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A FACET MODEL FOR THE ORGANISATIONAL DECISION MAKING ORIENTATION OF MIDLEVEL MANAGERS*

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OPSOMMING

'n Twee-dimensionele faset model is vir organisatoriese besluitneming gepostuleer en suksesvol op bestuurders in 'n finansiële onderneming getoets deur middel van die kleinste ruimtelike ontledingstegniek. Die resultate is bespreek in terme van die veranderende bestuursomgewing in die finansiële sektor en 'n voorstel wat op bestuursontwikkeling betrekking het, is gemaak.

ABSTRACT

A two-dimensional facet model was postulated for organisational decision making and successfully tested by means of the smallest space analysis technique on managers in a financial organisation. The results are discussed in terms of the changing managerial environment in the financial world and a suggestion on managerial development is made.

A considerable amount of psychological studies in the field of personnel psychology were done during the last three decades on the personal characteristics of managers as possible determinants of productivity and the morale of the staff. A vast amount of empirical findings led to a position where it became increasingly difficult to integrate the empirical findings on specific psycho-social concepts with the result that psychologists working in the field of personnel management could not benefit to the full extent from the psychological research progress that had been made and therefore the need for broad theoretical frameworks for psychological concepts became a matter of great concern. In this regard reference could be made to the admirable work done by Elizur (1979) on achievement motive and on work values and by Holland (1973) on occupational interest. However such a framework does not yet exist for organisational decision making although very impressive and useable models had been postulated for certain specific aspects of organisational decision making such as for example organisational decision making styles (Fiedler, 1967, Blake and Mouton, 1962, Vroom and Yetton, 1973 and Hersey and Blanchard, 1982).

McGinnis (1984) recognized this need for a broad theoretical framework for organisational decision making and proposed a theoretical model for this concept. According to this model organisational decision making has an analysis component which is directed at imposing structure and a intuition component which is directed at the creation of opportunities. One characteristic of this model is that it is flexible and does allow the accommodation of the theoretical perceptions of other researchers such as those of Driver and Mock (1975) on cognitive complexity, Tannenbaum and Schmidt (1958) on social decision making, Taylor (1964) on creativity, Steiner and Miner (1977) on pro-activeness, Weiss (1985) on risk consciousness and Bobele and Buchanan (1976) on problem solving.

For the purpose of constructing an organisational facet framework for midlevel managers from the theoretical framework of McGinnis a change must be made in the terminology, because that what McGinnis described as analysis in terms of strategic planning is described by Janis and Mann (1977) and Kepner and Tregoe (1965) as a problem solving process at the midlevel management level. These authors perceived analysis as just a part of the preparatory stage and not as the complete problem solving process. Therefore for the purpose of constructing the facet model for the organisational decision making in the operational planning of midlevel managers the two components will be considered to be the process component and the intuition component.

To structure such a broad theoretical framework for organisational decision making it is important that an approach is followed which had been proven suitable in terms of statistical analysis. Such an approach is facet analysis, which was founded by Guttman (1968) and which combined with the smallest space analysis technique is quite useful in the study of the structural validity of a psycho-social concept because the structure is presented on a map.

Keeping the foregoing discussion in mind one of the facets of organisational decision making orientation is specified as to be the intuition-process facet. This implies that the different intuition elements of organisational decision making such as risk taking and innovation will be lying in one area of the map while the process elements such as analysis, judgement and communication will be lying in the opposite region of the map. The different elements of organisational decision making can now be described and categorized in terms of the intuition-process facet.

The elements of the intuition component:
Innovation: The extent a person prefers to learn new ways and to be willing to be flexible, to create an organisational climate favourable to innovation, and to prefer to manage creative individuals.

Risk consciousness: The extent a person prefers to act with courage in the face of uncertainty and to be venturesome.

Participative decision making: The extent a person prefers to allow those under his supervision to have a part in the making of plans.

Cognitive complexity: The extent a person prefers an environment which is characterized by unexpected happenings, timepressure, uncertainties, irregular flow of work, noise, etc.

Pro-activeness: The extent a person prefers to shape the environment which includes especially the staff, products, technology and administration in such a way that unexpected developments can be handled.

Authoritarian decision making: The extent a person prefers to take decisions all by his own, to give these decisions as orders in writing or orally to the staff without discussing them and by enforcing them in a punitive manner. Authoritarian decision making may be seen as the manifestation of a need for power, that is the need to influence people by dominating and controlling them.

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The elements of the process component:
Group facilitation: The extent a person prefers to be busy with facilitating a group into describing and discussing a problem.

Analysis: The extent a person prefers to analyse the problem situation by collecting both qualitative and quantitative information and to evaluate the information systematically.

Judgement: The extent a person prefers to be busy with actually taking the decisions by developing a possible array of responses and delineating choices in the solving of problems.

Planning: The extent a person prefers to be busy with determining the operational strategies of a department.

Communication: The extent a person prefers to be busy with communicating the implementation of his decisions to his staff.

Monitoring: The extent a person prefers to be busy with monitoring the implementation of plans and decisions.

Although this constructed framework for organisational decision making is a very broad one, one dynamic dimension of the organisational decision making process is absent, namely the time dimension which is not an element on its own but rather the ordering of the elements of the model in a logical time sequence. Janis and Mann (1977) and Kepner and Tregoe (1965) indicated such a logical time sequence in organisational decision making and Elizur (1979) postulated such a time dimension for the confrontation of a problem and the confrontation of oneself in his achievement motive facet model. In a similar manner a time dimension facet can be postulated for the organisational decision making constructs. For example the problem solving process starts with the analyses of the problem situation, which is followed by the actual taking of a decision, the implementation of the decision and the controlling of events after the implementation of the decision.

The four subfacets for the time dimension are defined as follows:
Creating: Creating an organisational climate favorable to innovation and effectively managing creative individuals.

Evaluating: Evaluating the problem situation, detecting opportunities, identifying alternatives and formulating appropriate strategies.

Selection and implementation: The selection and implementation of appropriate solutions and plans.

Controlling: Controlling the organisational environment and the implementation of the solutions and plans.

The spirit of this theoretical model is perhaps best described by McGinnis (1984) when he wrote that the analytical and intuition components must constantly interact to distill the environment, to identify choice alternatives, to create opportunities and to develop appropriate strategies.

The theoretical facet model for organisational decision making with the two dimensions intuition-process and time dimension is now presented in Figure 1.

Time dimensional Facet	Intuition – Process facet	
Time stages	Intuition component	Process component
Controlling	Authoritarian	Monitoring
Selecting and implementing	Cognitive complexity Pro-activeness	Judgement Planning Communication
Evaluating	Risk consciousness Participativeness	Analysis
Creating	Innovation	Group facilitation

Figure 1: The two-dimensional theoretical facet model for organizational decision making

Under the heading time dimensional Facet in figure 1 are the different time stages namely controlling, selecting and implementing, evaluating and creating. Under the heading intuition-process facet are the intuition component with the elements authoritarian, cognitive complexity, pro-activeness, risk consciousness, participativeness and innovation and the process components with the elements monitoring, judgement, planning, communication, analysis and group facilitation. Next to each time stage are the elements which are associated with that time stage. Next to the controlling time stage are the authoritarian and monitoring elements, next to the selecting and implementing time stage are the cognitive complexity, pro-activeness, judgement, planning, and communication elements, next to the evaluating time stage are the risk consciousness, participativeness and analysis elements and next to the creating time stage are the innovation and group facilitation elements.

A mapping sentence is traditionally used to define the facet model and this type of definition for organisational decision making is presented in Figure 2.

The extent that the respondent indicates an organisational decision-making orientation in terms of the intuition-process facet (A)

A1: Intuition
A2: Process

and in terms of the time-dimensional facet (B)

B1: Creating a favorable climate
B2: Evaluating the problem situation
B3: Selecting and implementing solutions and plans
B4: Controlling the problem situation

in the handling of operational activities → high-
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low

Figure 2: The mapping sentence for organisational decision-making orientation

In Figure 2 the intuition-process facet and the time-dimensional facet are linked by means of the mapping sentence in such a way that a two-dimensional facet model for organisational decision-making in the handling of operational activities is obtained.

This theoretical model had not yet been tested empirically on managers although promising results had been obtained by analyzing the results of 360 young graduates. The aim of this study is therefore to study the structural validity of the facet model for organisational decision making orientation on a group of midlevel managers.

METHOD

Measuring instrument
The Organizational Decision-making Orientation Questionnaire for midlevel managers had been developed by Wheeler and van der Walt (1988). This questionnaire is in Likert-format and for the purpose of testing the model each element is covered by five items. The test-retest reliability with a two months period between the two testing periods varied from 0,46 for participative decision making to 0,71 for risk consciousness. The internal reliability for the different elements varied from 0,67 for risk consciousness to 0,80 for communication and analysis.

A key to the different elements of organisational decision making orientation is presented in Table 1.

TABLE 1
THE CLASSIFICATION OF THE DIFFERENT ELEMENTS OF THE ORGANIZATIONAL DECISION MAKING ORIENTATION MODEL

Number	Element	Time-dimension	Intuition-process
1	Innovation	Creating	Intuition
2	Risk consciousness	Evaluating	Intuition
3	Participativeness	Evaluating	Intuition
4	Cognitive complexity	Selecting	Intuition
5	Pro-activeness	Selecting	Intuition
6	Authoritarianism	Controlling	Intuition
7	Group facilitation	Creating	Process
8	Analysis	Evaluating	Process
9	Judgement	Selecting	Process
10	Planning	Selecting	Process
11	Communication	Selecting	Process
12	Monitoring	Controlling	Process

Sample
The population from which a sample of 484 was obtained, was all the managers working in a financial organization in the Republic of South Africa. The nature of the work of the managers was to run branches which main function was to handle money in terms of savings, investments etc. The intention was to obtain information from all the managers but information was obtained from only 98 percent of the managerial staff. The questionnaire was applied at the various centres during a management evaluation programme.

The managers were all Afrikaans speaking and their ages varied from 24 to 60 years with a mean of 45 years. All the managers had at least a standard ten certificate.

The results of the study could be generalized to some extent to similar Afrikaans speaking groups or subgroups of managers working in similar organizations in the financial sector.

Experimental Design
The smallest space analysis technique was employed to determine to which extent the structural hypothesis in the two facet theory for organisational decision making orientation obtained by analysing the data of the 484 midlevel managers. This technique was developed by Guttman for the structural analysis of similarity data (Guttman, 1968). Smallest space analysis determines the space of smallest dimensionality which is a metric representation of non-metric information and is based on the relative distances within a point. The location of the points is calculated, based on the inverse relationship between the observed correlations and the geometrical distances. Each item is treated as a point in an Euclidean space in such a way that, the higher the correlations between the two items, the closer they are in the Euclidean space (Du Toit, 1986).

Results
The Pearson product moment correlation coefficient matrix of the twelve organisational decision making elements is presented in Table 2.

TABLE 2
THE CORRELATION MATRIX OF THE ELEMENTS IN THE ORGANIZATIONAL DECISION-MAKING ORIENTATION MODEL

	1	2	3	4	5	6	7	8	9	10	11	12
1	—	35	28	30	42	02	32	24	36	31	29	20
2	35	—	10	46	49	16	18	19	25	12	26	13
3	28	10	—	18	32	00	36	36	47	48	43	40
4	30	46	18	—	44	19	19	22	21	08	25	21
5	42	49	32	44	—	21	37	43	47	34	44	38
6	02	16	00	19	21	—	06	16	17	23	31	40
7	32	18	36	19	37	06	—	45	37	36	56	32
8	24	19	36	22	43	16	45	—	54	49	48	38
9	36	25	47	21	47	17	37	54	—	56	58	50
10	31	12	48	08	34	23	36	49	56	—	53	44
11	29	26	43	25	44	31	56	48	58	53	—	48
12	20	13	40	21	38	40	32	38	50	44	48	—

The original coefficients were multiplied by 100 and rounded into integer numbers.

The correlations range from 0,02 to 0,58. Therefore a clear distribution of the constructs on the empirical map can be expected.

The empirical map obtained from the smallest space analysis technique is presented in Figure 3.

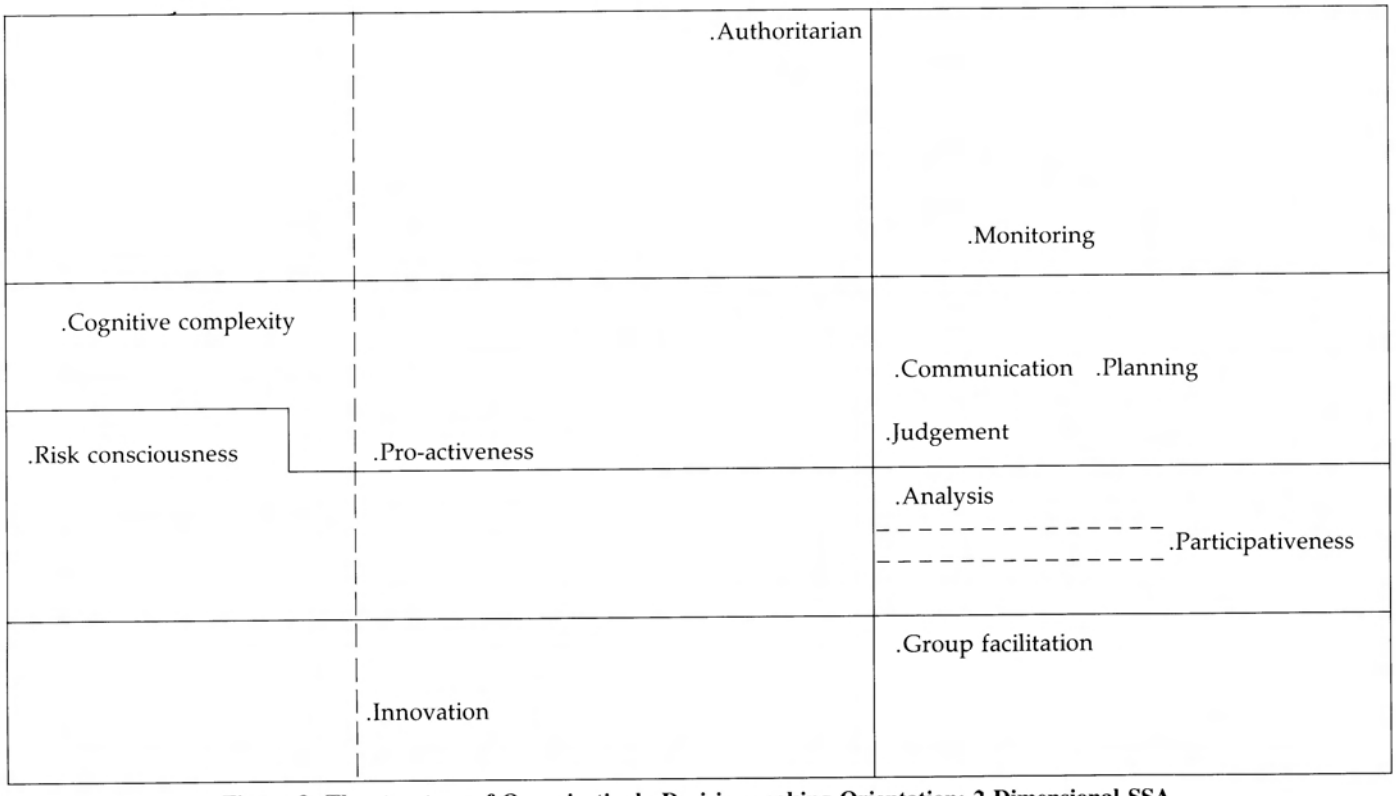

Figure 3: The structure of Organizationla Decision-making Orientation: 2 Dimensional SSA.

The distribution of the different elements on the map supports the hypothesis about the two dimensional facet structure for organisational decision making.

Regarding the intuition-process facet the following: By means of a straight vertical line the intuition and process subfacets could be separated. The only exception is the intuition construct participative decision making which penetrated into the process region. This may be because the items had a process connotation to the managers.

When attention is given to the organisational decision making constructs in the intuition component it is found that the cognitive complexity and risk taking constructs are occupying a position far to the left of the map. They seem to have a theoretical meaning in common namely the confrontation of the turbulence in the organisational situation. This finding corresponds with the finding of Elizur (1979) who clearly found uncertainty as a facet region in the empirically testing of his model. The intuitive constructs pro-activeness and innovation are associating more to the middle of the map. The underlying meaning of these two constructs together are an openmindedness regarding novelty and the unexpected. The time dimension facet also received considerable support as can be seen in the spatial ordering of the process constructs. The constructs analyzing, judgement (taking a decision), communication (communicating the implementation of the decision) and monitoring (monitoring the implementation of the decision) are lying more or less in a straight line. This is the region which McGinnis (1984) would call intelligence.

Other observations about the empirical facet model are the following:
Parrallel with the time dimension we find a movement in orientation from flexibility to rigidness as the construct innovation is lying at the bottom of the map and the construct authoritarian decision making is lying at the top. In fact the process constructs are enforcing this impression as they run from group facilitation through to controlling the implementation of a decision. Flexibility is thus closely associated with the beginning stage of the organisational decision making process and rigidness with the final stage.

The social aspect of the decision making process is noticeable in the right hand side of the map as indicated by the elements group facilitation and participative decision making.

Judgement and planning are lying more to the centre in line with pro-activeness. This appears to be the region where the managers are doing what McGinnes (1984) called the development of an array of responses. This is in complete agreement with the model of Elizur (1979) because he postulated the middle of his model to be the area 'to confront oneself with the difficulty of the situation' and 'to confront a problem with an answer'. A further comparison between these empirical results and the model of Elizur is that he postulated the element responsibility for his model more or less where the construct controlling is lying on this map. There is clearly a theoretical correspondence in these two concepts which have also now been indicated empirically.

It is custom in factor analysis to attend to the coefficient of alienation which is in this case 0,14. This figure is quite satisfactorily when it is compared with those normally found in the study of social constructs. It can be stated here that the use of facet analysis to obtain a better understanding of a socio-psychological concepts had been demonstrated.

To obtain further clarity on the organisational decision making orientation of the managers the means and standard deviations of the different elements are presented in rank order in Table 3. This is done to obtain in terms of organisational decision making a diagnoses of the managerial culture of the organisation.

TABLE 3
THE MEANS AND STANDARD DEVIATIONS OF THE ELEMENTS OF THE ORGANIZATIONAL DECISION-MAKING ORIENTATION MODEL

Number	Element	Mean	Standard deviation
8	Analysis	16,76	2,52
10	Planning	16,60	2,13
9	Judgement	16,39	2,44
7	Group facilitation	15,92	2,69
3	Participativeness	15,84	2,36
1	Innovation	15,82	1,90
5	Pro-activeness	15,81	2,67
12	Monitoring	15,80	2,64
11	Communication	14,80	2,77
6	Authoritarianism	12,78	2,63
2	Risk consciousness	12,67	2,45
4	Cognitive complexity	11,96	2,49

It is possible to compare the means of the elements as all the constructs consists of five items and all the items have the same weights.

The three constructs with the highest means are analysing, planning and judgement. Thus in terms of organisational decision making orientation the managers are the strongest in the process constructs. They are thus more incline to impose structure than to create opportunities. The two constructs with the lowest means are cognitive complexity and risk consciousness. The means of these constructs are close to the arithmetic means which is an indication that the managers as a group do not have a strong preference to confront uncertainty. The construct with the third lowest mean is authoritarian decision making and when this mean is compared with the means of participative decision making and group facilitation then it is clear that the managers are quite willing to involve their staff in the organisational decision making process, however they would not back down from giving instructions. This is a kind of a situation which McGinnis (1984) call the balance in organisational decision making. The managers as a group are also willing to create an open atmosphere and to be pro-active when dealing with managerial matters. When the high averages of the elements in the process component and the low averages in the intuition component is considered as an indicator of the managerial culture in the organisation then the managers appear to be ready for moderate challenging managerial situations. When the organisation wishes to expand into areas which are more challenging that is into areas which are more unstable, difficult to predict, complex and competitive then the managers organisational decision making orientation in terms of risk taking, innovation, cognitive complexity and pro-activeness need to be strenghtened during managerial development programmes. This can take place by applying the questionnaire and then to give feedback during individual interviews to the managers in an attempt to make them more consious of their own decision making orientation. This can be followed by a discussion on the challenges which the managerial situations present and on the organisational decision making orientation which is required from the individual managers. Should it be necessary this can be followed by a more structured managerial development course on the intuitive aspects of organisational decision making.

DISCUSSION

The following findings are of particular importance:
The two dimensional theoretical facet model for organisational decision making had successfully been tested by means of the smallest space analysis technique, because in the first instance it is clear that the intuition and process constructs were satisfactorily separated which indicated that the midlevel managers

perception of the organisation decision making process and planning corresponded to the model of McGinnis and in the second instance the time sequence dimension in organisational decision making also received empirically support. This is an indication that the managers had an awareness of the correct sequence of the different aspects of the organisational decision making process and that there was also a continuity in the intuition component.

It can furthermore be stated that the managers had an awareness of the presence of turbulence in managerial situations and an openmindedness regarding novelty and creativity as well as a willingness to interact with staff members.

Quite clearly there was also no polarization of the process and intuition elements as there was a clear layout of the elements on the map. Thus neither the process component nor the intuition component is dominating the decision making process.

CONCLUSION

The organisational decision making orientation facet model for midlevel managers had been tested successfully by developing an organisational decision making questionnaire and by applying this questionnaire on 484 Afrikaans speaking managers in the financial sector, by analyzing the data by means of the smallest space analysis technique and by interpreting the results in terms of facets. The two facets which were discussed were the intuitive-process facet and the time sequence facet. Certain regions were indicated on the map namely the flexibility-rigidness regions, the development of an array of possible responses region and the social region.

These results can mainly be considered as exploratory and they can only be generalized to the rest of the financial sector in as far as this group of midlevel managers is representing the population of Afrikaans speaking managers in the financial sector and in as far as it is representing the midlevel managers in the Republic of South Africa. Although this may be limited it may be stated here that the value of facet analysis as an approach in structuring and testing a theoretical model for a socio-psychological concept namely organisational decision making orientation had been demonstrated.

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