

CHAPTER 5

UNDERSTANDING DIFFERENT OUTCOMES IN
DECISION MAKING

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Abstract

The use of Dynamic Concept Analysis (DCA), developed by Kontiainen (Chapter 1), is demonstrated in studies of different outcomes in decision-making processes, in which various predictors need to be taken into consideration at the same time. DCA is a method for integrating information in complex situations, and it enables the identification of relationships between different variables in conceptual models. The models produced by DCA give holistic pictures of how different aspects are likely to become interrelated in various decision-making processes.

Decisions are studied in the conceptual context of another research project (Roscoe, Chalmers & Herriot, 1989), which analyses decisions by clinical professional teams (doctors, nurses, clinical psychologists and social workers) on whether a mentally ill offender should be transferred from a special hospital to a local one. Three different decisions are studied here: transfer (1) accepted, (2) conditional or (3) rejected.

The main aim is to demonstrate how conceptual analyses and models might be of use when trying to understand a particular decision. It is shown how a team may produce very different decisions even with the same information about a patient. Three conceptual models of actual cases are analysed to assess the relevance of this approach. The models proved to give relevant pictures about these decision-making processes.

5.1 INTRODUCTION

Tuggle and Barron (1983) gave the following definition of 'decision-making':

“Decision-making is concerned with a set of action alternatives for a given situation, with consequences of those alternatives, and with valuation of the consequences, alternatives etc. The conundrum is to select an alternative (not to find a path). There is no concept of a ‘correct’ decision (except bureaucratically, i.e., organizational policies are adhered to). What constitutes an ‘optimal’ decision is largely subjective, whereas in problem-solving what constitutes a correct or an optimal solution is largely objective.”

However, this definition employs a model of decision making which is essentially rational. It construes the process as one generating alternative courses of action, anticipating the probability of various outcomes, and evaluating them.

Descriptive research rather than prescriptive theory demonstrates that these processes are not always followed. For example, people often 'satisfice' rather than optimise (Simon, 1976); that is, they choose the first alternative that comes along that is satisfactory. Alternatively, they may give undue weight to outcomes which are novel and distinguish clearly one alternative course of action from another (Tversky, 1970). Moreover, particularly in organisational settings, they may fail to consider the possibility of contradictory evidence or other alternatives - the phenomenon of 'group think' (Janis, 1982).

Thus there is a great deal of evidence that classical subjective decision theory does not always account successfully for decision making in real-life situations. Are there other models which can do justice to the way in which decision makers use evidence without assuming the comparison of alternatives by means of subjective probabilities and values?

One such method is Dynamic Concept Analysis (DCA) (Chapter 1), which is used in this study to illustrate different decisions in conceptual models. DCA has been developed for the analysis of complex situations in which various properties should be taken into consideration at the same time in order to produce holistic pictures about a reality. It will be shown how different decisions may be made using the same information. In addition, three models of actual cases are described, and assessed against information about how the decisions were achieved in practice.

5.2 CONTEXT OF THE STUDY

The conceptual context of this study derives from a study on ‘The Context of Professional Decisions’ (Roscoe, 1988). This is described in another paper (Roscoe, Chalmers & Herriot, 1989, 5) as follows:

“Within the UK there are a few hospitals for the criminally insane. People who usually have been convicted of a criminal offence, but who are judged to be suffering from mental disorder, are sent there. They may be detained, if subject to legal restrictions on their discharge, until the Home Office, a Department of the UK Government, agrees to their release. Before the Home Office is asked for permission to release them, a consultant forensic psychiatrist at the hospital for the criminally insane who is responsible for their treatment has to assess them. They have to be assessed as sufficiently well to be treated in an ordinary psychiatric hospital.

This psychiatrist then has to approach a consultant psychiatrist at a local hospital in the patient’s home area to persuade him or her to admit the patient to their hospital.

The psychiatrist from the local hospital may reject the request without examining the patient, often on the grounds that the local hospital has insufficient resources to cope.

However, he may lead a team to the hospital for the criminally insane in order to assess the patient for suitability for transfer. This team is likely to consist of other professionals: nurses, social workers, and perhaps an occupational therapist. Alternatively, the psychiatrist may conduct the assessment alone. The decision investigated in this research is whether or not to accept a patient into a local hospital.”

The original study (Roscoe, 1988) included 441 decisions affecting 309 patients. The present study uses the conceptual framework and categories of the original study on decision making without going into the detailed findings.

5.3 VARIABLES

The original report (Roscoe 1988, 94) gives ten areas of interest which were considered essential in the decision-making processes concerning the possible transfer of a patient from a special hospital to a local one:

1. Patient biographical data
2. Behavioural problems of the patient

3. Psychotic symptoms of the patient
4. Social functioning of the patient
5. Contents of the transfer letter
6. Social process of the assessment team
7. Composition of the assessment team
8. Type of institution
9. Resources available to the institution
10. Patient prototype

(1) Patient biographical data refers to age, gender, ethnicity, and length of stay in the hospital.

(2) Behavioural problems mean the nature and severity of the worst and most frequent problems of the patient.

(3) Psychotic symptoms refer, for example, to the degree of insight into their own illness, the nature of the delusions, and to the extent to which the psychosis is controlled.

(4) Social functioning means, for instance, the extent of the patient's social isolation when admitted to hospital, his or her capacity for autonomy, and the need for training in social skills.

(5) This refers to the letter from the consultant psychiatrist to his or her colleague at the local hospital and includes positive and negative features of the patient.

(6) Social process refers to the extent, quality and degree of formality of communication between the professionals involved in the transfer attempt.

(7) This refers to the team from the local hospital sent to assess the patient, and includes ranks of the medical, nursing and paramedical staff, and whether the assessment was carried out as a team or individually.

(8) Organisational structure refers to the categorisation of the local hospitals into professional bureaucracies, machine bureaucracies or mixed cases (Mintzberg 1979).

(9) This means the organisational resources of the local hospital.

(10) Patient prototype refers to the diagnostic category of the patient.

5.4 DYNAMIC CONCEPT ANALYSIS IN THIS STUDY

The ten predictor variables with different decision outcomes are analysed in the following using Dynamic Concept Analysis (Chapter 1). An **information matrix** includes information about relationships between the variables studied, and serves as the basis for integrating this information in **conceptual models** which describe the structure of concept relations in general and in all individual cases in a study.

Here, the first task is to specify the concepts to be used in the analyses, and then to build an information matrix of concept relations. Finally, conceptual models are constructed to describe the different decision-making processes involved in attempts to transfer a patient to a local hospital.

The conceptual context of decision making is now specified according to the following characteristics or attributes of each variable. Attributes **a** and **b** give the two poles of the dimension, and attribute **n** indicates the medium or neutral level.

	Context Variables	Attributes		
		a	n	b
1.	Biographical Data	positive	neutral	negative
2.	Behaviour Problems	high	medium	low
3.	Psychotic Symptoms	high	medium	low
4.	Social Functioning	social	neutral	non_social
5.	Patient Prototype	positive	neutral	negative
6.	Letter	positive	neutral	negative
7.	Social Process	open	neutral	restrictive
8.	Team Composition	democratic	neutral	autocratic
9.	Resources	good	medium	poor
10.	Organisation	professional	neutral	bureaucratic
11.	Decision on Transfer	accepted	conditional	rejected

Relationships between conceptual categories can be defined in various ways, including using research results (e.g., correlation coefficients) to indicate linear relationships of concept relations, or by making individual judgements about these relationships.

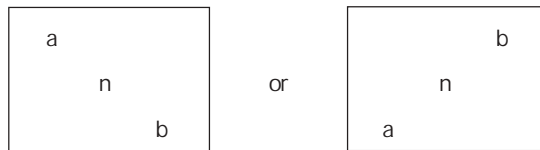
It was decided to use individual judgements to define the relations between the concepts of decision making. The judgements were made in cooperation with a member of the team from the original study. Thus the information matrix here can be regarded primarily as an individual and subjective structure. Nevertheless, it is likely that research findings are taken

at least indirectly into account by the team member. This may reduce the degree of subjectivity.

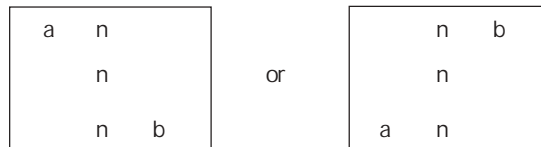
The relationship between two concepts may be linear or non-linear (Chapter 1, 38). This study is based primarily on assumptions of linear relationships between variables (see Appendix 5.1).

An information matrix built on individual judgements was regarded as sufficient in this study, where the primary interest is in demonstrating and testing the use of DCA in analyses of decision-making processes. The relevance of the information matrix is assessed when conceptual models are used to describe actual decision-making processes concerning real patients. The information matrix, i.e. the matrix of concept relations in decision making, is given in Matrix 5.1.

The statements in Appendix 5.1. indicate a linear relationship between two variables, and this results in a cell in Matrix 5.1. in one of the following forms:



The first indicates a positive correlation, and the second a negative correlation. A trend towards the relationship as stated in Appendix 5.1. is expressed in a cell as follows:



These relationships indicate a trend towards a positive or negative correlation between the two variables.

An empty cell in the matrix indicates that it is not possible to make a statement about a relationship. For instance, it is not reasonable to state in Cell 1/6: the more positive the letter, the more positive the patient's biographical data, because the letter is unlikely to have this kind of influence. However, it can be stated in Cell 6/1: the more positive the patient's biographical data, the more positive the letter, because a consulting psychiatrist is likely to take the patient's biographical details into account in the letter. This causes asymmetry in the matrix.

The rows in Matrix 5.1. have a central role in building conceptual models for different combinations of attributes. A row gives the attributes

which have a Type-2 relation to the attribute in question. In some cases this may apply to two attributes of the same concept, and this causes non-linearity in a cell (e.g., Cell 11/9).

Different combinations of attributes result in conceptual models that differ to varying degrees. The model is built from information on Type-2 relations, but when all these relations are taken into it, the final model for a particular combination of attributes may appear to include other Types (1, 3, 4, 5) as well. The five types of relations were introduced earlier in Chapter 1 (pp. 33-34).

Matrix 5.1. Information matrix for analyses of decision making

CONCEPTS		1	2	3	4	5	6	7	8	9	10	11
row	Attributes	a n b	a n b	a n b	a n b	a n b	a n b	a n b	a n b	a n b	a n b	a n b
1	1. BIOGRAPHICAL DATA	1a positive	a	n	b							
2		1n medium	n	n	n							
3		1b negative	b	a	a	n	b					
4	2. BEHAVIOUR PROBLEMS	2a high	b	a	a	n	b					
5		2n medium	n	n	n	n	n					
6		2b low	a	n	b	b	a					
7	3. PSYCHOTIC SYMPTOMS	3a high			a	n	b					
8		3n medium			n	n	n					
9		3b low			b	b	a					
10	4. SOCIAL FUNCTIONING	4a social	a	n	b	b	a					
11		4n neutral	n	n	n	n	n					
12		4b non-social	n	b	a	a	n	b				
13	5. PATIENT PROTOTYPE	5a positive	a	n	b	b	a	a				
14		5n neutral	n	n	n	n	n	n				
15		5b negative	b	a	a	n	b	b				
16	6. LETTER	6a positive	a	n	b	b	a	a	a			
17		6n neutral	n	n	n	n	n	n	n			
18		6b negative	b	a	a	n	b	b	b			
19	7. SOCIAL PROCESS	7a open						a	a	n		a
20		7n neutral						n	n	n		n
21		7b restricted						b	n	b		b
22	8. TEAM COMPOSITION	8a democratic						a	a	a	a	n
23		8n neutral						n	n	n	n	n
24		8b autocratic						b	b	b	n	b
25	9. RESOURCES	9a good				a	a	a		a	a	
26		9n medium				n	n	n		n	n	
27		9b poor				b	b	b		b	b	b
28	10. ORGANISATION	10a professional						a	n	a	a	n
29		10n neutral						n	n	n	n	n
30		10b bureaucratic						n	b	n	b	b
31	11. DECISION	11a accepted	a	n	b	b	a	a	a	a	a	a
32		11n conditional	n	n	n	n	n	n	n	n	n	n
33		11b rejected	b	a	a	n	b	b	b	b	n	b

- A cell shows the relationship between two concepts
- A row shows the attributes that have a Type-2 relation to the attribute in question

This study includes ten conceptual categories and a total of thirty characteristics or attributes. The number of possible combinations of attributes in this case is about sixty thousand (Chapter 1, 41). All of these combinations with different decision outcomes (transfer accepted, conditional, rejected) could be individually described by conceptual models using the information in Matrix 5.1.

In the following account, the use of Matrix 5.1. in building conceptual models is demonstrated in the analyses: firstly to show how the same information could result in different decisions, and then to describe three actual decision processes.

5.5 DIFFERENT DECISIONS based on the SAME INFORMATION

In the following theoretical example, predictor variables (attributes) were selected to describe the decision-making process concerning the attempted transfer in Case 1.

Table 5.1. Attribute Combination in Case 1

Context Variables		Attributes		
		a	n	b
1.	Biographical Data	positive	neutral	<u>negative</u>
2.	Behaviour Problems	high	medium	<u>low</u>
3.	Psychotic Symptoms	<u>high</u>	medium	low
4.	Social Functioning	<u>social</u>	neutral	non_social
5.	Patient Prototype	positive	neutral	<u>negative</u>
6.	Letter	<u>positive</u>	neutral	negative
7.	Social Process	<u>open</u>	neutral	restrictive
8.	Team Composition	<u>democratic</u>	neutral	autocratic
9.	Resources	good	medium	<u>poor</u>
10.	Organisation	professional	neutral	<u>bureaucratic</u>

It is possible to identify the types of relations between the attributes of this case from Matrix 5.1.1., '+' points out the attributes of the other predictor variables in the attribute combination of Case 1 that have a Type-2 (one-way) relation to the attribute in question: as seen in the row of this particular attribute in Matrix 5.1. On the other hand, '-' means that an attribute

does not have a Type-2 relation to this attribute: a relation between these two may be found on other rows, and this will appear in the overall conceptual model.

A Type-2 relation (+) is indicated by an arrow pointing to the attribute in the model. The above information on relations in Matrix 5.1.1. is derived from Matrix 5.1. (rows 3, 6, 7, 10, 15, 16, 19, 22, 27, 30, and 31, 32, 33).

Models 5.1.1., 5.1.2. and 5.1.3. describe the decision-making process with the three possible outcomes in Case 1. All ten attributes and their internal relationships are identical in the models, although there are considerable differences between them.

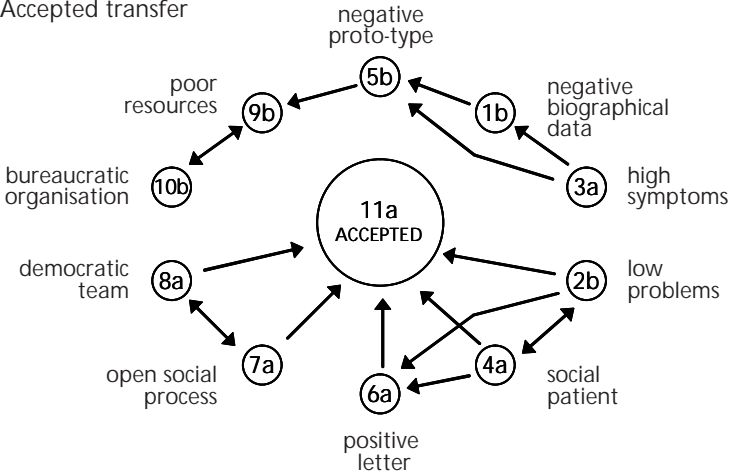
Model 5.1.1. illustrates the decision when the transfer of a patient is accepted. The model suggests that this process will be understood in terms of emphasising the positive aspects of the patient. The team is likely to work cooperatively (7a and 8a) in an open and democratic atmosphere. The positive letter (6a) from the consulting psychiatrist plays a central role in the process. Negative biographical data (1b) results in a negative prototype (5b), which in turn weakens the patient’s chances of transfer (9b) in a bureaucratic organisation (10b). It seems likely that, in this case, when many negative aspects have to be overcome, the transfer is based primarily on trusting the personal relationships between the people who are involved in the decision making (6a, 7a, 8a).

Matrix 5.1.1. Type-2 (A<-B) Relations (+) in the Attribute Combination/ Case 1

	Attributes	1b	2b	3a	4a	5b	6a	7a	8a	9b	10b
1. Biographical Data	1b negative	-	-	+	-	-	-	-	-	-	-
2. Problems	2b low	-		-	+	-	-	-	-	-	-
3. Symptoms	3a high	-	-		-	-	-	-	-	-	-
4. Social Functioning	4a social	-	+	-		-	-	-	-	-	-
5. Proto-Type	5b negative	+	-	+	-		-	-	-	-	-
6. Letter	6a positive	-	+	-	+	-		-	-	-	-
7. Social Process	7a open	-	-	-	-	-	+		-	-	-
8. Team Composition	8a democratic	-	-	-	-	-	-	+		-	-
9. Resources	9b poor	-	-	-	-	+	-	-	-		+
10. Organisation	10b bureaucratic	-	-	-	-	-	-	-	-	-	+
11. DECISION	11a accepted	-	+	-	+	-	+	+	+	-	-
	11n conditional	-	-	-	-	-	+	+	-	+	-
	11b rejected	+	-	+	-	+	-	-	-	+	+

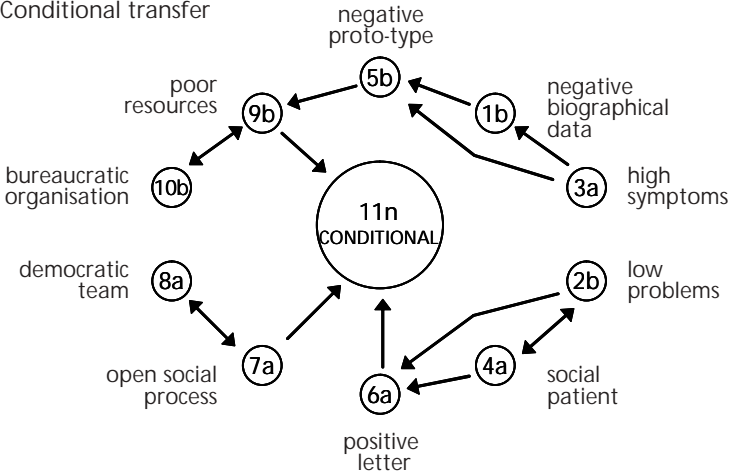
Model 5.1.1.

Case1: Accepted transfer



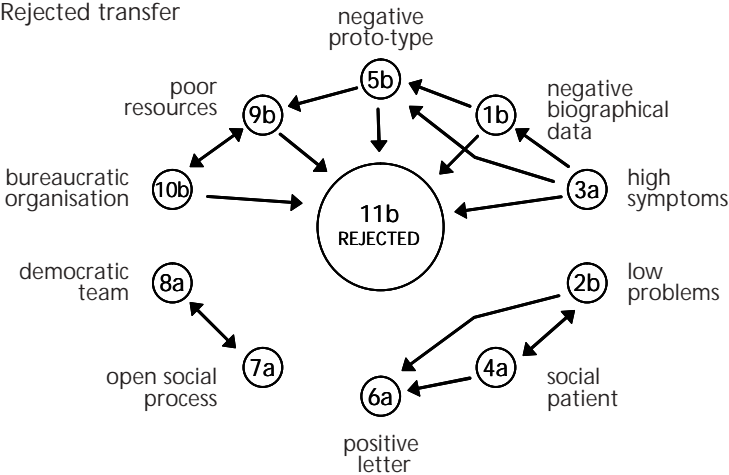
Model 5.1.2.

Case1: Conditional transfer



Model 5.1.3.

Case1: Rejected transfer



The decision is conditional in Model 5.1.2. Poor organisational resources (9b) hinder the immediate transfer that was supported by the positive letter (6a) and the team (7a, open social process). Patient variables do not directly affect this decision, and it seems likely that the local hospital has real difficulties in placing the patient.

Model 5.1.3., the rejected transfer, reflects a primarily bureaucratic decision (10b). The case has been mainly assessed from the organisational point of view: the local hospital does not have any resources (9b) to place this kind of patient (1b, 3a, 5b). The social process (7a) and team composition (8a) have little or no effect on the decision, and the letter (6a) from the consulting psychiatrist plays a minor role.

5.6 THREE ACTUAL CASES

As mentioned earlier, the thirty attributes in this study could appear in about sixty thousand different combinations with the three outcomes (transfer accepted, conditional or rejected). A conceptual model can be built to depict the relationships between the attributes in each combination. Information on these relationships is available in Matrix 5.1. The model gives a hypothetical picture of the actual case.

Three decision-making processes concerning actual patients are now analysed to assess the relevance of conceptual models in describing individual cases. The case studies were carried out in the following phases:

- (1) A combination of attributes to characterise a case was given by a member of the original study group.
- (2) The information matrix (Matrix 5.1.) was used to identify relationships between the attributes in the combination.
- (3) A conceptual model was built to show the relationships between the attributes in this particular combination.
- (4) The case was then described by one of the present authors using only the information available in the conceptual model.
- (5) The relevance of this information was assessed by the research-team member who had access to more detailed information about the patient and about the actual circumstances in which the decision was made.

The attributes in the models are given in the same order to make it easier to make visual comparisons between the models.

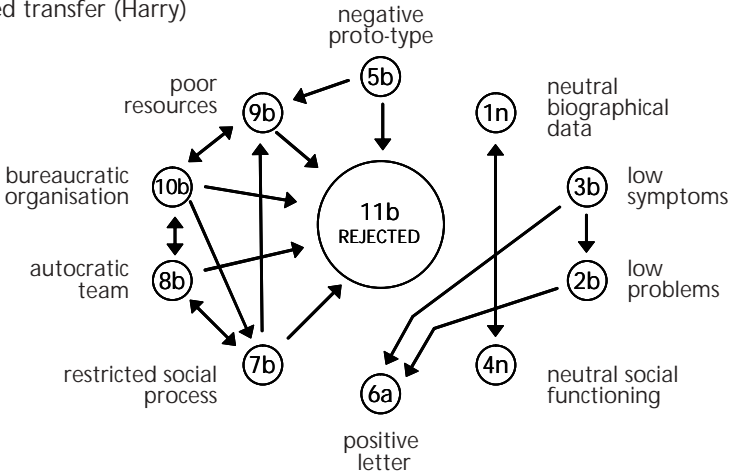
CASE 5.2.1 Rejected Transfer (Harry)

The following attribute combination was chosen by the team member to characterize this case:

- | | | |
|-----|--------------------|------------------|
| 1. | Biographical Data | 1n neutral |
| 2. | Behaviour Problems | 2b low |
| 3. | Psychotic Symptoms | 3b low |
| 4. | Social Functioning | 4n neutral |
| 5. | Patient Prototype | 5b negative |
| 6. | Letter | 6a positive |
| 7. | Social Process | 7b restrictive |
| 8. | Team Composition | 8b autocratic |
| 9. | Resources | 9b poor |
| 10. | Organisation | 10b bureaucratic |
| 11. | DECISION | 11b rejected |

Information about Type-2 relations to the above attributes is available in Matrix 5.1. (rows 2, 6, 9, 11, 15, 16, 21, 24, 27, 30, and 33). Model 5.2.1. shows how the attributes in this combination are related to each other.

Model 5.2.1.
Rejected transfer (Harry)



Description

Model 5.2.1. suggests how the different variables of the decision-making process were related when the transfer of the patient (Harry) was being considered. The transfer was rejected.

The positive letter (6a) from the consulting psychiatrist was obviously based on information about the patient's low behaviour problems (2b) and low psychotic symptoms (3b). The letter and the fairly positive patient information (1n, 2b, 3b, 4n) did not have much influence on the decision, which was primarily based on the negative prototype of the patient (5b). The negative prototype did not relate to other patient variables. The model does not give any explanation why the prototype is negative. The decision was made in a bureaucratic organisation (10b) with little or no team cooperation (7b, 8b). The model shows that the organisational aspects (7b, 8b, 9b, 10b) were closely related to each other, and the information concerning the patient was largely ignored.

Assessment

"Clinically, the patient did not demonstrate obvious pathology but had a history of minor heterosexual offending but with a flavour which caused anxiety about the consequences should offending escalate in seriousness.

The model clearly separates the current 'wellness' of the patient from the anxiety of the local hospital, expressed through the negative stereotype view of the patient, about his future behaviour. This separation was clearly observed in the case history.

The patient was referred to a poorly resourced old-style large mental-illness hospital in which psychiatric medicine was still used in a traditional manner. The model also clearly separates out these issues and attaches appropriate importance to them in the outcome of the transfer process.

The overall relevance of the model is very good."

CASE 5.2.2 Accepted Transfer (Susan)

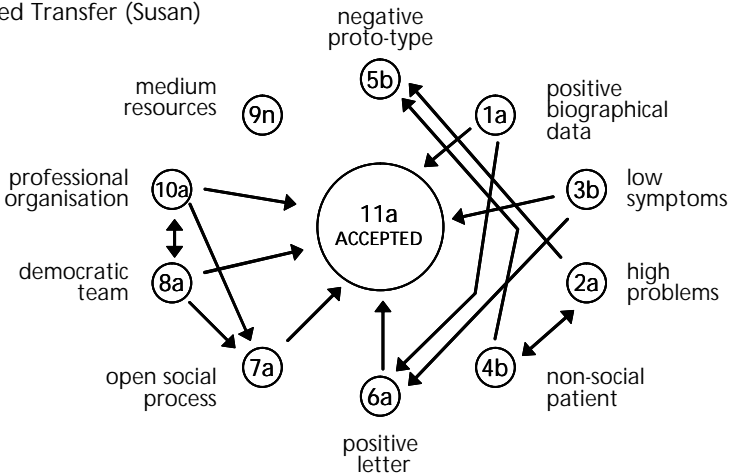
The attribute combination allocated by the team member is given below.

1.	Biographical Data	1a positive
2.	Behaviour Problems	2a high
3.	Psychotic Symptoms	3b low
4.	Social Functioning	4b non-social
5.	Patient Prototype	5b negative
6.	Letter	6a positive
7.	Social Process	7a open
8.	Team Composition	8a democratic
9.	Resources	9n medium
10.	Organisation	10a professional
11.	DECISION	11a accepted

Information about Type-2 relations to the attributes of this combination is available in Matrix 5.1. (rows 1, 4, 9, 12, 15, 16, 19, 22, 26, 28, and 31). Model 5.2.2. shows the relationships between the attributes in this case.

Model 5.2.2.

Accepted Transfer (Susan)



Description

Model 5.2.2. offers a hypothesis of why the transfer of the patient (Susan) was accepted. The positive letter (6a) probably emphasised her positive biographical data (1a) and her low psychotic symptoms (3b). This information was taken into consideration in the decision-making process, as shown in the model. The patient prototype is negative (5b), and it mainly resulted from her severe behaviour problems (2a) and non-social behaviour (4b). Nevertheless, this did not prevent the cooperative team (7a, 8a) working in the professional organisation (10b), from accepting her in the local hospital, although the resources were not necessarily very good (9n). The decision-making process was patient-centred.

Assessment

“The patient had a long-standing history from early adolescence of disruptive and self-destructive behaviour. Although from a good ‘middle class’ background, she had spent most of her life in institutions of one type or another. She also had a long history of rejection by various hospitals on the grounds of the intractability of her behaviour.

The model demonstrates the link between her behaviour and stereotypical image, and separates these from the relative absence of psychotic or severe neurotic features - both in terms of their clinical separation and in relation to the dependent decision. The crucial importance of the ‘individually centred’ professional approach adopted by the clinical team accepting the patient is also highlighted in the model. The importance of the patient’s middle-class background is probably overemphasised, and in reality was not overtly acknowledged to be relevant.

The overall assessment of the model is good.”

CASE 5.2.3 Rejected Transfer (Allan)

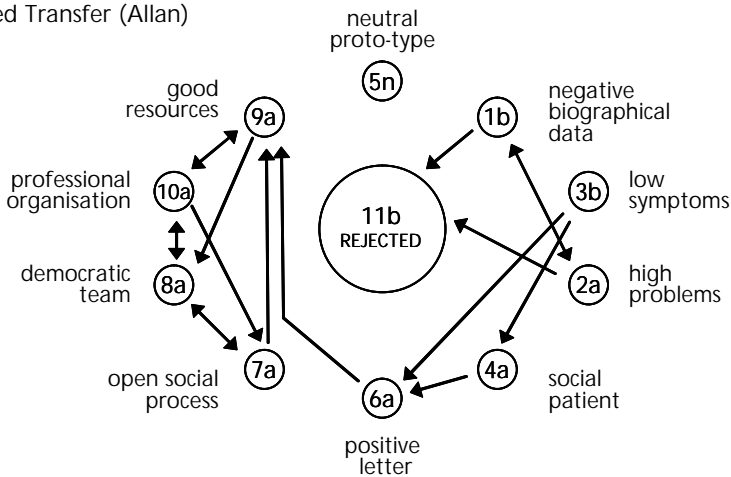
The attribute combination chosen by the team member to characterize Case 5.2.3. is given below:

- | | | |
|-----|--------------------|------------------|
| 1. | Biographical Data | 1b negative |
| 2. | Behaviour Problems | 2a high |
| 3. | Psychotic Symptoms | 3b low |
| 4. | Social Functioning | 4a social |
| 5. | Patient Proto_Type | 5n neutral |
| 6. | Letter | 6a positive |
| 7. | Social Process | 7a open |
| 8. | Team Composition | 8a democratic |
| 9. | Resources | 9a good |
| 10. | Organisation | 10a professional |
| 11. | DECISION | 11b rejected |

Type-2 relations to the attributes in this combination are to be found in Matrix 5.1. (rows 3, 4, 9, 10, 14, 16, 19, 22, 25, 28, and 33).

Model 5.2.3.

Rejected Transfer (Allan)



Description

Model 5.2.3. demonstrates how the transfer of the patient (Allan) was rejected. The case was probably carefully considered by the cooperative, open team (7a, 8a) working in the professional organisation (10a). The resources were good (9a) in terms of patient placement. The positive letter (6a), which supported the transfer, probably emphasised the patient's low psychotic symptoms (3b) and his social behaviour (4a). There was, however, some ambiguity in the patient prototype (5n), which remains non-related in the model. The transfer was rejected primarily on account of the information in the negative biographical data (1b) and because of the severe behaviour problems (2a).

Assessment

"The patient was first admitted into secure care when he was in his 20's following a single index offence. He was transferred to an open hospital in his 60s after a long period of trouble-free behaviour. Very shortly after transfer he attempted the same offence and was immediately returned to secure care. Some 15 years later another attempt at transfer was made, but on this occasion it was immediately rejected on the grounds that, despite his age, he was still too dangerous.

The model correctly identifies the dramatic nature of the behaviour problem in the decision to reject. However, it fails to provide any clues as to why, for this patient, all the positive organisational indicators failed to affect the decision and is therefore less useful in this case than in cases 5.2.1 and 5.2.2 in shedding light on the decision process. To have done this the description of the model would have needed to contain more information particularly about the valency of the positive and negative aspects."

5.7 DISCUSSION

The information matrix (here: Matrix 5.1.) is in a central position in producing conceptual models. The definition of concept relations for the matrix according to individual judgements (cf. the statements in Appendix 5.1.) is always more or less influenced by personal values and views. Therefore, the suggested relations given in the matrix are open to criticism. On the other hand, such subjectivity is the norm for most decision making in real-life situations.

Nevertheless, the case studies indicate that Matrix 5.1. serves as a good basis for building conceptual models of decision making, which in turn give relevant pictures of the processes. However, it is clear from Case 5.2.3. that a deeper understanding of the decision-making process may need more information than is available in the model.

The information matrix is built here by statements about linear concept relations. A decision-making process does not necessarily always follow these general rules. A decision may sometimes be 'illogical', or in contradiction to general views on how different things are related. The process may also be a 'power game' in which those in a position to make a decision may base it on factors other than those included in the information matrix (cf. Kakabadse et alii 1988). Alternatively, there may be some specific information outside the conceptual framework of the study which is crucial to the understanding of a particular process. This was particularly obvious in Case 5.2.3.

All in all, this study supports the use of conceptual models to clarify the structure of a decision-making process. Even the 'blind' case descriptions offered by the models, without detailed information, proved capable of giving relevant information about what actually happened in the processes.

Conceptual models could be used to analyse different decision-making processes, to simulate different decision alternatives, and in the training of decision-making skills.

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APPENDIX 5.1 Assumptions about Concept Relations

A statement indicates a linear relation to the variable.

- in brackets are the variables that are considered not to have a direct relation (Type 2) to the variable in question
- * indicates a trend towards a relation as stated
- ** refers to the cell in the Information Structure (Matrix 5.1., p. 165)

1. Patient Biographical Data (positive - neutral - negative)

cell**

- 1/2 The fewer the behaviour problems, the more positive the biodata
- 1/3 The more psychotic the symptoms, the more negative the biodata
- 1/4* The more social the patient, the more positive the biodata
- 1/5- (Prototype)
- 1/6- (Letter)
- 1/7- (Team/Social Process)
- 1/8- (Team Composition)
- 1/9- (Resources)
- 1/10- (Organisation Type)
- 1/11- (Decision)

2. Behaviour Problems (high - medium - low)

cell**

- 2/1 The more negative the biodata, the higher the occurrence of behaviour problems
- 2/3 The more psychotic the symptoms, the higher the occurrence of behaviour problems
- 2/4 The more non-social the behaviour, the higher the occurrence of behaviour problems
- 2/5- (Prototype)
- 2/6- (Letter)
- 2/7- (Team/Social Process)
- 2/8- (Team Composition)
- 2/9- (Resources)
- 2/10- (Organisation Type)
- 2/11- (Decision)

3. Psychotic Symptoms (high - medium - low)

cell**

- 3/1- (Biodata)
- 3/2- (Behaviour Problems)

- 3/4- (Social Functioning)
- 3/5- (Prototype)
- 3/6- (Letter)
- 3/7- (Team/Social Process)
- 3/8- (Team Composition)
- 3/9- (Resources)
- 3/10- (Organisation Type)
- 3/11- (Decision)

4. Social Functioning (social - neutral - non-social)

cell**

- 4/1* The more positive the biodata, the more social the patient
- 4/2 The fewer behaviour problems, the more social the patient
- 4/3 The fewer the psychotic symptoms, the more social the patient
- 4/5- (Prototype)
- 4/6- (Letter)
- 4/7- (Team/Social Process)
- 4/8- (Team Composition)
- 4/9- (Resources)
- 4/10- (Organisation Type)
- 4/11- (Decision)

5. Patient Prototype (positive - neutral - negative)

cell**

- 5/1 The more positive the patient biodata, the more positive the prototype
- 5/2 The fewer the behaviour problems, the more positive the prototype
- 5/3 The more psychotic the symptoms, the more negative the prototype
- 5/4 The more social the patient, the more positive the prototype
- 5/6- (Letter)
- 5/7- (Team/Social Process)
- 5/8- (Team Composition)
- 5/9- (Resources)
- 5/10- (Organisation Type)
- 5/11- (Decision)

6. Letter (positive - neutral - negative)

cell**

- 6/1 The more positive the biodata, the more positive the letter
- 6/2 The fewer the behaviour problems, the more positive the letter
- 6/3 The fewer the psychotic symptoms, the more positive the letter

- 6/4 The more social the patient, the more positive the letter
- 6/5 The more positive the prototype, the more positive the letter
- 6/7- (Team/Social Process)
- 6/8- (Team Composition)
- 6/9- (Resources)
- 6/10- (Organisation Type)
- 6/11- (Decision)

7. Social Process (open - neutral - restrictive)

cell**

- 7/1- (Patient Biodata)
- 7/2- (Behaviour Problems)
- 7/3- (Psychotic Symptoms)
- 7/4- (Social Functioning)
- 7/5- (Prototype)
- 7/6- (Letter)
- 7/8* The more democratic the team, the more open the process
- 7/9- (Resources)
- 7/10 The less bureaucratic the organisation, the more open the process
- 7/11- (Decision)

8. Team Composition (democratic - neutral - autocratic)

cell**

- 8/1- (Patient Biodata)
- 8/2- (Behaviour Problems)
- 8/3- (Psychotic Symptoms)
- 8/4- (Social Functioning)
- 8/5- (Prototype)
- 8/6- (Letter)
- 8/7 The more open the social process, the more democratic the team
- 8/9 The fewer the resources, the more autocratic the team
- 8/10* The less bureaucratic the organisation, the more democratic the team
- 8/11- (Decision)

9. Resources (good - medium - poor)

cell**

- 9/1- (Patient biodata)
- 9/2- (Behaviour Problems)
- 9/3- (Psychotic Symptoms)
- 9/4- (Social Functioning)

- 9/5 The more positive the patient prototype, the better the resources for transfer
- 9/6- (Letter)
- 9/7- (Team/Social Process)
- 9/8- (Team Composition)
- 9/10- (Organisation)
- 9/11- (Decision)

10. Organisation Type (professional - neutral - bureaucratic)

cell**

- 10/1- (Patient Biodata)
- 10/2- (Behaviour Problems)
- 10/3- (Psychotic Symptoms)
- 10/4- (Social Functioning)
- 10/5- (Prototype)
- 10/6- (Letter)
- 10/7 The more open the team process, the less bureaucratic the organisation
- 10/8* The more democratic the team composition, the less bureaucratic the organisation
- 10/9- (Resources)
- 10/11- (Decision)

11. Decision (accepted - conditional - rejected)

cell**

- 11/1 The more positive the patient biodata, the more likely that the transfer will be accepted
- 11/2 The fewer the behaviour problems, the more likely that the transfer will be accepted
- 11/3 The fewer the psychotic symptoms, the more likely that the transfer will be accepted
- 11/4 The more social the patient, the more likely that the transfer will be accepted
- 11/5 The more positive the patient prototype, the more likely that the transfer will be accepted
- 11/6 The more positive the letter, the more likely that the transfer will be accepted
- 11/7 The more open the social process of the team, the more likely that the transfer will be accepted
- 11/8* The more democratic the team, the more likely that the transfer will be accepted
- 11/9 The better the resources, the more likely that the transfer will be accepted
- 11/10 The more professional the organisation, the more likely that the transfer will be accepted

