longitudinal Study in Participative Decision Making". Human Relations, 1977, 30, 567-587.

72
HELLER, F.A. (1971), Managerial Decision Making: A Study of Leadership Styles and Power Sharing Among Senior Managers, London: Tavistock Publications.

HELLER, F.A. (1976), The Decision Process: An Analysis of Power-sharing at Senior Organizational Levels. In: DUBIN, R. (Ed.) Handbook of Work, Organization and Society, Chicago: Rand McNally.

HELLER, F.A. and WILPERT, B. (1981), Competence and Power in Managerial Decision Making: A study of senior levels of organization in eight countries. Chichester: John Wiley & Sons.

HERBST, P.S. (1962), Autonomous Group Functioning, Tavistock Institute of Human Relations.

HICKSON, D.J., HININGS, C.R., LEE, C.A., SCHNECK, R.E. and PENNINGS, J.M. (1971), A Strategic Contingencies Theory of Intraorganizational Power, Administrative Science Quarterly, 16, 216-229.

HININGS, C.R., HICKSON, D.J., PENNINGS, J.M. and SCHNECK, R.E. (1974), Structural Conditions of Intraorganizational Power, Administrative Science Quarterly, 19, 22-44.

HOGARTH, R. (1980), Judgement and Choice: The psychology of decision, John Wiley & Sons.

KATZ, D. and KAHN, R.L. (1966), The Social Psychology of Organizations, New York: Wiley.

KLEIN, L. (1976), New Forms of Work Organization, Cambridge: Cambridge University Press.

LAMMERS, C. (1980), Industrial Relations from an Interorganizational Perspective, Mimeographed, Institute of Sociology, University of Leyden, Netherlands.

LAWRENCE, P. and LORSCH, J.W. (1967), Differentiation and Integration in Complex Organizations, Administrative Science Quarterly, 12, 1-47.

LEAVITT, H., PINFIELD, L. and WEBB, E. (Eds.) (1974), Organizations of the Future: Interactions with the external environment. New York: Praeger Publications.

MINTZBERG, H., RAISINGHAM, D. and THEORET, A. (1976), The Structure of "Unstructured" Decision Processes, Administrative Science Quarterly, 21, 246-275.

MacCRIMMON, K. and TAYLOR, R. (1976), Decision Making and Problem Solving, In: DUNNETTE, M. (Ed.), Handbook of Industrial and Organizational Psychology, Chicago: Rand McNally.

MARCH, J.G. and SIMON, H.A. (1958), Organizations, New York: Wiley.

METCALF, J.L. (1976), Organizational Strategic and Interorganizational Networks, Human Relations, 29, 327-343.

MILES, R.E., SNOW, C.C. and PFEFFER, J. (1974), Organization-Environment: Concepts and Issues, Industrial Relations, 13, 244-264.

MILLER, E.J. (1959), Technology, Territory and Time: The internal differentiation of complex production systems, Human Relations, 12, 243-272.

PASK, G. Current Scientific Approaches to Decision Making in Complex Systems. Final Report ARI Liaison Office, European Research Office, London, 1976

PETTIGREW, A. (1973), The Politics of Organizational Decision Making, London: Tavistock Publications.

PFEFFER, J. and SALANCIE, G. (1978), The External Control of Organizations: A Resource Dependence Perspective. New York: Harper & Rowe.

STARBUCK, W. (1976), Organizations and their Environments. In DUNNETTE, M.D. (Ed.), Handbook of Industrial and Organizational Psychology, chapter 25, pp. 1069-1123, Chichago: Rand McNally.

SIMON, H.A. (1945), Administrative Behavior, New York: Macmillan.

SIMON, H.A. (1957), A Behavioral Model of Rational Choice. In: SIMON, H.A., Models of Man. New York: Wiley.

SIMON, H.A. (1959), Theories of Decision Making in Economics and Behavioral Science, American Economic Review, 49, 253-283.

THOMPSON, J. (1967), Organizations in Action. New York: McGraw Hill.

US ARMY Survey Feed Back in Combat Units in the US Army in Europe : A Pilot Project. Research Problem Review 77-2, US Army Research Institute for the Behavioral and Social Sciences, 1977

VROOM, V. and YETTON, P. (1972), Some Descriptive Studies of Participation in Decision Making. Mimeographed: Carnegie-Mellon University, Pittsburgh, Pennsylvania.

WALLACH, M., KOGAN, N. and BENI, D. (1962), Group Influence on Individual Risk Taking, Journal of Adm. & Social Psychology, 65, 75-86.

WEICK, K. (1969), The Social Psychology of Organizing, Reading, Mass.: Addison Wesley.

WOODWARD, J. (1965), Industrial Organization. Theory and Practice, London: Oxford University Press.