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The Amount of Meritocracy Establishment Using Rough Sets Theory

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Abstract The amount of meritocracy system establishment in the government agencies of Ahvaz is assessed in this study. Meritocracy is a system in which the job benefits and situations are given to the people just on the basis of merit and not based on the gender, social class, ethnicity or wealth. Statistical society is the employers of government organizations of Ahvaz (N=10377) and the volume of sample is determined by Morgan and Karjesi sampling (n=384). Also a questionnaire is made in order to collect data which is divided to two sections; the first section is used to recognize the degree of meritocracy system establishment with the constant coefficient 0.92 according to the Cronbach Alpha and the second section is used to recognize the of sociological status of responders. In this study the Rough sets theory (RST) was used to reduce data and calculation of it, and then a decision table was constructed and standardized by determining maximum and minimum scores and deciding variable, in the next step compatible and incompatible cases were characterized, and finally the reduction table is formed. Results showed that if sub-system is developing meritorious people are in a low level and meritocratic of organization in the organization is in low level surely. And also meritocratic system of organization is in moderate level if developing meritorious people and keeping meritorious people is in the moderate level surely. Meritocracy system of organization is in high level surely if desiring meritorious is in the high level.

Keywords: Meritocracy system, Merit Bureaucratic, Meritocracy process, Rough sets theory.

1 Introduction

Human resources are the most valuable resources of an organization that with their efforts and coordinating the implementation of other components of the organization, realize the organization's goals and create vitality and dynamism in it. Human resources have potential abilities that should become de facto in organization’s environment and reaching this goal requires full understanding of human beings and provides appropriate conditions for their works and efforts. One thing that can be examined in connection with this matter is to put

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people in positions that are commensurate with their abilities, experiences and capabilities; and for reaching this, the meritocratic system should be deployed in the organization [1].
Hence, it is important to select the correct staffs; because wrong or misplaced selection means selecting the people who are incapable of the doing the job or the people who leave the organization after some time and impose heavy costs on it [2].

Hiring people who do not have competence for a job or rejecting and not accepting qualified individuals can create many problems for organizations. Some of these problems are: employees' disability to perform the duties cost of poor employee dismissal, heavy costs for staff training [2].

Undoubtedly, there are many obstacles for creating a meritocratic system and developing meritocracy in organizations. But by paying attention to the talent, creativities and abilities that our people have, if this national commitment become possible and every manager at every level knows that he should run meritocratic system, definitely we can overcome the obstacles and this system can be used easier.

2 Problem statements

If we want to revive a meritocracy system or claim to be a meritocracy school, we shouldn't limit thinking and attitudes to just one issue. Rather, we should run the meritocracy widely and look at it from different aspects. Meritocracy process should be broad enough to embrace all of the following steps:

First step, desiring meritorious: having the desire to apply the right people in the organization.

Second step, knowing meritorious: preparing a proper system for recognizing and finding the most qualified people among hundreds of qualified people.

Third step, meritorious selection: having proper and logical criteria and indicators for selecting meritorious people.

Forth step, developing meritorious people: providing a proper mechanism for maintaining and improving the merit of qualified people.

Fifth step, keeping meritorious people: having a proper plan for keeping meritorious people [3].

Now the question that occupies our mind is this "does the organization pay attention to these steps to establish the meritocratic system?"

3 The research literature

English sociologist, Michael Young, in 1985 for the first brought up the word 'meritocracy' in his book entitled "Dawn of Meritocracy". Meritocracy is composed of two words: merit, which means competence, ability, and Cracy, which means administration or the methods of administration [4].

Meritocracy refers to asocial system in which the highest power and social rank is given to those with the greatest ability. Meritocratic refers to someone who has this kind of power in such a system. In 1877, the main leader of meritocratic system, Rojer William Curtis, with the support of a small group of his fans fighted against partisanship in Government agencies and called for establishing meritocracy, this fighting continued until 1881. After this movement, he with thirty institutes established an organization called "Improving Employment Agency"

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in New York and other states which made government men aware and forced them to establish such organizations at national level. This approach has already been emulated in all countries and the employment agency is one of the main organizations of the government. In fact, this organization is the original founder of meritocracy in government jobs. This was how merit was created in government jobs and gradually it was revised and corrected. But it should be noted that meritocracy has costs that must be paid for example, Garfield, one the presidents of America decided to put the partisanship aside and instead replace it by merit system, so after his selection to the presidency his party asked him to give them jobs, but he denied these requests and said that the job reference should be based on merit, this confrontation led to one of the frustrated claimants shot the president and killed him in his office [5].

The meritocratic system unlike the partisan bias based system that work with the will of influential political groups, acts according to specified standards. In this system, People are employed according to their competencies and skills and the requirements for occupying each job have already been defined. Beliefs and personal judgments of organizations' managers aren't important in assessing the merit or the lack of merit of job volunteers. So, the employee or the manager doesn't owe his appointments to others. In this case, if any conflict is created among people or different social classes, they don't bound them to accept the comments of one group or party for decision making [6].

A modern scientist named "Fritz Morstein Marx" raised merit bureaucracy and expressed that by revealing the flaws and shortcomings of the party bureaucracy in the second half of the nineteenth century in industrial countries such as America and England, the movement of establishing a better national employment system which is able to satisfy new requirements, peaked. The main reason was that the economics of industrial countries had developed so much that the government would do something as a referee, so that was necessary that the members of government agencies have the necessary experience that the party bureaucracy was not accountable in any way. The merit bureaucracy (meritocracy) is on the basis of scientific and practical capabilities of people and the employee doesn't have any commitment to any special ideology like protective bureaucracy in the service of society; but as a neutral factor works for the regime and any political changes doesn't affect his work. On the other hand, because the raise of salaries in industrial societies have created this possibility that children of the lower classes such as workers can have university educations and as a result take part at the organization's entry tests, this type of bureaucracy has no classes difference and is completely different with class bureaucracy [7].

Accordingly, Thomas Conrad, in his definition of meritocracy expresses a set of principles and knows them as the essence of meritocracy:

1. Merit test should assess individuals' talent.
2. Everyone should have an equal opportunity for indicating his/her talents (the principle of the equality of opportunity).
3. More talented people should receive a larger share of social rewards.
4. Social inequality (income, social class, power) is fair, but when they are the result of principles and standards that have already been established [8].

Another definition of meritocracy is:

Placing the right people in the right position, continuous assessment of staffs and move or fix them according to the assessment results; In fact, for establishing meritocratic system according to this definition, we have to select and deploy the right people in the right positions and in addition decide to move or fix them by continuous assessment [9].

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3.1 Meritocratic criteria from the perspective of management thinkers

Management science as the science of managing organizations has considered a criteria for merit. The main meritocriteria can be outlined as follows:

1. Technical skills
2. Human skills
3. Cognitive skills
4. analysis and diagnostic skills
5. Interpersonal communication skills
6. teamwork skills
7. Working with computers skills [10].

3.2 Meritocracy process

According to different definition of meritocracy, different processes are also argued for that. Here we mention an example of it:

A three-stage process of meritocracy

1. Selection

What happens in the employee selection process is: determining the requirements of getting each job (based on job analysis and job description), Determining the need for labor (based on production levels and workload analysis), matching volunteers with qualifying conditions and selecting the most appropriate people by matching the individual characteristics with the requirements of getting each job. If the selection process be done correctly, it is expected that merit people be put in appropriate position. One of the major problems in our government systems is not properly implementing the selection process, especially in relation to managerial positions. So that, our recruitment and selection tests have never been able to choose the most appropriate people and the relationships and employing relations and friends have created the problem of selecting the right people in government agencies [9].

2. Assessment

After selecting employees and placing them in appropriate positions their performance should be evaluated; Performance evaluation is systematically assessing people in relation to the way they do the assigned jobs and to determine their potential for growth and improvement [11].
This has numerous benefits for organizations that the most important of them are:

1. Identifying deficiencies, assessment educational and training needs
2. Creating a rational basis for the recognition of staff's merit
3. Establishing appropriate criteria for planning horizontal and vertical displacement of the staff
4. Establishing a reasonable promotion system based on merit [11].

3. Move or consolidation of staff

According to the staffs' assessment results, we can decide about their appropriate positions in the organization and fix, upgrade or downgrade them. If we consider people performance in their position and have moderate expectations of the people, have we placed them in appropriate positions? Have we thought to enhance and improve the capabilities of managers when they showed poor performance in some parts? Or we have insisted their management

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and just moved them from an area and organization to another one! In our administrative system, the management of organizations is given to a limited number of people who in a defined cycle work in different positions and different organizations, as if they should always remain managers and no one is competent and capable but them. In such an administrative system, meritocratic system can't be applied. For applying the meritocratic system, other people should have the chance to be manager and appropriate conditions be provided for growth and development in organizations, and on this basis, the merit people of society will be recognized [9].

3.3 Principles of meritocracy

The following principles can be expressed for meritocracy:

1. The principle of opportunity equality
Based on this principle, in a society different people should have an equal chance to access opportunities; and using and not using the opportunities should lead to success or failure [12]. Meritocracy has widely been accepted because it emphasizes the idea of opportunity equality. An example that is frequently used is this: a race is competitive when all the runners in it, start from the same point. However, giving the race track curves to the line-runners of the race track is an essential advantage for them compared to the runners that have outside lines of the race track. Therefore, to ensure the absence of discriminatory behavior it was suggested that runners should be determined by random for racetrack lines. Some would say that this is enough, but others argued that, besides determining the racetrack lines randomly, runners should have different starting points so that the barriers for the racetrack outside lines runners is compensated [8].

2. The principle of men equality
This principle is the underlying principle of meritocracy. Based on this principle, all the people are of the same nature and criteria such as lineage can't be used as eligibility criteria [12].

3. The principle of capacity building
This principle expresses that for establishing a meritocratic system, the necessary context should be provided. It is required that the capability of employees be recognized and by fostering them, the successful capacity be created.

4. Optimization principle
In meritocracy, the organization seeks for improving the work, products and services; it means that by using merit people the optimization process can be done easier. In other words, meritocracy should pay close attention to optimization so that the organization reaches to sustainable development.

5. Convergence criteria principle
The meritocracy is based on creating criteria for selecting and keeping the merit people. This principle asserts that the organization should establish minimum standards and always be on the bas is of them and develop them.

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6. The principle of updating the meritocracy
This principle emphasizes that in the meritocracy paying attention to the selection and excellence criteria is not constant. But it should always be updated according to internal and external environment of the organization and with regard to scientific developments.

7. The nativist principle
In a meritocratic system the local, cultural and humanitarian conditions of every organization and area should be considered. It means that, this principle emphasizes that the local rules and cultural conditions should be important for meritocracy.

8. The principle of the individual preferences invalidity
It means that in a meritocratic system, a personal view shouldn't be the criteria for selecting people, but rather than it, the academic and professional criteria should be the basis of selecting people.

9. The universality principle
Meritocracy isn't a single aspect conception, and a set of factors and conditions should be identified, developed and used in a person. When in the meritocracy we only pay attention to one aspect such as literacy and expertise then having success and improvement in an organization cannot be expected [13].

10. The being programmed principle
This principle expresses that meritocracy and its factors aren't established accidentally, but it is created based on a scientific and legitimate program, so we should have a plan for meritocracy. And by planning the related components and implementing them in the organization, the meritocracy can be applied.

11. The principle of being cultural
In meritocracy, first, its cultural context should be provided and the employees of the organization accept the cultural principles of meritocracy, and it becomes a part of their ideas, working and living [13].

3.4 The requirements for achieving meritocracy

There are some requirements to achieve the meritocracy in an organization, some of the most important of them are:
1. Determining the perspective of the organization
2. Determining the organization's goals and missions
3. Determining the strategy for all staffs
4. Strategic Planning
5. Select the appropriate system for performance assessment
6. Implementing the specified plans and objectives of the organization
7. Assessing the results of programs and goals
8. Creating a selection and recruitment system based on meritocratic criteria
9. Codifying the code of ethics [14].

Given that one of the objectives of the research is to propose model, the following model can be considered as a general model of the research:

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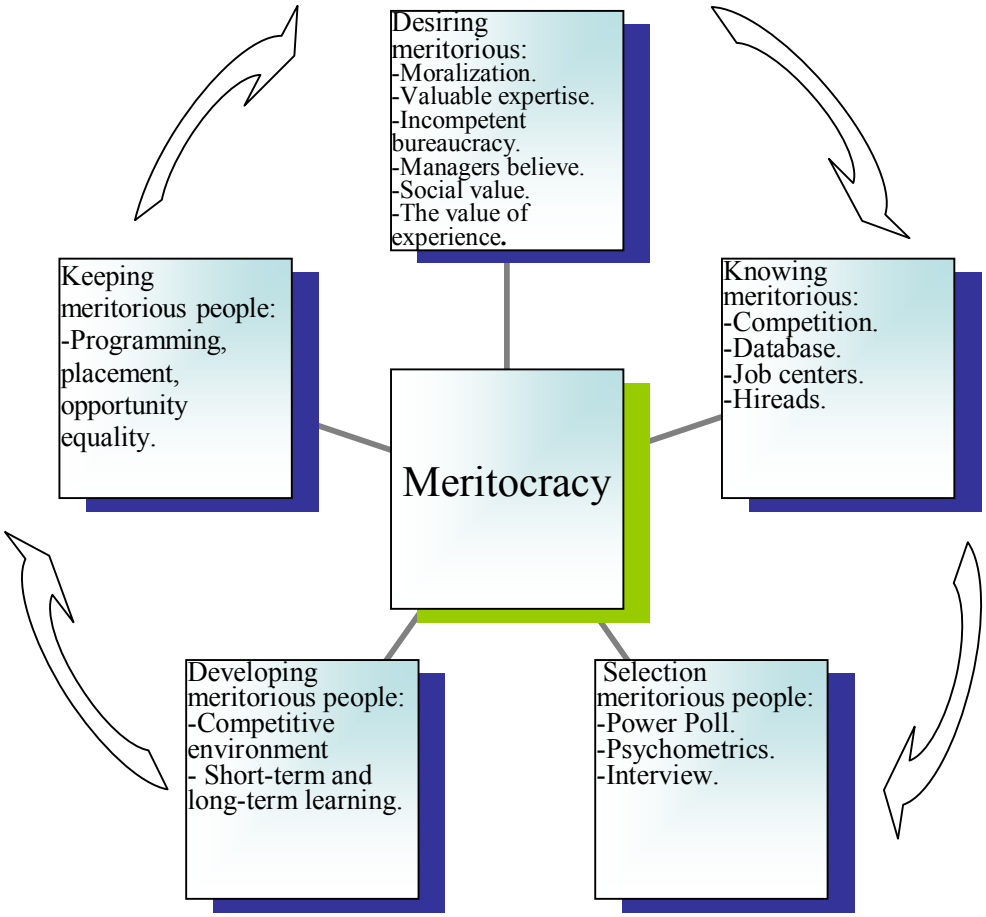


Fig. 1 General Model of the research (self-made)

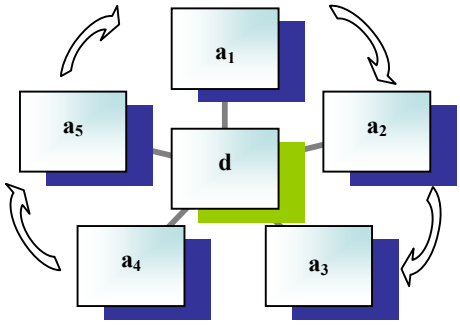


Fig. 2 General Model of the research by decision table

Hypothesis

Features desiring meritorious, knowing meritorious, selection meritorious, developing meritorious, keeping meritorious are used in the establishment of Meritocratic system.

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4 Methods

According to this issue, aims, questions and theories of methods are descriptive survey in this research. Navigation research is implementation of questionnaire on the samples of responders who are selected among the population [15]. Navigation research has two features: one of them is data collection manner and the other one is its analysis. At the first step, navigation method is integrated with a set of organized information that can be named as the data matrix or mother table. Mother table means one that each line of information is related to a variable and information of them are inserted in each column. In this section questionnaire is the most common way to collect data. Second feature which is the analyzing method of them and researcher want to recognize the phenomenon and by considering specific features, every cases does it. Actually the researcher wants to characterize the scientific relationships between events [16]. Two kinds of variables termed the decision and conditional variable in this study. In RST, Conditional variables are based on dimensions of the meritocracy including desiring meritorious, knowing meritorious, selection meritorious, developing meritorious, keeping meritorious and decide variable is the amount of meritocracy establishment in the organization. Statistical society includes 10377 people of employees and experts of government organizations of Ahvaz which are selected according to the sample size of Karjesi and Morgan table as 384 people.

Rough Sets Theory (RST)

RST is developed by Zdzislaw Pawlak in 1980. This view is for stating and surveying problems which have uncertainty and usually is applied to find heterogeneous and relationships in information [17]. This theory is a strong tool which provides some ways to removing and reduces knowledge that is unrelated or additional in the database. This process is performed without removing the additional data. Therefore in this theory, main operation is approximation sets which are applied to define dependences between features, reducing features, making decide principals and others [18].

Information is viewed as a width table in implementing Rough sets. Columns contain features, rows contain stuffs and cells contain the amounts of features in each stuff. This kind of table called Informational systems Table or Decide Table [19]. Therefore, features are divided to two classes in a Decide Table:

1. Decision features (D)
2. Situation features (C)

Accordingly, Decision Table can be viewed like $S = (U, T = C \cup D)$

In this formulation $C = \{a1, a2, ..., ai, ..., an\}$, $D = \{\text{Result}\}$ $U = \{x1, x2, x3, ..., xn\}$ (Global setting) [20].

In each row of decision table, we can obtain decision principals in the form of IF…THEN….For example, IF a_1=1,a_2=2,a_3=1,a_4=1,a_5=2, THEN d=1.

Accordingly, there are two principals which can be implemented in decision table:

1. Heterogeneous principle (inconsistent): principles which have the same situational features but different decision features.

2. Homogenous principle (same): principles which have the same situational features and decision features.

Due to these principals, equivalence of position can be written and after making reduction matrix resulting can be done [21].

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5 Research Tools

The questionnaire which is made by experts and researchers comments and has 29 items was used to collect data. This questionnaire contains two sections:
First section recognizes the degree of meritocratic system establishment in government organizations of Ahvaz (desiring meritorious, knowing meritorious, selection meritorious, developing meritorious and keeping meritorious) and stability coefficient equals 0.92.

Table 1 questionnaire of meritocracy

Row	Question No.	Tested variables
1	1,2,3,4,5,6	Desiring meritorious
2	7,8,9,10,11,12	Knowing meritorious
3	13,14,15,16,17	Selection meritorious
4	18,19,20,21,22,23	Developing meritorious
5	24,25,26,27,28,29	Keeping meritorious

Second section is demographic characteristics that contain 6 items and questions about gender, age, education, job nature, job experience and Cultural Ethnicity.
First seconds variables are measured by classification scale. In this section a five-item Likert scale measuring range is applied to evaluate all items.

Table 2 evaluation the Likert scale type

scale	Very low	low	To some extent	high	Very high
valuable	1	2	3	4	5

6 Materials and Methods

Rough System Theory is used to understand the amount of meritocracy establishment. Since there are 29 items to measure the meritocracy and evaluating is based on the Likert five options scale. Therefore minimum score of response is 29 and maximum of received responses is 145.

Accordingly:
If score of response is 29 to 67 then meritocracy establishment is in low level, means:
$\{29 \le X \le 67\}$

If score of response is 68 to 105 then meritocracy establishment is in moderate level, means:
$\{68 \le X \le 105\}$

If score of response is 106 to 145 then meritocracy establishment is in high level, means:
$\{106 \le X \le 145\}$

In the other side, five factors of meritocracy due to number of questions, factors have minimum and maximum score which are like followed table:

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Table 3 factor scores of meritocratic in the decision table

Row	Factors of decision table	Meritocracy factors	Numbers of items	Minimum score	Maximum score
1	a_1	Desiring meritorious	6	6	30
2	a_2	Knowing meritorious	6	6	30
3	a_3	Selection meritorious	5	5	25
4	a_4	Developing meritorious	6	6	32
5	a_5	Keeping meritorious	6	6	30

According to table 3, ranges of Meritocracy factors are as followed:

$V(a_1) = \{6, 7, 8, \ldots, 29, 30\}$
$V(a_2) = \{6, 7, 8, \ldots, 29, 30\}$
$V(a_3) = \{5, 6, 7, 8, \ldots, 29, 30\}$
$V(a_4) = \{6, 7, 8, 9, \ldots, 29, 30\}$
$V(a_5) = \{6, 7, 8, 9, \ldots, 29, 30\}$

In other words, desiring meritorious, knowing meritorious, developing meritorious and keeping meritorious can take scores between 6 and 30 and selection meritorious can take scores between 5 and 25 in decision table.

In the next step, in a_1, a_2, a_3, a_4 and a_5 (position features) and in column d (decision feature) inserts codes instead of mentioned numbers and make them standard (8) as configured as followed table, which 1, 2, 3 codes indicates low, moderate and high levels of variable.

Table 4 Standardization of components meritocratic

Factor code	Meritocratic factors	Value of factors	High and low boundaries	Standard code
a_1	Desiring meritorious	$6 \le X \le 30$	$6 \le X \le 14$	1
			$15 \le X \le 22$	2
			$23 \le X \le 30$	3
a_2	Knowing meritorious	$6 \le X \le 30$	$6 \le X \le 14$	1
			$15 \le X \le 22$	2
			$23 \le X \le 30$	3
a_3	Selection meritorious	$5 \le X \le 25$	$5 \le X \le 11$	1
			$12 \le X \le 18$	2
			$19 \le X \le 25$	3
a_4	Developing meritorious	$6 \le X \le 30$	$6 \le X \le 14$	1
			$15 \le X \le 22$	2
			$23 \le X \le 30$	3
a_5	Keeping meritorious	$6 \le X \le 30$	$6 \le X \le 14$	1
			$15 \le X \le 22$	2
			$23 \le X \le 30$	3
d	Meritocracy	$29 \le X \le 145$	$29 \le X \le 67$	1
			$68 \le X \le 105$	2
			$106 \le X \le 145$	3

In this step we can standardize decision table and rewrite according to table 4.

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Table 5 standardized table of decision table

U	Desiring meritorious $=a_1$	Knowing meritorious $= a_2$	Selection meritorious $=a_3$	Developing meritorious $= a_4$	Keeping meritorious $=a_5$	Meritocracy =d	Frequency N
x1	1	1	1	1	1	1	127
x2	2	2	2	2	2	2	7
x3	1	1	2	1	2	1	7
x4	2	1	1	1	1	1	33
x13	2	1	2	1	1	1	1
x14	1	1	2	1	1	1	57
x17	1	1	2	2	1	2	1
x23	1	1	1	2	1	1	7
x25	2	2	2	1	1	2	3
x31	1	2	2	1	1	2	1
x33	1	2	2	1	1	1	10
x38	1	2	1	1	1	1	20
x58	3	3	3	3	3	3	4
x82	1	2	2	2	2	2	2
x83	1	2	1	1	2	1	7
x85	1	2	1	2	2	2	3
x87	3	3	3	3	2	3	4
x91	1	2	1	2	1	1	3
x92	2	2	1	1	1	1	2
x107	1	1	2	2	1	1	1
X123	1	1	1	2	1	1	2
x128	3	3	2	3	2	3	5
x129	1	2	2	1	1	1	1
x132	1	2	2	2	1	2	2
x150	1	2	2	2	1	1	1
x154	2	2	2	1	1	1	6
X157	1	2	2	1	2	2	5
x162	1	1	2	1	2	2	3
x172	3	2	3	2	3	3	2
x217	3	2	2	3	2	3	2
x265	1	2	1	1	2	2	1
x373	2	1	2	1	1	2	4
x376	1	2	1	2	1	2	5

In the next step homogenous and heterogeneous tables are made according to table 5.

Table 6: heterogeneous factors in decision table

U	**a_1**	**a_2**	**a_3**	**a_4**	**a_5**	**d**
x3	1	1	2	1	2	1
x162	1	1	2	1	2	2
x13	2	1	2	1	1	1
x373	2	1	2	1	1	2
x17	1	1	2	2	1	2
x107	1	1	2	2	1	1
x25	2	2	2	1	1	2
x154	2	2	2	1	1	1
x31	1	2	2	1	1	2
x129	1	2	2	1	1	1
x83	1	2	1	1	2	1
x265	1	2	1	1	2	2

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U	a_1	a_2	a_3	a_4	a_5	d
x91	1	2	1	2	1	1
x376	1	2	1	2	1	2
x132	1	2	2	2	1	2
x150	1	2	2	2	1	1

Table 7 homogenous factors of decision table

U	a_1	a_2	a_3	a_4	a_5	d
x1	1	1	1	1	1	1
x2	2	2	2	2	2	2
x4	2	1	1	1	1	1
x14	1	1	2	1	1	1
x23	1	1	1	2	1	1
x33	1	2	2	1	1	1
x38	1	2	1	1	1	1
x58	3	3	3	3	3	3
x82	1	2	2	2	2	2
x85	1	2	1	2	2	2
x87	3	3	3	3	2	3
x92	2	2	1	1	1	1
x123	1	1	1	2	1	1
x128	3	3	2	3	2	3
x157	1	2	2	1	2	2
x172	3	2	3	2	3	3
x217	3	2	2	3	2	3

In decision tables some principals are considered which homogenous [22] are, so we took table 6 factors away and in the next step consider table 7 responder that are classified according to the meritocratic system establishment.

Table 8 organized homogenous table

U	a_1	a_2	a_3	a_4	a_5	d
x1	1	1	1	1	1	1
x4	2	1	1	1	1	1
x14	1	1	2	1	1	1
x23	1	1	1	2	1	1
x33	1	2	2	1	1	1
x38	1	2	1	1	1	1
x92	2	2	1	1	1	1
x123	1	1	1	2	1	1
x2	2	2	2	2	2	2
x82	1	2	2	2	2	2
x85	1	2	1	2	2	2
x157	1	2	2	2	2	2
x58	3	3	3	3	3	3
x87	3	3	3	3	2	3
x128	3	3	2	3	2	3
x172	3	2	3	2	3	3
x217	3	2	2	3	2	3

Minimum sets of features

Since decision variable (d) has three states (low, moderate, high), so minimum sets cab be made by table 8 and then we insert responders that have score 1 to decision variable in one

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set, responders that give score 2 for meritocracy in one set and responders that give score 3 to decision variable for one set, in one collection and called them equivalent classes.

$$X_1 = \{x \in U \mid d = 1\} = \{x1, x4, x14, x23, x33, x38, x92\} \quad (1)$$

$$X_2 = \{x \in U \mid d = 2\} = \{x2, x82, x85, x157\} \quad (2)$$

$$X_3 = \{x \in U \mid d = 3\} = \{x58, x87, x128, x172, x217\} \quad (3)$$

According to three sets X_1, X_2 and X_3 we obtain low and high boundries for three sets. A is defined as following set:

$$A = \{a_1, a_2, a_3, a_4, a_5\}$$

Table 9 three sets approximations X_1, X_2 and X_3

X_1 set	X_2 set	X_3 set
$[x1]_A = \{x1\}$	$[x2]_A = \{x2\}$	$[x58]_A = \{x58\}$
$[x4]_A = \{x4\}$	$[x82]_A = [x157]_A = \{x82, x157\}$	$[x87]_A = \{x87\}$
$[x14]_A = \{x14\}$	$[x85]_A = \{x85\}$	$[x128]_A = \{x128\}$
$[x23]_A = [x123]_A = \{x23, x123\}$		$[x172]_A = \{x172\}$
$[x33]_A = \{x33\}$		$[x217]_A = \{x217\}$
$[x38]_A = \{x38\}$		
$[x92]_A = \{x92\}$		

$$\underline{A}X_1 = \{x \in U \mid [x]_A \subseteq X_1\} \quad (4)$$

$$\underline{A}X_1 = \{x1, x4, x14, x23, x33, x38, x92\}$$

$$\underline{A}X_2 = \{x \in U \mid [x]_A \subseteq X_2\} \quad (5)$$

$$\underline{A}X_2 = \{x2, x82, x85\}$$

$$\underline{A}X_3 = \{x \in U \mid [x]_A \subseteq X_3\} \quad (6)$$

$$\underline{A}X_3 = \{x58, x87, x128, x172, x217\}$$

$$\overline{A}X_1 = \{x \in U \mid [x]_A \cap X_1 \neq \phi\} \quad (7)$$

$$\overline{A}X_1 = \{x1, x4, x14, x23, x33, x123, x38, x92\}$$

$$\overline{A}X_2 = \{x \in U \mid [x]_A \cap X_2 \neq \phi\} \quad (8)$$

$$\overline{A}X_2 = \{x2, x82, x157, x85\}$$

$$\overline{A}X_3 = \{x \in U \mid [x]_A \cap X_3 \neq \phi\} \quad (9)$$

$$\overline{A}X_3 = \{x85, x87, x87, x128, x172, x217\}$$

Accuracy of Rough set can be presented by followed phrase:

$$\alpha_A(X) = \frac{|\underline{A}X|}{|\overline{A}X|} \qquad \alpha_A(X_2) = \frac{|\underline{A}X_2|}{|\overline{A}X_2|} = \frac{3}{4}$$

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$$\alpha_A(X_1)=\frac{|\underline{A}X_1|}{|\overline{A}X_1|}=\frac{7}{8} \qquad \alpha_A(X_3)=\frac{|\underline{A}X_3|}{|\overline{A}X_3|}=\frac{5}{5}$$

Table 10 Reduction table

u	x1	x4	x14	x23	x33	x38	x92	x123
x1		a5	a3	a4	a2,a3	a2	a1,a2	a4
x4	a5		a3,a5	a4,a5	a2,a3,a5	a2,a5	a1,a2,a5	a4,a5
x14	a3	a35		a3,a4	a2	a2,a3	a1,a2,a3	a3,a4
x23	a4	a4,a5	a3,a4		a2,a3,a4	a2,a4	a1,a2,a4	λ
x33	a2,a3	a2,a3,a5	a2	a2,a3,a4		a2,a3	a1,a3	a2,a3,a4
x38	a2	a2,a5	a2,a3	a2,a4	a3		a1	a2,a4
x92	a1,a2	a1,a2,a5	a1,a2,a3	a1,a2,a4	a1,a3	a1		a1,a2,a4
x123	a4	a4,a5	a3,a4	λ	a2,a3,a4	a2,a4	a1,a2,a4	
x2	a1,a2,a3,a4,a5	a1,a2,a3,a4	a1,a2,a4,a5	a1,a2,a3,a5	a1,a4,a5	a1,a3,a4,a5	a3,a4,a5	a1,a2,a3,a5
x82	a2,a3,a4,a5	a2,a3,a4	a2,a4,a5	a2,a3,a5	a4,a5	a3,a4,a5	a1,a3,a4,a5	a2,a3,a5
x85	a2,,a5	a2,a4	a2,a3,a4,a5	a2,a5	a3,a4,a5	a4,a5	a1,a4,a5	a2,a5
x157	a2,a3,a4,a5	a2,a3,a4	a2,a4,a5	a2,a3,a5	a4,a5	a3,a4,a5	a1,a3,a4,a5	a2,a3,a5
x58	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5
x87	a1,a2,a3,a4	a1,a2,a3,a4	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5
x128	a1,a2,a3,a4,a5	a1,a2,a3,a4	a1,a2,a4,a5	a1,a2,a3,a4,a5	a1,a2,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5
x172	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a5	a1,a3,a4,a5	a1,a3,a4,a5	a1,a3,a4,a5	a1,a2,a3,a5
x217	a1,a2,a3,a4,a5	a1,a2,a3,a4	a1,a2,a4,a5	1,a2,a3,a4,a5	a1,a4,a5	a1,a3,a4,a5	a1,a3,a4,a5	a1,a2,a3,a4,a5

u	x2	x82	x85	x157	x58	x87	x128	x172	x217
x1	a1,a2,a3,a4,a5	a2,a3,a4,a5	a2,a4,a5	a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5
x4	a1,a2,a3,a4	a2,a3,a4	a2,a4	a2,a3,a4	a1,a2,a3,a4,a5	a1,a2,a3,a4	a1,a2,a3,a4	a1,a2,a3,a4,a5	a1,a2,a3,a4
x14	a1,a2,a4,a5	a2,a4,a5	a2,a3,a4,a5	a2,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a4,a5	a1,a2,a3,a4,a5	a1,a2,a4,a5
x23	a1,a2,a3,a5	a2,a3,a5	a2,a5	a2,a3,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a5	a1,a2,a3,a4,a5
x33	a1,a4,a5	a4,a5	a3,a4,a5	a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a4,a5	a1,a3,a4,a5	a1,a4,a5
x38	a1,a3,a4,a5	a3,a4,a5	a4,a5	a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a3,a4,a5	a1,a3,a4,a5
x92	a3,a4,a5	a1,a3,a4,a5	a1,a4,a5	a1,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a3,a4,a5	a1,a3,a4,a5
x123	a1,a2,a3,a5	a2,a3,a5	a2,a5	a2,a3,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a5	a1,a2,a3,a4,a5
x2		a1	a2,a3	a1	a1,a2,a3,a4,a5	a1,a2,a3,a4	a1,a2,a4	a1,a3,a5	a1,a4
x82	a1		a3	λ	a1,a2,a3,a4,a5	a1,a2,a3,a4	a1,a2,a4	a1,a3,a5	a1,a4
x85	a1,a3	a3		a3	a1,a2,a3,a4,a5	a1,a2,a3,a4	a1,a2,a3,a4	a1,a3,a5	a1,a3,a4
x157	a1	λ	a3		a1,a2,a3,a4,a5	a1,a2,a3,a4	a1,a2,a4	a1,a3,a5	a1,a4
x58	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5	a1,a2,a3,a4,a5		a5	a3,a5	a2,a4	a2,a3,a5
x87	a1,2,a3,a4	a1,a2,a3,a4	a1,a2,a3,a4	a1,a2,a3,a4	a5		a3	a2,a4,a5	a2,a3
x128	a1,a2,a4	a1,a2,a4	a1,a2,a3,a4	a1,a2,a4	a3,a5	a3		a2,a3,a4,a5	a2
x172	a1,a3,a5	a1,a3,a5	a1,a3,a5	a1,a3,a5	a2,a4	a2,a4,a5	a2,a3,a4,a5		a3,a4,a5
x217	a1,a4	a1,a4	a1,a3,a4	a1,a4	a2,a3,a5	a2,a3	a2	a3,a4,a5	

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7 Results

1. Considering $\underline{A}X_1$ set, we can say that the mentioned responders are sure that the meritocracy of this organization was in low-level and meritocracy of sub-systems are in low level too. Considering $\overline{AX}_1$ we can also say that there are some people who probably thought meritocracy of the organizations was in low level and sub-systems are probably at low and moderate levels.
2. Considering $\underline{A}X_2$ set it is possible to say the mentioned responders of this set are finally sure that meritocracy in those organizations were in moderate level and meritocracy of sub-systems are in moderate level. In the other hand, according to the $\overline{AX}_2$ set it is possible to say there are some people in these organizations who probably thought meritocracy of those organizations are moderate and probably meritocracy of sub-systems are in moderate level.
3. Due to the $\underline{A}X_3$ set it is possible to say that mentioned responders make sure that meritocracy system of these organizations are in high level and sub-systems of meritocracy are in high levels. In the other hand, due to $\overline{AX}_3$ set it is possible to say there are some people among responders who thought probably meritocracy system is in high level and sub-systems of meritocracy is in high level.
4. Due to the "if……then…." Principals, it is possible to say:

IF a_1=1,a_2=1,a_3=1,a_4=1,a_5=1 THEN Result=1
IF a_1=2,a_2=1,a_3=1,a_4=1,a_5=1 THEN Result=1
IF a_1=1,a_2=1,a_3=2,a_4=1,a_5=1 THEN Result=1
IF a_1=1,a_2=1,a_3=1,a_4=2,a_5=1 THEN Result=1
IF a_1=1,a_2=2,a_3=2,a_4=1,a_5=1 THEN Result=1
IF a_1=1,a_2=2,a_3=1,a_4=1,a_5=1 THEN Result=1
IF a_1=2,a_2=2,a_3=1,a_4=1,a_5=1 THEN Result=1
IF a_1=1,a_2=1,a_3=1,a_4=2,a_5=1 THEN Result=1
IF a_1=2,a_2=2,a_3=2,a_4=2,a_5=2 THEN Result=2
IF a_1=1,a_2=2,a_3=2,a_4=2,a_5=2 THEN Result=2
IF a_1=1,a_2=2,a_3=1,a_4=2,a_5=2 THEN Result=2
IF a_1=1,a_2=2,a_3=2,a_4=2,a_5=2 THEN Result=2
IF a_1=3,a_2=3,a_3=3,a_4=3,a_5=3 THEN Result=3
IF a_1=3,a_2=3,a_3=3,a_4=3,a_5=2 THEN Result=3
IF a_1=3,a_2=3,a_3=2,a_4=3,a_5=2 THEN Result=3
IF a_1=3,a_2=2,a_3=3,a_4=2,a_5=3 THEN Result=3
IF a_1=3,a_2=2,a_3=2,a_4=3,a_5=2 THEN Result=3

5. Due to data reduction and reduction table it is possible to make an explanation of d=1 by a_5=1 which is called valued reduction.

IF a_5=1 THEN Result=1

Therefore if keeping meritorious is in low level then meritocracy system of organization is in low level. Using a similar reasoning it is possible to summarize 16 above principals as followed phrases:

IF a_2=1, a_4=2, a_5=2 THEN Result=2
IF a_2=3 THEN Result=3

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8 Recommendations

1. 1.Given that the 'knowing meritorious' as one the sub systems of meritocratic system is in an inappropriate status, it is recommended that fir identifying the qualified people the organizational and country-based database, going to the job centers, recruitment advertising, conducting scientific competitions and surveying for identifying the qualified person from inside the organization, be used.
2. This research represents that the 'selecting meritorious' is in an inappropriate status too. So it is recommended that in appointing the people, the mental and moral competence and physical ability be considered, and attention be paid at holding specialized tests and interviewing.
3. According to the research findings, the sub system of 'keeping meritorious' is in an in appropriate status. So it is recommended that attention be paid at organizational justice in achieving the positions and the factors that increase the work life quality of people, and appropriate system of rewarding and at last succession planning as a long-term plan be established in the organization.

The findings of the research shows that "developing meritorious" is in poor condition in the government agencies of Ahvaz city, so it is recommended that the developing meritorious strategies be envisioned in the HRM (human resources management) system in the government agencies, appropriate training sessions be held at the organizations for promoting the human resource performance and in this training sessions attentions be paid to transferring knowledge and experience between people. At last, it is suggested that a competitive condition be created for achieving different positions and in the assessment of individuals' performance, appropriate parameters be considered

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