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INVESTIGATION OF THE EFFECT OF IN-SERVICE TRAINING COURSES ON STAFF EFFICIENCY BASED ON ANALYTICAL MODEL OF ROUGH SETS (A CASE STUDY OF MANAGERS' PERSPECTIVE OF THE BROADCASTING CENTER OF YAZD)

Mohammad Ghezelayagh[1], *Mohammad Ali Pourroostaei[2], Farshid Hasanzadeh[3]
[1]*Department of Statistics, faculty of Mathematics and Computer Sciences, Shahid Bahonar University of Kerman, Iran*
[2]*Department of Management, Kerman Branch, Islamic Azad University, Kerman, Iran*
[3]*Department of Management, Gheshm Branch, Islamic Azad University, Gheshm, Iran*
*Author for Correspondence

ABSTRACT

Manpower training is one of the ways of acquiring knowledge, developing skills, enhancing efficiency, and effectiveness of activities. The present research is done to investigate the effects of in-service training courses on the staff competence by using management opinions through analytical model of Rough sets. For this, a number of 42 managers and vice presidents of Broadcasting Center of Yazd are selected for statistical population and the sample. The data collection tool in this research is using a prepared questionnaire and is consisted of two parts. The first part includes 5 general questions and the second part includes 25 questions of which the first 24 questions are for five variables of conditions and one question for the variable of decision that are confirmed based on 5-point Likert scale and with getting experts' opinions and doing amendments and its reliability is obtained 0.89 by calculating Cronbach Coefficient Alpha. After the distribution and extraction of the collected data using ROSE Software with the analytical framework and model of Rough Sets, observations are analyzed and after classification of the variables of conditions effective on efficiency and also ranking and determination of the importance of the criteria, the findings of the research demonstrate that the appropriate function of this theory in the analysis of the criteria related to the impact of in-service training courses on the staff efficiency from the perspective of managers and also approves of the functionality of staff training courses from their perspective and also the findings express that the level of impact of the in-service training on the staff efficiency based on the components of conditions are in the acceptable level and the ranking of the components demonstrates that the most impact is related to the component of (presence in class creates job and individual creativity in the staff) in the satisfaction of all staff.

Keywords: Training, In-service Training, Virtual Training, Efficiency, Analytical Model of Rough Sets

INTRODUCTION

Capital, manpower, technology and management are considered as the most important pillars forming today's organizations and, according to many experts, human resources are among the most important pillar among these in a way that the efficiency of organizations is dependent on the proper and exact work in doing the duties of these forces in queue and staff departments and because human resource are the constituents of more than 70 percent of the resources and capital of organizations, it is necessary for something to be done in holding regular training activities in all organizational levels in order to provide this human capital(Abbasian, 2006). With this explanation, in a society that is changing rapidly, not only training the staff is appropriate, but it is an activity that each organization should consider some resource for it to constantly have efficient and informed human resources (Dolan and Randal, 1999). And it is obvious that the type and amount of staff training of organizations depend on the rate of quality importance of the products and services presented to costumers and also the importance of work force skills for the organization (Baldwin and Johnson, 1995).

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This issue is much important in broadcasting organization as the only lawful responsible for broadcasting radio and television programs in country and also the second big governmental radio and television agency of the world that is responsible for contesting international and foreign media in dimensions of content production and using the latest technical achievement in line with the updated media knowledge. In addition to methods and modern educational content, another significant component should be taken into account that is confidence of efficiency and effectiveness of in-service training courses from the perspective of users and managers in order to be able to identify and remove the threatening defects and damages of these courses for achieving the expected targets. Therefore, it is attempted in this study to investigate the impact of in-service training on efficiency of the staff of Broadcasting Center of Yazd from the perspective of the managers of this organization using the theory of Rough Sets and measures are taken in order to select variables and the evaluated components that are presented as follows.

Research Literature
Training

There are numerous definitions for the concept of training that some of them can be stated as follows:

Training is defined in Dehkhoda Dictionary as: "the action of learning and educating" and educational, scientific and cultural organization of UNESCO states the target of training as "the development of skills, abilities to work, understanding the knowledge, and required information by different levels of human forces in order to improve."

Training, like other investments, can help the development of economy and it is a kind of investment on humans like investments in materialistic and physical affairs. It is mentioned in Training for Development that: "not only training is one of the main and primary rights of humans, but also it is the main part of economic and social development and if it is planned properly, it can bring about abundant economic efficiency especially in poor countries" (Sakharopolos and Woodhall, 1991).

In psychological and social sciences, training is known as a kind of experience resulted from learning and it is maintained in that "training is a kind of learning experience and learning is averagely stable changes that emerge in the latent behavior of people because of experience. This word is more used in the translation of the word training, while the real translation of the word is training and education and it means a constant and regular flow that its target is helping physical, mental, cognitional, moral, and social growth or totally the growth of the characters of learners in the direction of social normalization and helping aptitudes to burgeon" (Seyf, 1991).

Types of Training

Totally, trainings that are presented in different organizations can be place in two major categories (Fathi Vajargah, 2007):

A- Pre-Service Education

Pre-service education is a kind of training that is presented to the individual before his entrance or employment in the organization. The main target of this type of training is increasing or creating abilities and the required competence in the personnel to prepare individuals for taking special jobs. Time periods of pre-service education can be in two forms of short and long terms.

B- In-Service Education

In-service education is in fact said to be a kind of training that is done after the employment of individuals in the institution or organization in order to prepare individuals for optimized performance of staff- jobs duties and responsibilities, promotion of the performance of staff and organization by cutting the present defects in their performance (Hass, 1989). This kind of training is mainly presented in three fundamental bases of knowledge development, improvement of skills, and change of visions (Fathi, 2007) that are used both for new staff and for current staff (Bernardin, 2003). The prevalence of this method can be attributed to two factors: its ease and its low cost (De-cenzo and Robbins, 2002).

May (1968) defines in-service education as: systematic and constant improvement of employments in case of knowledge, skills, and behaviors that help them and their organization with welfare and its target

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is creation of more ability in production, efficiency increase in the present job, and gaining better conditions for getting promotions (Abtahi, 2002).

Pear and Gutter (1983) consider in-service training as a kind of systematic attempt that its main goal is harmonizing individuals' future dreams, interests, and needs with needs and goals of organization in the frame of the works that are expected from individuals (Hass, 1989).

E-Learning

Virtual or electronic learning is said to be as to an extensive set of applications and learning methods including computer-based learning, web-based learning, virtual classrooms, and etc.

This type of learning is presented through computer-assisted instruction through electronic media, internet, web, organized networks such as extranets and intranets and satellite broadcasting, audio tapes, DVD and CD-ROM disc, and based on the technology. In other words, course content using voice, video and text is presented in a way that utilizes the interactive relationship between teacher and learner and between learners, quality training reach to its highest rates. And the more advanced the facilities and equipment, the more it provides information and knowledge to provide better and higher quality. Like when gaining information through the Web, the more the bandwidth of data sending, more data is received. This new style of training courses "pre-service" and "job" is applicable to employees.

2-2- Staff In-Service Education Objectives

Fathi Vajargah (2007) has listed the objectives of in-service education as the following main educational strategies in the organizations (Fathi, 2007).

- Increasing professional ability and training latent abilities for daily works and duties
- Preparing staffs for getting new duties and responsibilities
- Improvement of the level of knowledge and information of office and educational staffs
- Improvement of the level of job skills and skills of office and educational staffs
- Creating of the proper and appropriate behavior in line with stable values of society in the staffs
- Increasing job satisfaction and improvement of staffs spirit
- Increasing flexibility in staffs in proportion to application of new methods and using modern tools and equipments and also organizational changes
- Creating the sprit of cooperation among coworkers in line with accomplishment of organizational objectives
- Paving the way for the usage from maximum available human resources in order to achieve organizational objectives and policies
- Regulating training of the working human resources in line with the improvement of their level of information and also the contexts of the growth of creativity and innovation

Efficiency

The index of efficiency technically is the proportion of entrance and exit of force (energy or work in the unit of time) and this proportion is stated in the form of percentage; therefore, in production, efficiency is the proportion of outing that is practically achieved to the expected standard outing (Honar, 1995). The concept of efficiency is deemed in this research as the change in the positive outlook of managers towards the performance of staff in the work environment of the organization.

Familiarity with Analytical Model of Rough Sets

The theory of Rough Set was developed in 1980 by Professor Zdzislaw Pawlak. This approach is to speech issues in which there is uncertainty and ambiguity. Also this theory is used for finding heterogeneities and communications in information (Pawlak, 1982).The focus of Rough theory is on the discovery of specific patterns in the partial data obtained from an information source (Slowinski and Stefanowski, 1989). This theory can be the basis for the detailed reasoning with uncertain information (Pawlak, 1996). This theory has been developed since less than three decades ago in many areas of life, including medical diagnosis and treatment (Slowinski, 1992), access control and process control algorithms (Mrozek, 1992), information retrieval (Gupta, 1988), and engineering (Arciszewski and Ziarko, 1990).

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Rough set theory concepts overlap with some other mathematical tools that are faced with ambiguity and uncertainty, like fuzzy set theory and intuition. Shafer theory, but the theory of Rough Sets can be viewed as an independent entity (Pawlak, 1996). One of the most important applications of the Rough sets theory is in the issues related to categorization and classification. The main objective of Rough set analysis is to obtain approximate concepts acquired from data. This theory is a mighty mathematical tool for reasoning in cases of uncertainty and incomplete removal of ways to ensure that the information provides surplus to requirements, (Pham and Aksoy, 1995). Regarding the increasing volume of information and data on various issues and areas and also the need for quick decision-making in the shortest time, Rough set theory is able, with the reduction of the raw data of the original data, to play an important role in decision making based on data tables and base (Roghanian and Ehsanbakhsh, 2013). It will be dealt to the explanation of the parts utilized by Rough sets theory as follows in the article.

The most basic part present in this theory is the information table that includes a set of data that are indicated in a table and this table includes a number of members or things that are indicated by a set of traits (decision, conditions). The mathematical form of the pair S = (U, A) is called an information system where U is a non-empty finite set of members and it is called a reference or universal set and A is a non-empty finite set of indexes (Jian *et al.*, 2011). Columns of the table of the same members and rows also include variables. According to what mentioned in the theory of Rough, one of the most important things is to share knowledge. Knowledge can be shared by using approximation in Rough. There are three modes:

1- Member x absolutely belongs to the set X.
2- Member x does not absolutely belong to set X.
3- Member x may and may not belong to the set X (Karimi, 2012).

Based on the above classification, two important concepts are discussed in the theory of Rough Sets as upper and lower approximations.

Upper approximation: $\qquad B^{*}X = \left\{ x \mid [x]_{B} \subseteq X \right\}$

Lower approximation: $\qquad B_{*}X = \left\{ x \mid [x]_{B} \cap X \neq \varnothing \right\}$

Lower approximation consists of those elements that absolutely are in the set X under the knowledge and application of traits in B.

Upper approximation consists of those elements that may be member of X under the knowledge and application of traits in B.

Border Area: it is areas about which cannot absolutely be told it belong to a group of classified members X with regard to the traits present in B that is shown with the following method:

Border Area: $\qquad BN_{B}(x) = B^{*}X - B_{*}X$

Accuracy of the approximation $\quad m_{p}(x) = \dfrac{card(B_{*}X)}{card(B^{*}X)}$

The accuracy of the approximation is also called classification accuracy. This level of accuracy can be defined to represent the independent parameters (the characteristics of decision-making) in the information system. Approximation quality of classification of X with respect to a set of traits or briefly introduce the classification of the quality of X is known. This ratio represents the proportion of samples correctly classified according to the characteristics in B on the entire sample present in the system.

Quality of Class Percentage $\qquad \gamma_{B}(x) = \sum_{i=1}^{n} \dfrac{card(B_{*}X)}{card(U)}$

For better justification for the classification and categorization of knowledge, it can be cited as an example of customer satisfaction in a way that the Rough set theory can be used based on the categories of customer satisfaction and the satisfaction of the criteria used to determine significance. In this regard,

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satisfied customers are categorized into two groups of satisfied and hidden dissatisfied customers. Hidden unhappy customers are a group of customers who have stated themselves as satisfied yet they have the behavioral characteristics of unsatisfied customers (Dehghan, 2013). Reduct and core are two basic concepts of the theory of Rough. Redact suggests components which their removal has no effect on the process, in other words it identifies the reduction of redundant components. The intersection of all reducts is the core. Core represents the most important characteristics of conditions among other variables. The core may be empty as well (Chen, 2009). In many systems of learning, the inferential decision rules are of the essential tasks (Jian *et al.*, 2011). According to the extract of rules, effective criteria can be specified and commensurate with these results; we plan to improve the policy.

Generation of rules in fact expresses exact relations with approximation between the variables (independent variables) and the decision variable (the dependent variable). Rules are stated as 'If …, Then…'. A rule may be exact and definitive or approximate and inconsistent (Barg and Rezazadeh, 2010).

A review of existing literature on the subject and background about the in-service training courses indicate that there are no similar national research about the utilization of the Rough Sets in the investigation and analysis of the impacts and consequences of in-service trainings. It is referred to some of the other researches.

Yadegar has done a research under the title "Investigation of the Impact of the Training Courses on the Performance of Experts in Municipality of Tehran" with the research question: 1. Does passing training courses increase technical and cognitive skill, discipline, the spirit of cooperation and coordination, facility in works, learning the use of resources, incentive tools of the work among experts in the Municipality of Tehran? The research was done with this hypothesis that there exists a difference between the ideas of the tested about each one of the research variables regarding gender, education, experience, and age. His statistical population included all the experts working in the municipality of Tehran and the following results were obtained: 1. passing training courses increases technical and cognitive skills in experts; 2. passing training courses does not increase discipline; 3. passing training courses does not increase the spirit of cooperation and coordination; 4. passing training courses does not lead to more interest in work by the experts; 5. passing training courses facilitate the complicated works done by experts; 6. there exists a difference between the ideas of the tested about each one of the research variables regarding gender, education, experience, and age (Yadegari, 2007).

Rabi'e *et al.,* dealt in an article with the impact of in-service training courses on the efficiency of the staff of Medical Sciences University of Arak based on the perspective of experts of the university. His research variables consisted of job satisfaction (willingness to participate in class, increasing the Pros to participate in training courses, competency, etc.), job ability (decision-making skills, increased ability to work, analyzing problems, increased knowledge about jobs, etc.), and efficiency. The results indicated that from the perspective of experts, in-service training courses enhance the efficiency level in the staff and it is necessary that in addition to focus on the improvement of skill and job efficiency of staff, training of personality traits, improvement of organizational culture, and their behavior be also considered in the in-service training courses (Rabiee *et al.*, 2011).

Gholamshahi (2007) has dealt in a research to investigation of the impact of in-service training in Telecommunication Company of Tehran. The findings of his research demonstrated that 1. There exists a difference between the ideas of male and female staffs about the impact of in-service training with % 95 confidences, 2. There exists a difference between the ideas of married and single staffs about the impact of in-service training on their performance % 95 confidences, 3. Staff with more than 15 years of experience reported the impact of in-service training on the performance more than those with less than 15 years of experience % 95 confidences (Abbasian, 2006).

Rajabian (2006) dealt in a research with the effectiveness of training courses on the performance of staffs of the Agriculture Bank. The finding demonstrated that 1. Holding training courses have been much effective on job performance of staffs in their own opinions, 2. There have not been observed a significant

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difference between the opinions of sample members with the number of different passed training courses, organizational positions, education, experience, and gender about the effectiveness of training courses (Rajabian, 2006).

Some of the Researches done Outside the Country are as Follows

Jeng (2002) has investigated the efficiency of Life Insurance Company and the effectiveness of in-service training and in his opinion the great change of the explanation of life insurance decreases the rate of stability, increases cost of sale, develops the gap between services, customers' protest, increases the cost of education, wasting the company's resources and its social resources. Therefore, he focused his study on the effectiveness of the training of life insurance and on the solving of efficiency problem and concluded that efficiency and educational effectiveness is significantly dependent on rate of insurance acceptance before joining the company, families' support, and job satisfaction.

Nancy (2002) investigated in-service training system in technologies of PCB Company and concluded that if in-service training is designed based on the needs of workers and a good content be predicted for it, it can lead to increase of the workers' power and skills.

Cintoch and Hopkins, researchers of Tennessee University of the US, have done a research in 2009 on 45 people of horse trainers in agricultural centers of horse training and resulted that all of the researched features have increase after the in-service trainings.

Thomson (1990) concluded in a research that in-service training courses are a process that increases the quantitative and qualitative efficiency and effectiveness of staff and also the efficiency of the organization as its consequence. In his opinion, in-service training both causes improvement and development of human resources and also it is a factor for better job satisfaction and spirit that will lead to better performance of staff ultimately.

Eldernick (1991) has dealt in a research with the study and investigation of efficiency and effectiveness of in-service training programs about the familiarity of teachers with computer. His statistical population included 9 teachers from 3 schools who had had no experience of working with computers. The results of his research demonstrated that teachers who participated in the in-service computer training course, became extensively able to use computers after the course.
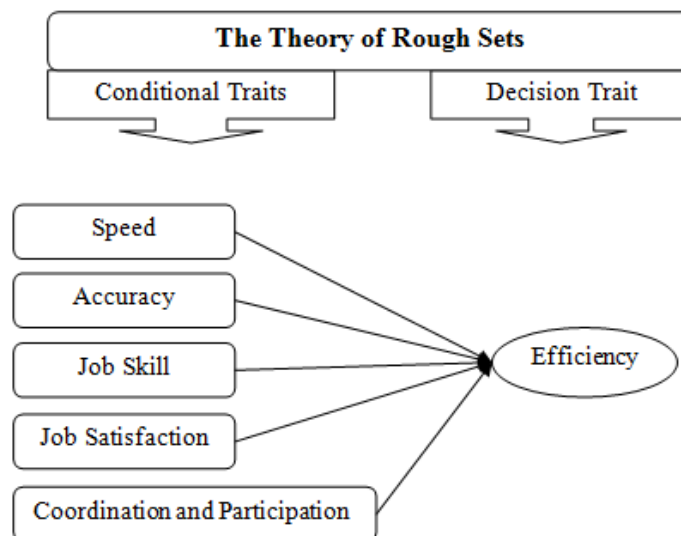
MATERIALS AND METHODS

Figure 1: Conceptual Model of the Research in the Theory of Rough Set

It is dealt in this study to the investigation of the impact of in-service training courses on the efficiency of staff from the perspective of managers of Broadcasting Center of Yazd using the theory of Rough Sets

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and with regard to the following conceptual model (Figure 1) and the research environment is Yazd Province.

The present study in terms of purpose is an applied research and in terms of its performance is exploratory based on data analysis of questionnaire of employees' performance evaluation. The statistical population includes all the managers of queuing and institution of the units of Broadcasting Center of Yazd (42 people) that is itself a 450-person set of human force working in this center and therefore Yazd Center can also be selected as a statistical sample from the greater family of Broadcasting Center (33 centers). Given this explanation and since the staff work in the responsibility area of the related managers, managers are able to be the best evaluators and access resources that judge the impact of in-service training courses on the efficiency of the staff and measure the positive changes resulted from training courses and therefore it seems that the surveys done from the managers' statistical population are more real. The evaluation tool in this research is a prepared questionnaire that is consisted of two parts. The first part includes general questions and the second part includes 26 questions of which the first 25 questions are for five variables of condition and one question is for the variable of decision (Table 1). SPSS Software is used for the analysis of demographic information and Rose2 Software is used for the analysis of Analytical data.

Speed + Accuracy + Job Skill + Job Satisfaction ⟶ Coordination, Participation, and Efficiency of Staff

Table 1: Conditional Traits and Decision and Items

Traits	Number	Items
Speed	1	Increase of job knowledge and understanding of staff
	2	Increase of quickness in action of staff
	3	Increase of follow-up incentive and constancy in job affairs of staff
	4	Interest in work and quickness in the appointed jobs
Accuracy	5	Increase of working accuracy in staff
	6	More accuracy regarding job sensitivities and job angles
	7	Increase of discipline in work
	8	Decrease of working errors in staff
Job Skill	9	Increase of job skills in staff
	10	Selection of course content commensurate with staff positions
	11	Gaining knowledge and update information in work by staff
	12	Increase in work with computer skills
	13	Creating fertile belief and job security in proper doing of the affairs
	14	Interest in the profession and job promotions
Job Satisfaction	15	Increase of job satisfaction
	16	Increase of individual and job feeling of competency in staff
	17	Increase of self-confidence in staff
	18	Emergence of individual and job creativities in staff
	19	Predicted legal advantages
	20	Increase of staff motivation for learning and gaining job skills
Coordination & Cooperation	21	Increase of job cooperation and interaction
	22	Increasing team work quality of program-making groups
	23	Increase of the rate of volunteer participation of staff
	24	Coordination and cooperation of staff with other units
	25	Increase of mutual understanding of job issues and topics among staff and management
Efficiency	26	In-service training courses generally increase the staff efficiency

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Demographic Analysis
As it is seen in the following table (Table 2), frequency condition and the percentage of the frequency of the received responses of the research variables related to some of the most important demographic variables are indicated.

Table 2: Demographic Features

Population Variable	Components	Frequency	Frequency Percentage
	Male	37	%92.5
Gender	Female	3	%7.5
	Married	40	%100
Marital Status	Single	0	0
	Less than 25 Years	0	0
	26-35 years	6	%15
Age	36-45 years	30	%75
	More than 46 years	4	%10
	Less than 7 Years	1	%2.5
	8-15 years	20	%50
Experience in Organization	16-21 years	12	%30
	More than 21 years	7	%17.5
	Diploma	1	%2.5
	College	1	%2.5
Education	Bachelors	23	%57.5
	Masters	15	%37.5

Using the theory of Rough Set, the percentage of classification quality of the set of all conditional features with the use of approximation section of this theory is evaluated which is equal to 1 that in other words the power of classification quality of staffs' efficiency is 1 using the total 5 conditional features (25 evaluation items).

In other words, using all the criteria to be classified as the employee's performance can be extracted. Furthermore, regarding the table 3, the division of the present knowledge in the data can be extracted using approximation indicates that there does not exists a 'Strongly Disagree' level about the impact of the courses on efficiency and the level 'Agree' is 21 in the highest frequency.

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Table 3: Approximation and Data Classification

Classification Quality: 1 Speed + Accuracy + Job Skill + Job Satisfaction + Coordination and Cooperation

Accuracy	Top Limit	Lower Limit	Objectives	Category
1	6	6	6	2
1	11	11	11	3
1	21	21	21	4
1	2	2	2	5

Speed + Accuracy + Job Skill + Job Satisfaction + Coordination and Cooperation

The first step in using rst is to calculate its reducts from the information table. The section of reduct in the theory of Rough Set indicates the key and common criteria of the research. In other words, removable criteria can be identified through it. For this, the set of reducts, for all the variables is extracted via Rose2 Software , its frequency table is then indicates, regarding the results of the core, no core is found for it, that this means all the components have similar coefficient of effectiveness.

Table 4: Reduct Components

Components	symbol	Frequency	% Frequency
Increase of the rate of working accuracy in staff	a5	2	%100
Interest in profession and job promotions	a14	2	%100
Predicted lawful advantages	a19	2	%100
Increase of the quality of programming team work	a22	1	%50
Increase of mutual understanding of job issues and topics between staff and management	a25	1	%50

Decision rules can be used to determine the relative importance of the criteria according to what was mentioned in the literature. According to the extraction of rules, effective criteria can be identified and executive policy-making measures be implemented appropriate to improve the regulation. Using software rose, 9 rules are extracted as described in Table 5 which brief descriptions are provided in Table 6.

Table 5: Derived Decision Rules

Rule 1. if(a11 = 2) & (a24 = 2) => then(dec = 2); [4, 4, 66.67%, 100.00%]

Rule 2.if (a6 = 4) & (a19 = 1) => then (dec = 2); [3, 3, 50.00%, 100.00%]

Rule 3. if(a1 = 4) & (a10 = 4) & (a18 = 2) => then(dec = 3); [4, 4, 36.36%, 100.00%]

Rule 4. if(a10 = 4) & (a17 = 3) & (a25 = 3) =>then (dec = 3); [4, 4, 36.36%, 100.00%]

Rule 5. if(a15 = 2) & (a16 = 4) & (a23 = 2) =>then (dec = 3); [3, 3, 27.27%, 100.00%]

Rule 6. if(a11 = 4) & (a15 = 4) => then (dec = 4); [11, 11, 52.38%, 100.00%]

Rule 7. if(a18 = 4) & (a25 = 4) => then (dec = 4); [12, 12, 57.14%, 100.00%]

Rule 8. if(a2 = 4) & (a5 = 4) & (a18 = 3) => then(dec = 4); [3, 3, 14.29%, 100.00%]

Rule 9. if(a1 = 5) & (a21 = 3) => then (dec = 5); [2, 2, 100.00%, 100.00%]

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Table 6: Descriptions of the Extracted Decision Rules

Rule	Rule Description
Rule1	If the impact of the component (in-service training courses causes the staff gain knowledge and the latest information) be in the level 'disagree' from the perspective of organization's managers and (in-service training courses caused harmony and cooperation of the staff) be in the level 'disagree', then the impact of courses on the staff efficiency is generally located in the level 'disagree'.
Rule2	If the impact of the component (in-service training courses lead to staff's better understanding of their job sensitivities and its different angles) be in the level of 'agree' and (Predicted lawful advantages is the most important incentive for the staff to participate in in-service training courses) be in the 'strongly disagree' from the perspective of organization's managers, then the impact of courses on the staff efficiency is generally located in the level 'disagree'.
Rule3	If the impact of the component (in-service training courses have increased staff knowledge and job understanding) be in the level of 'agree' and (The contents of in-service training courses have been selected according to the positions of staff) be in the 'agree' from the perspective of organization's managers, then the impact of courses on the staff efficiency is generally located in the level 'no comment'.
Rule4	If the impact of the component (Predicted lawful advantages is the most important incentive for the staff to participate in in-service training courses) be in the level of 'agree' and (Participation in in-service training courses increases self confidence of the staff in addition to their services) be in the 'no comment' level and (in-service training courses have increased the mutual understanding of affairs and work issue among the staff and managers) be in 'no comment' level' from the perspective of organization's managers, then the impact of courses on the staff efficiency is generally located in the level 'no comment'.
Rule5	If the impact of the component (in-service training courses have been effective in the increase of job satisfaction of the staff) be in the level of 'disagree' and (The feeling of individual and job competency have been increased by participation in in-service training courses) be in the 'agree' level and (in-service training courses increased the rate of volunteer participation in preparing the content of manufacturing programs) be in 'disagree' level' from the perspective of organization's managers, then the impact of courses on the staff efficiency is generally located in the level 'no comment'.
Rule6	If the impact of the component (in-service training courses caused the staff gain knowledge and the latest information) be in the level of 'agree' and (in-service training courses have been effective in the increase of job satisfaction of the staff) be in the 'agree' level from the perspective of organization's managers, then the impact of courses on the staff efficiency is generally located in the level 'agree'.
Rule7	If the impact of the component (Participation in in-service training courses have been effective in reinforcement of staff personal and job creativity) be in the level of 'agree' and (in-service training courses have increased the mutual understanding of affairs and work issue among the staff and managers) be in the 'agree' level from the perspective of organization's managers, then the impact of courses on the staff efficiency is generally located in the level 'agree'.

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Rule8	If the impact of the component (Participation in in-service training courses have increased professional action in the staff) be in the level of 'agree' and (Information of in-service training courses increases staff precision in work) be in the 'agree' level and (Participation in in-service training courses have been effective in reinforcement of staff personal and job creativity) be in 'no comment' level' from the perspective of organization's managers, then the impact of courses on the staff efficiency is generally located in the level 'agree'.
Rule9	If the impact of the component (in-service training courses have increased professional action in the staff) be in the level of 'agree' and (The contents of in-service training courses have been selected according to the positions of staff) be in the 'strongly agree' level and (Participation in in-service training courses have increased cooperation and job interaction of the staff) be in 'strongly agree' level from the perspective of organization's managers, then the impact of courses on the staff efficiency is generally located in the level 'strongly agree'.

Different Levels of Questionnaire's Responses	**5**	**4**	**3**	**2**	**1**
	Strongly Agree	Agree	No Comment	Disagree	Strongly Disagree

Furthermore, the frequency tables of the present criteria in decision rules identify the importance of criteria for decision-making.

Regarding the results of the table of the frequency of decision rules, the criterion (participation in in-service training courses is effective in reinforcement of staff personal and job creativity) has the highest importance among other criteria.

Table 7: Frequency of the Criteria Present in Rules

Criteria	Symbol	Frequency
In-service training courses are effective in reinforcement of staff personal and job creativity	a18	3
In-service training courses have increased the mutual understanding of affairs and work issue among the staff and managers.	a25	2
In-service training courses have been effective in the increase of job satisfaction of the staff	a15	2
The contents of in-service training courses have been selected according to the positions of staff	a10	2
In-service training courses have increased staff knowledge and job understanding	a1	2
In-service training courses caused the staff gain knowledge and the latest information	a11	2
In-service training courses bring about harmony and cooperation of staff with other units	a24	1

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In-service training courses lead to staff 's better understanding of their job sensitivities and its different angles	a6	1
Predetermined lawful advantages is the most important incentive for the staff to participate in in-service training courses	a19	1
Participation in in-service training courses have increased professional action in the staff	a2	1
Participation in in-service training courses have increased professional action in the staff	a5	1
Participation in in-service training courses increases cooperation and job interaction of the staff	a21	1
Participation in in-service training courses increases self confidence of the staff in addition to their services	a17	1
The feeling of individual and job competency are increased by participation in in-service training courses	a16	1
In-service training courses increase the rate of volunteer participation in preparing the content of manufacturing programs	a23	1

RESULTS AND DISCUSSION
The impact of condition variables (Speed + Accuracy + Job Skill + Job Satisfaction Coordination and Cooperation) on the variable of decision (efficiency of all staff) of the Broadcasting Center of Yazd is investigated in this article using the Rough Theory. The results indicate the significant relationship of all the variables with general efficiency of the staff. The results obtained from this theory in the approximation table indicate that regarding the results of classification quality of the approximation table using Rough theory, the classification power of the satisfaction of all staff is obtained based on the total criteria of in-service training (1). In other words, using the in-service training items (condition variable), the classification of the rate of efficiency of all the staff from the in-service training can be obtained with the probability (1). Furthermore, rules present in the Rough Theory are used for the determination of the strategy of improvement that regarding the extracted results, 9 rules are derived that have the highest significance regarding the table of frequency of the present criteria in criterion rules (Participation in in-service training courses is effective in reinforcement of staff personal and job creativity) and also criteria (3,4,7,8,9,13,14,20,22) which descriptions are stated in Table (7) do not have any significance in the satisfaction criteria present in decision rules. Furthermore, the total impact of the in-service training on the staff efficiency is in the level of 'Agree' based on the managers' ideas.

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