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**DETERMINING EFFECTIVE PARAMETERS ON THE SOCIAL RESPONSIBILITY OF UNIVERSITIES BY USING ROUGH SET THEORY
(CASE STUDY: ISLAMIC AZAD UNIVERSITY OF AMOL)**

Masoud Pourkiyani¹, *Syed Jafar Ghadiri Nejad² and Ali Mahfoozi¹

¹Department of Management, Kerman Branch, Islamic Azad University, Kerman, Iran

²Sama Technical and Vocational Training college, Ayatollah Amoli Branch,
Islamic Azad University, Amol, Iran

*Author for Correspondence

ABSTRACT

Due to the growth and development of organizations and increasing their role in society, Social consequences of the organizations activities and their effects on different stakeholders have become important increasingly; such a way that the moral and social performances of the organizations have numerous effects on the overall performance of them. Nowadays, the society is more sensitive about the organizations' activities toward the previous time, specially, against has reflected quickly against the immoral activities of the organizations in different ways. This research According to the practical purpose and in terms of methodology is kind of survey research and in terms of subject is a kind of managerial research and its purpose is assessing the situation of the social responsibility of Islamic Azad University – Amol branch , as an example, by using of Kate Davis model and rough set theory (RST). For this purpose, based on the triple components of Davies model (including inherent and legal obligations, moral obligations, beyond inherent obligations), try to design the questionnaire in 3 parts with 22 questions which is included 5 options based on the Likert type, and distributed it among the statistical society of the study (excellent students, faculty members, administrators, substitutes of university). Eventually, based on collected data, the informational system table was set, and by using the rough set theory, was obtained the reductions from the conditional features set or components and effective dimensions on the amount and level of social responsibility in Islamic Azad University of Amol, decision rules were inferred and has been interpreted. The results indicate that Islamic Azad University of Amol, based on social responsibility model of Kat Davis, was passed first and second steps, but in the third stage, they have some weaknesses points that some suggestions were offered in order to eliminate them.

Keywords: Social Responsibility, Social Response, Inherent and Beyond Inherent Obligations, Kate Davis Model and Rough Set Theory

INTRODUCTION

In traditional management literature, tasks such as planning, organizing and supervision were basic essentials, for successful managers. Later on other roles such as decision making, information and management of social issues or social responsibility for the managers. Today's managers must know the social aspects of their profession and should be prepared to encounter the impact of their organization on their social environment (Alwani, 2003).

Today's managers in addition to the technical, administrative and human/personal skills must also have skills in managing social issues and they must include these in their organization's objectives. To address social issues it requires the creation of the necessary structures in an organization and creation of social responsibility belief among the managers which is of great importance (Rahmanseresht, 2009).

Due to their great responsibility and in order to fulfill their mission and the prescribed policies the independent universities including the Islamic Open University are required to comply with their social responsibility.

Some examples of it can be described as shown below:

1. Because the interested parties in the universities consist of young people and their most important issue being employment after graduation, the trainings offered by the universities should have a close

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partnership with the job market. With regards to decision making for the establishment of industry relation departments and agencies, this problem must be given serious attention by the responsible authorities.

2. To provide and enhance graduate training

3. Issues related to employment and welfare matters for the employees, who are the most important asset in every organization.

4. Observing the concept of customer treatment and customer satisfaction considering that university clients form a wide spectrum of the young and active population of our society.

Describing the Problem

Due to the fact that the managers' decisions in various private and public organizations can impact different sectors of the society, the current organizations in addition to their traditional roles such as Planning, organizing, leadership and control must also undertake another important duty which is the social responsibility.

Because making a wrong decision without considering its social impacts could inflict irreparable damages on the society.

According to the above concepts and study of the literature and history related to the research and referring to the opinions of experts it was determined that the majority of the works left from domestic and foreign scholars and researchers had been about the social responsibilities of private and public manufacturing establishments and less research has been conducted on service institutions (Givarian, 2003).

As we know the main task of the universities is education and training of the specialist/skilled manpower to meet the needs of various sectors of the society.

But because like other private and public establishments/organizations it uses the society's various facilities such as financial resources, human resources, technology, etc for its own interests.

Therefore, it must have a sense of responsibility in relation to problems such as employment, culture and the coordination of the offered courses with the job market.

And within the scope of its powers and duties to fulfill its obligations.

This is the main reason for conducting this research, using the Davis model, for the independent universities including the Islamic Azad University of Amol which was chosen as the sample unit for Amol.

The weaknesses of the organization under study in achieving higher levels of social responsibility have created barriers in the Keith Davis model which is, "solving the social problems and issues relating to their activities beyond the legal and moral responsibilities", in the opinion of the researcher are:

1. Little association with organizations and various scientific, research and industrial institutions to exchange scientific information and to extend the frontiers of knowledge.

2. Little feedback from the university to the community and the stakeholders.

3. Uncertainty in the criticisms and suggestions system and getting feedback and ideas from the students in relation to the problems in different areas of the university.

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Describing the Conceptual Model

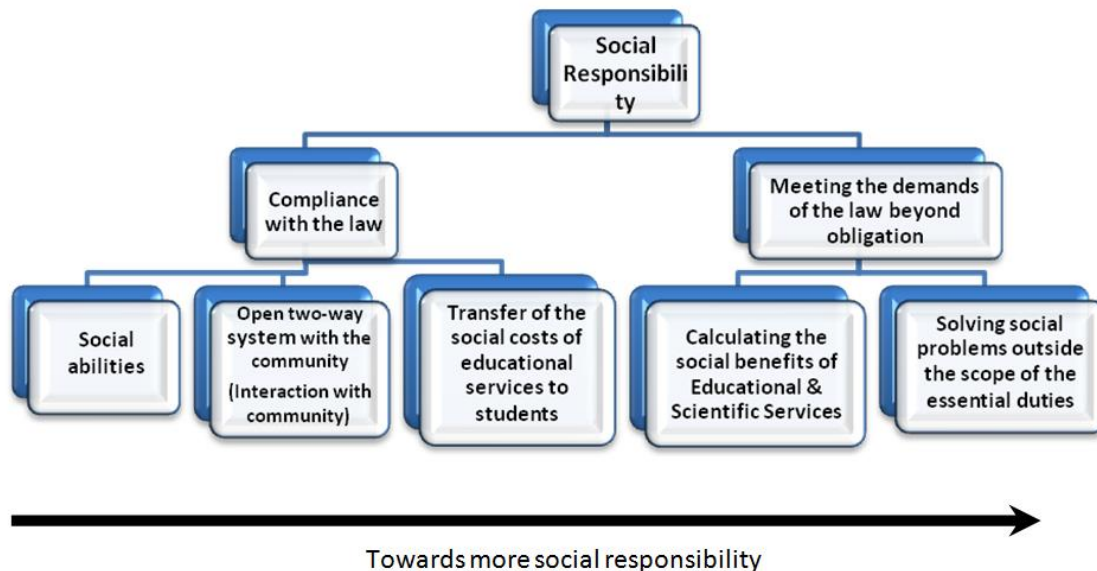


Figure 1: Keith Davis Social Responsibility Model

The model has five assumptions that Davis uses to explain why and how an organization or establishment could function in a way that it leads to their development and improvement and that of their community. Here we explain the five assumptions further (Alwani and Ghasemi, 1998).

Assumption 1- Social responsibility arises from social ability. An organization as a whole, due to the big impact it has on various social issues such as unemployment, the environment, quality of life and so on is involved in the society's welfare. Therefore because such organizations have the power to shape the state of the community, the community should hold them responsible for the way and the manner they impact their community's welfare. In other words the above assumption explains the reason why an organization or establishment should accept the social responsibility for their actions. It is not expected of the organization to act more than their ability, but to the same extent that the legal system expects each of its citizens to act within their power, equally it expects the organizations to do the same.

Assumption 2- The organization should operate as an open two way system. Freely receive the community's input and offer its concluded work to the community freely. The above assumption explains how to do the social responsibility. Davis believes there should be open and confidential communication between the organization and the community. In other words, the organization should pay attention to the opinions of the citizens and their representative enthusiastically and voluntarily produce regular reports of their works in relation to their social engagements. In order to maintain or to improve the general welfare of the community it is necessary that each side to pay attention to the views of their partner (Ghasemi, 1998).

Assumption 3- The social benefit of any work, consumer good or service should be fully calculated And considered for the purpose of deciding whether this work should be done or not. This assumption emphasizes on the basic concept that technical possibilities and economic benefit are not the only factors that may influence the decisions of an organization. The short-term and long-term results and their social consequences should be considered before the organization undertakes any work.

Assumption 4- The social costs associated with any consumer good or service should be transferred to the consumer. The above assumption makes the point that it cannot be expected of an organization to finance any activity that encompasses both economic loss and social benefits. These costs should be transferred to the consumer in the form of higher prices for consumer goods or services under discussion. The organizations want to help however; they should secure the least profit. Who will pay the cost of actions

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associated with the firm's social responsibility? Of course the automobile industry transfers the costs associated with car exhaust systems pollution control schemes to the customers. These costs are justified.

Assumption 5- The commercial establishments like any citizen have the responsibility to participate in solving social problems that are beyond the scope of their work. The last assumption makes the point that if an organization or institution has the expertise that can solve the social problems not directly associated with them, should hold itself responsible for helping the community to solve that problem. Davis in support of this statement argues that the organization would eventually gain more benefit from the overall improvement in the community (Iran Nezhad, 1992).

Note: Compliance with the law means those intrinsic functions of the university (generating knowledge, offering qualifications, training of specialists for the community) and meeting and exceeding what the law demands, means those duties of the university that exceed its intrinsic statutory duties.

Definitions of the Terms and Phrases

- **Social responsibility:** Peter Draker considers the first and most important social responsibility for any institution to be its job performance and the job and says that if a firm cannot perform its main job well, it cannot do anything else. Because of him, the business fails, he is not a good employer, nor a good neighbor, is not a member of the community, and cannot even provide sufficient capital to expand his business. Therefore he cannot employ more people. In Draker's opinion the first social responsibility restraint for the firm is the high volume and the level of its responsibility in fulfilling its mission successfully. This opinion is very similar to Friedman's opinion that considers the economic responsibility of the firm to be its main social responsibility (Abzari and Yazdanshenas, 2007).

The second restraint in responsibility in Draker's opinion is the competence and capacity restraint. He says that accepting the responsibilities that we are not suited to perform is the same as being irresponsible, because it raises expectations and ultimately provides the ground for despair and frustration. The firms should gain the competence, skill and capacity to fulfill their original mission. The capacities are evident and objective. Apart from these cases the firms don't have capacity. The strength of any firm should be its measure-ability, taking criticism and accountability such as productivity, profitability, quality, etc. If the firm ignores this rule, it is weak and unhealthy. Also if it interferes in intangible cases-politics, sensory and emotional affairs, acknowledged and denied, creation of social power relations structures and spends its energy and power in this affair, it will not feel comfortable (Amini, 2007).

In Draker's opinion the most important social responsibility constraint, is the legitimacy and authority constraint. Responsibility without authority is meaningless. Therefore, responsibility always accompanies authority. Therefore, anyone who claims responsibility indeed claims authority. In fact, anyone who has authority is responsible. He says ironically only it is the authoritarian and courage seeking regimes that even with full authority do not hold themselves responsible against anyone or anything. Therefore in Draker's opinion when a firm is asked to take responsibility for solving one of the community's problems and troubles, it should think carefully and see whether implicit authority in this responsibility is legal or not. If the authority is not legitimate and justified, accepting the responsibility to solve the problem, in fact is to disfavor the responsibility. It is evident that even if the organization or firm has the authority to do a job, it should be careful about the source of its authority and to ensure that it is legitimate (Paul, 2004).

Given the constraints and limitations, what responsibilities do indeed firms have? In Draker's opinion, the social responsibilities of the firms can be outlined as follows:

1. Addressing the responsibility, duty and the original mission of the firm, thoroughly:

For example, if its task and mission is making automobiles, it does this in the best way possible and to strive towards its evolution and continuous improvement.

2. Products and services responsibility: the firm and its managers are responsible for the consequences and effects of their products and should be held responsible for the consequences.

3. Responsibility of the processes: the firm and its managers are responsible for the production processes. The production processes should not create social cost and should, out of necessity, such a situation occur it should be at the lowest level possible. For example, if a firm manufactures different types of

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chipboard, as the raw material comes from the forest, the work must not be accompanied by devastation of the forest resources. The utilization of the forest should be in a way that it does not damage it. On the other hand, care must be taken so that the waste in the production process, "particularly adhesives and chemicals" does not pollute the environment. To contain the aerosols and dust and in inevitable cases such as noise pollution, keeps the damage to the lowest possible level.

4. Moral responsibility- the firm and its managers must, in trade and business, respect the conventional morality and adhere to its principles and is bound by them. Draker says in a pluralistic society the responsibility for the promotion and improvement of the society is a problem and a permanent issue that is never resolved. Part of this responsibility in the context of what was said is for the attention of the firm and some of it for the competent institutions – government and its affiliated organizations. However, large firms and their managers must reflect the society's problems and troubles. They must study the possibility of converting the project "Solve a problem or social disorder" to "Business opportunity" project. According to Draker, managers are never free from the worries and responsibilities. Draker's key idea is that everyone should engage in a work that he/she has the capacity, authority and legitimacy to do it (Barnea and Rubin, 2006).

Griffin & Jay define social responsibility as a set of duties and obligations that the organization must perform in order to contribute to the maintenance and protection of the community in which it operates in (Morrison, 2006).

"Drake French and Heiner Saverd" in "The Management Culture" book write about social responsibility: "Social responsibility, is the duty of the private institutions in the sense that does not have negative effects on the life of the community in which they work in. This task mainly consists of tasks such as: no pollution, no discrimination in employment, not engaging in immoral activities and informing consumers of the product quality. This is also a task based on positive participation in community life (Mark and Schantz, 2007).

"Robinson" says in relation to this: "social responsibility is one of the duties and obligations of the organization towards benefiting the community so that the primary objective of the organization which is maximizing profit is given an admirable outlook."

Keith believes a social responsibility i.e., a sense of commitment by managers in commercial organizations' private sector, which in addition to its decision to make a profit for the institute, improve the welfare of the whole society (Niazi, 2008).

Social Accountability: Stephen writes if we compare the concept of social responsibility with the concepts of social accountability and social commitment, we realize that social responsibility is in the middle of the evolution of social participation (From social commitment to social accountability).

Social Commitment: an organization acts to its social commitment when it acts to its economic and legal responsibilities and nothing more. In other words, he acts to the least responsibility that the law demands of him. If the organization is to encourage social goal, only to achieve its economic goals and not something else. Social responsibility with its entry adds an ethical governance framework which based on it, organizations attempt activities that improve the community's situation, avoid doing things that are causing the deterioration of the community's situation (Sanjaghi, 2006).

Social Accountability: Social accountability refers to the power and capacity of the organization in action in relation to the demands and expectations of the society (Alvani and Ghasemi, 1998).

Extra Intrinsic or Extra Legal Obligations

When it comes to talk of corporate social responsibility, it means commitment to the organization's purpose, beyond what is required by law and pursue of long-term goals that benefit the organization and society. Now the concept of social responsibility is compared to two concepts close to it which are social accountability and social commitment.

Social responsibility, leads to ethical governance; i.e. in the realm of social responsibility, the organization gets things done that are suitable and good for the community and avoids the matters that may be detrimental to the community. It is at this stage that the social responsibility is known as ethical behavior. In other words, doing what is defined as good for the public and the community, is known as a

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responsible behavior and conversely, what is harmful to people, doing it is known as irresponsible and unethical behavior. Social accountability is the organization's capacity and capability to accommodate changing social conditions. Therefore, social commitment, form the basis of social participation. In other words, the requirement for social participation of the organization begins with social commitment and obligation. Meaning, first the organization must observe the legal and economic frameworks that are determined for it. After social obligation, the social responsibility of the organization is shaped, which includes observing frameworks and ethical obligations above the law. Finally, there is the social accountability. The organization that accepts social responsibility as a moral behavior and action, now to show sincerity in their speech, they must take practical measures (social accountability) (Azimi and Khak Tarik, 2008).

Benefits of OSR (Corporate Social Responsibility)

Organizational climate is rapidly changing, and because of current trends towards global brands and multinational organizations with global supply chains, it is intensifying. Many organizations are increasingly aware of the direct economic value of OSR and with its integration as a strategic investment with business strategy and management activities, can have a positive impact on society and the environment, and in the meantime, they can also boost their reputation. By following this method, not only they make a profit today, but also they stabilize their future situation (Emami, 2006).

Examples of direct benefits to the organization resulting from the merger are as follows (Amini, 2008):

- Increase in the commercial value of the brand;
- Greater access to financial resources;
- Healthier and safer workforce;
- Risk management and more effective supervision of the organization's affairs;
- Enthusiastic staff;
- Customer loyalty;
- Promoting trust and confidence of stakeholders;
- Strengthen public image.

Views on Social Responsibility

During this century, the public perception of Corporate Social Responsibility has evolved through three phases:

1. Management based on, maximizing profits:

Although at the beginning of the twentieth century, some researchers have recognized the need for social responsibility, but the public largely believed that firms are solely responsible for their own benefit. This view was maintained until 1930.

2. Management based on trust

1930s, saw the Great Economic Depression and the trade unions movement. In this time the economic organizations were asked to do something about the issue of creating a safe and healthy working condition as a basic social responsibility. The trade unions put pressure on companies that in addition to considering their profit, to take note of interests such as the interests of workers, insurance and pension plans and better working conditions. In the second stage, the managers were asked to strike a balance between the important factors in maximizing profit and the demands of their community (Alvani and Ghasemi, 1998).

3. Quality of Life management

Since the 1960s, managers and organizations act on the basis of this phase of the social responsibility. The above stage is driven by the philosophy that managers and organizations have to be directly involved in the treatment of social ills operations.

Pros and Cons of Social Responsibility and the Reasons for Them

Managers have different views and opinions on the acceptance and compliance with social responsibility, and hence offer the reasons for the acceptance or rejection of it.

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Reasons for Advocates of Social Responsibility

Reasons for advocates of social responsibility are derived from the potential benefits that accrue to the organization and society. These reasons include:

1. Changing needs and expectations of the public

One of the reasons to agree with Social Responsibility is that the public needs and the society's expectations has eventually changed, organizations must be more engaged with society. Society's expectations of the organization, unbelievably, have suddenly increased from 1960 onwards and to narrow the gap between the community's expectations and the organizations' response, and to coordinate with their community, It is necessary to increase their social participation (Alvani and Ghasemi, 1998).

2. Moral Obligation

Another reason for supporting the organizations' community participation is that finally some organizations should take moral responsibility for their actions. In other words, in the organization's culture, ethics should have a place and the organization works conscientiously. The above argument comes from this view that organizations like other individuals and institutions are part of the community and its requirement for membership is accepted according to the individual responsibilities of every member, and organizational measures to be taken so that the ethical system remains in place and the interests of other members of the community are preserved. In other words, organizations should be committed to the society's sensitivities and its values and moral sensibilities and morally hold themselves responsible for their actions. According to this view, there is a difference between the value and anti-value that should be in place in the organization's culture in order to comply with the act.

3. Conserve limited resources

Another important point is that given the limited resources of the Earth, an organization or institution must act responsibly to maintain them and use them wisely. Organizations should be responsible for their actions today, because tomorrow should also be ready and safe for human survival. Although some resources are renewable, but this is no reason to be wasteful in their use, because, wasting of resources itself, imposes a huge cost on society.

Other reason that leads managers to observe the CSR include: Better social environment, protecting the long-term interests, preventing the spread of government rules and regulations, balance between responsibility and authority, are systematic interdependencies, help solving social problems, improved public image, attracting organizations' valuable resources and finally, prevention is better than cure (Alvani and Ghasemi, 1998).

The Reasons for the Oppositions of Social Responsibility

Reasons for opposing the social partnership of organizations' include:

1. Necessity to Obtain the Maximum Benefit

Perhaps the strongest reason for opposing the social participation of organizations is the one which classical economic theorists express in relation to obtaining the maximum profit.

According to this theory, the organization has done a community friendly act when they reduce their costs and increase efficiency and thereby to maximize profitability. Therefore, if the organizations' managers are motivated by the profit incentive, competition makes them take steps to reduce costs and consequently reduce prices for the public interest. The organization acts at the highest level in terms of social responsibility so long as they follow their economic interests, other activities that are relevant to other enterprises and organizations are given to them. The reason is that society needs the benefits that each of the social institutions acquires alone (Khalili, 2003).

Since the organization works in a world of limited resources, the economic efficiency issues must be among the issues that have daily priorities and are included in the higher objectives of the organization. Operation of an enterprise is a speculative work, not a social work. Therefore, economic values should be used as criteria for evaluating the success of a firm. In such a system, managers are assumed as agents of shareholders and all their decisions are made with the approach and commitment to achieve maximum profit for shareholders and to maintain the organization, "in an organization, in a system of private ownership, the manager of a firm, is the agent of the firm's owners. He has direct responsibility to his

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employers and he is responsible for the operation of the organization in accordance with their demands which generally is the increase in capital according to the regulations of society. In other words, the manager should act according to his social responsibility to the extent that the efficiency of "shareholders capital" is not reduced or otherwise their right has been violated.

And if prices go up due to his actions, in fact, he has disadvantaged the customer investment and money. And if because of this he reduces his employees' wages, their rights are violated. " By this reasoning, if managers use corporate resources for social purposes, they have benefited from others capital, without a right to make this decision (Givarian, 2003).

According to this theory, giving consideration to social objectives causes reduced economic efficiency and "efficient management" changes to "management of duplication ". This, if the lack of economic efficiency, causes a waste of resources. In other words, according to this theory, the organization's inefficiencies resulting from social participation, results in a social loss greater than the social benefits. In other words, the social losses due to the organization's social responsibilities would be equal to the society's economic loss (Alvani and Ghasemi, 1998).

2. Multiplicity of Organizational Goals

Social participation of the organization in solving the social problems and issues creates a multiplicity of organizational goals and causes the managers to consider different and varied objectives. This leads to the confusion of the managers and cripples them in effectively managing their organization. Combining economic and social goals, lays the foundation that leads to the demise of the organization. This is due to internal conflicts in objectives. Although when the people, are demanding the organizations a sense of responsibility toward society, they have charitable intent, but it will itself cause the system to lose its effectiveness further. Discussing the purposes and goals of the organization (that should be focused on economic or social issues) deflects managers' energy and attention from their original task which is to produce goods and services for society. This deviation does not lead the society to anywhere. Besides urging the organization to engage in social participation, causes expectations in public opinion toward organizations that are impossible for them to fulfill. When these expectations are not met, the public face of the organization is flawed; therefore the public opinion towards them turns negative and causes the organization to lose its effectiveness and efficiency.

3. The Cost of Social Participation

One of the major issues that in many social schemes no attention is paid to it, is whether people are willing to pay the cost of these projects? And is it wise to use their limited resources in this way?

It is accepted that in practice many costs are difficult to calculate, but ultimately it is the society that needs to pay all the costs, whether it could be calculated, or not. Can the society really afford to cope with these costs? Do they know the scale of those costs?

Some individuals may have a misconception about who pays these costs. They think that the organization pays these fees and they are the only beneficiaries. However, they themselves are indeed paying the price of their products or services. If society deems itself that eventually, it will pay these costs and if it knows what the difference between actual costs is, may never insist on Social activities that the organization wants. In this case, the community may choose economic viability to improve the economic wealth (Alvani and Ghasemi, 1998).

4. Undermining the Balance of International Payments

Another reason to oppose the participation of organizations in social issues is that, this will weaken the international balance of payments. If social programs add to the social costs of the organization, generally it will cause an increase in the price of goods and services. On the other hand, if social activities reduce economic efficiency, the reduction in efficiency causes an increase in costs and will result in higher prices.

If these companies wish to compete in the international market with other companies whose social costs are not added to the price of their products, they will lose in this competition. Low company sales at the international level will weaken the country's balance of payments. This problem, of course, has other unintended consequences, such as increasing unemployment and so on.

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5. Lack of Social Skills

Another reason for opposing the social participation of organizations is that many of their managers lack the required skills and understanding for working on social issues. In other words, the managers' views and capabilities have more of an economic aspect. If the society needs an individual to solve its problems, why choose the group that have no skills in this area and lack competence; does the community really want the economic and technical people to intervene in social affairs? These types of individuals can broaden their minds; do nothing other than their specialty? Can the organizations really do such things? Namely are they better equipped than the government and nonprofits institutions?

Non-governmental university:

- Public University

It is a university that its building and construction cost is substantially funded by the government or government agencies. However, depending on the laws in different places, "National Universities" are not considered as "Public Universities". (Website, Wikipedia)

Nonprofit private University (Private University)

Unlike public universities, usually no financial assistance from the government or government-related organizations is received for administrative and infrastructural funding and is only funded by the private sector. Although the cost of administering the universities are funded by the private sector, but mostly are governed by state education laws. Private universities in some countries, however, can receive government grants for research. For example, in America, private universities can receive help from the National Science Foundation, National Institutes of Health, or the US Department of Energy. It is possible that in some countries, basically there are no such universities. (Wikipedia website)

Islamic Azad University

According to Article 5 of the Statute of the Islamic Azad University - the university is a public and private institution and its property is considered as public property. None of the founding board members, board of trustees, administrators and other pillars and the university authorities have any proprietary right or the right to private gain from the above properties and aforementioned properties and interests subject to the provisions of the statutes and regulations governing these exclusively with the observance of the university's interest, will be spent towards the costs, and the advancement of the university's activities.

(Website of the central office of the Islamic Open University)

Also Article 6 of the Constitution requires: University will be subject to all the rules and regulations pertaining to non-profit institutions of higher education approved by the Supreme Council of Cultural Revolution and its subsequent amendments and regulations by the Ministries of Science, Research and Technology and of Health and Medical Education.

(Website of the central office of the Islamic Open University)

MATERIALS AND METHODS

Rough Set Theory

Rough set theory was established in the early 1980s, by Professor Zedyslav Paulak. This theory deals with the analysis of data tables. The main goal of the rough analysis, is obtaining an approximation of the concepts from the acquired data (Banai, 2010). This theory is kind of strong mathematical instrument for analyzing the ambiguity and uncertain cases that provides techniques for refinement and remove irrelevant or excessive information and knowledge on the collected data from the database (Kokabi and Moradi, 2013). By reducing information, a set of meaningful obtained rules is created that is simplified the decision-making, therefore, due to the rapid growth of data volumes, rough can has very effective role in support decision systems. Rough set is composed from number of objects on one table of data that is described by a set of characteristics. In this table, in this table, the objects are located in rows and characteristics on the columns. Therefore, each object is described by mentioned characteristics (Sheikh and Mohammadi, 2013).

The main advantage of Rough theory is that the additional information of data does not require such as probability on statistics and membership degree in fuzzy theory. This method is tried to preferred a way

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for changing the data to knowledge and a beneficial technique to discover invisible patterns in data, and includes the concepts such as informational systems, equivalence classes, partitioning, inseparability matrix and etc that will be explained in the information analysis part in detail (with real examples) (Paouak, 1991).

This research according to its objective is practical and in terms of methodology is a survey based research. Following the research questions, instruments and methods of data collection, validity and population samples, data collection and analysis are discussed.

The research objectives are

1. To evaluate the level of social responsibility of non-state universities in city of Amol, based on Keith Davis model.
2. To identify and provide practical solutions to improve the social responsibility of non-state universities in city of Amol.

Research Questions

The Main Question

What is the state of social responsibility of non-state universities, in city of Amol, based on the components of the Keith Davis model?

Sub-questions

1. To what extent non-state universities in city of Amol act on their inherent and legal obligations?
2. To what extent non-state universities in city of Amol act on their moral and legal obligations?
3. To what extent non-state universities in city of Amol, act beyond their intrinsic duties, in order to enhance public welfare and solve social problems?

Data Collection Instruments

Library Studies

In order to collect information on the research literature and history using library studies, searching the literature, various internet sites and the Master's thesis work in this area was attempted.

Field Studies

Data collection instruments are prepared in this section and the questionnaire design, based on the research main question and sub-questions, and later on its distribution among the target population is defined. This questionnaire has the following characteristics:

- A) In three sections- acting on legal obligations, acting on legal and moral obligations and ultimately practice beyond legal and ethical obligations, is designed to solve community problems, and increase public welfare.
- B) The questionnaire contains 22 questions and each question has 5 options (based on Likert scale, from very low to very high) which was designed based on the above areas and along the survey's main question and sub-question. And because of this it has a certain logical order.
- C) We have tried to place the important questions first and to avoid citing the main contents at the end of the questionnaire as much as possible.
- D) We have designed the questionnaire such to avoid ambiguous questions and to add comments for some of the questions.
- E) To the extent possible, we have tried to design a brief questionnaire and to achieve the objectives of the thesis sanctity only questions that are required to be designed.

Validity and Reliability of the Data Collection Instruments

the validity or reliability means that the scale and content of the instrument or questions on the subject, test the variables and the subject matter precisely, this means that the data collected through the instrument, is not in excess of the research's requirement, and the fact that the part of the data needed to assess the content is not removed from the instrument or in other words, to reflect the reality precisely. That in this research, the questions posed in the questionnaire are assessed and evaluated by supervisors and that matching their views has endorsed the validity of the questionnaire. Stability or reliability of the instrument means that if a measurement instrument that has been made to assess the variable and the trait in the same conditions, is used in another time and place, similar results are obtained,

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in other words, a reliable instrument is a one that has the properties of reproducibility and measurement of identical results. Thus, in the present study to assess questionnaire reliability, we attempted to calculate Cronbach's α coefficient using SPSS software which the value obtained for α is 0.9 and indicates the reliability of the present questionnaire.

The Statistical Population

As you know scientific research aimed at understanding a phenomenon is conducted within a statistical population. Because of this, the research topic may be focused on its traits, characteristics, functions, and variables or will study the relationships between variables, attributes, actions and reactions, and factors influencing the society (Hafez, 2008).

Therefore, the target population consists of all the elements and people in a specific geographic scale which has one or more common characteristics.

In this research the studied statistical population, is Islamic Azad University of Amol which is provided some parts of it in the below table:

Table 1: Parts of the Islamic Azad University Ayatollah Amoli and number of the each section

Number of staff	Section's name	Row
20 people	the Financial administrative : X1	1
8 people	assistants: x2	2
300 people	excellent undergraduate students of all fields of the University: x3	3
25 people	education department : x4	4
8 people	public relation and president department : x5	5
5 people	Engineering department : x6	6
15 people	research department : x7	7
10 people	managers : x8	8
9 people	green areas department : x9	9
30 people	full-time faculty members with PhD degrees: x10	10

Sample and Sampling Method

Because of small size of the staff and university authorities, relatively, were invited all of them (130 = n), which were mentioned in the previous section for participating in this study, but due to the mentioned statistical population about the students had a huge volume, and it was not possible to contact with all of them, therefore, a group of students were chosen inevitably and the results were generalized to the students' population. So, in this research was used Morgan table which based on this table among the students' statistical population (n = 170) participants were chosen as a sample. The stratified random method was used for sampling in this research, and members of the population have an equal chance of being selected, observance of the probability principle of equal chance for each of the members of society causes that the selected sample represents the community and its characteristics have uniformity with the characteristics of community.

Data Analysis Method

Collected data from the distributed questionnaires in sample (Islamic Azad University of Amol) by using the **RST** concepts and **Rosetta software** were analyzed that a summary of conducted actions are as follows:

1. Adjusting an informational System (decision table): An informational system consists of a regular multi (U, A, D) = IS where the U = {x1, x2... x10} of participants, A = {a1, a2, a3} of components or set of conditional characteristics and set of D = {d} is characteristics set of decision-making (Novak, 2012) and (Ziyarko, 2008), the adjustment process of this informational system are as follows:

- Set of participants (U) as same as 10 multi-sections of university that were explained in the Statistical population of the research.
- The conditional characteristics set (A) or determining components the amount of social responsibility at the Islamic Azad University of Amol are as follow:

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a1: respect to the legal and innate obligations, a2: respect to the moral obligations, a3: respect to the extra-innate and extra-legal commitments

-Decision making characteristics set (D), information related to the responses' decision to this form are as follow:

- A. The maximum rate to social responsibility of university is 1 which is recorded in decision column.
- B. Average rate to social responsibility of university is 6 be registered in column decision.
- C. A minimum score to social responsibility of university is 2 be registered in column decision.

-Other performed actions for collecting informational systems (table 1) are as follow:

Each questioner has 21 questions as each of the a1, a2 a3 components has 7 questions equally.

300 questioners were distributed as follow among the staff of 10 sections at university that are as follow:

X1: the staff of financial administrative part (n =20), x2 Assistants (n = 8), x3: Excellent undergraduate students of all established courses in university (n=170), x4: the staff of education part (n= 25), the staff of public relation and president department (n=8), x6: Engineering department (n=5), research department (n=15), managers (n=10), green areas department (n=9) and eventually full-time faculty members with PHD degrees (n=30), which is shown in the N column.

- The measurement way of Likert 5 section spectrum

- A minimum score for each component 0.2 and the maximum score is 1.

The method of obtaining numbers in first table was that given Points to the questions about each component (by the respondents) were summed together and has been divided into number 35 because each component has 7 items and based on Likert 5 section spectrum 35 is the maximum score.

According to above information the decision-making obtained table is as following:

Table 2: Informational System

	a1	a2	a3	d	N
x1	0.82	0.82	0.48	Average 0.6	20
x2	0.88	0.74	0.62	Maximum 1	8
x3	0.60	0.57	0.34	Mim 0.2	170
x4	0.82	0.82	0.48	Average 0.6	25
x5	0.85	0.57	0.45	Average 0.6	8
x6	0.91	0.68	0.45	Average 0.6	5
x7	0.80	0.74	0.54	Average 0.6	15

2. Determining the Equivalence Classes

Based on the obtained information from the first table, non-empty subsets from the conditional features have binary relations on U, Which is called the inseparability or equivalence relation compared to conditional characteristics. This relation explicitly indicates that the amounts of subjects for each of conditional characteristics are the same or have the same decision-making variables which are also called Indiscernible (Ball, 2013).

Therefore, the equivalence classes set of information system are as follow:

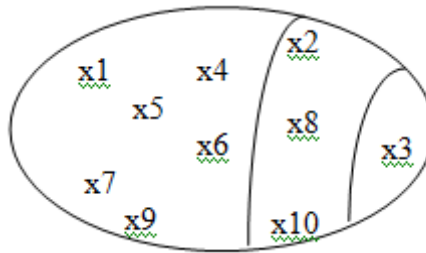
$$\begin{aligned}
 U/a1 &= [\{x1, x4, \}, \{x2, \}, \{x3\}, \{x5\}, \{x6, x8, x10\}, \{x7\}, \{x9\}] \\
 U/a2 &= [\{x1, x4, \}, \{x2, x7\}, \{x3, x5\}, \{x6\}, \{x8, x10\}, \{x7\}, \{x9\}] \\
 U/a3 &= [\{x1, x4, \}, \{x2\}, \{x3\}, \{x5, x6, x10\}, \{x7\}, \{x8\}, \{x9\}] \\
 U/D &= [\{x1, x4, x5, x6, x7, x9\}, \{x2, x8, x10\}, \{x3\}]
 \end{aligned}$$

3. Partition of a Set

in the sets theory, Partition of a set means converting it into its subsets so that subscribe of these subsets with each other, be empty set (separate sets), the union of all subsets is equal to the Partition of a set and no subset was empty (Vong and others, 2005). Therefore, by using obtained equivalence above set can be partitioned as follows by emphasizing on this point, each partition is included one equivalent and each equivalent is induced one partition.

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For example: U/D is partitioned of U which the elements of this partition are created the equivalent classes of U / D.



4- Adjusting the Separability (Resolution) Matrix

By using of the 10 specimens sample (10 separate parts in the university) be drawn a 10 x 10 matrix and the subjects which are the same in the decision-making variable and are not distinctive, are found in the table and are specified by λ , so λ means: being correct. This matrix is performed only for the groups which are distinctive in the amount of decision-making variable. The purpose of this table is determining the difference of subjects’ decision-making related to each of the determining characteristics is shown social responsibility (Gara, 2011).

For example, X6 and X8 subjects in the decision-making table are different that due to this difference in A2 and A3 components (it means observance of moral obligations and respect to the beyond inherent and extra-legal commitments in the university). The rest of the cells have been completed in the same way in Table 3.

Table 3: Matrix separability (resolution)

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
X1										0
X2	a1,a2,a 3									
X3	a1,a2,a 3	a1,a2,a 3								
X4	λ	a1,a2,a 3	a1,a2,a 3							
X5	λ	a1,a2,a 3	a1, a3	λ						
X6	λ	a1,a2,a 3	a1,a2,a 3	λ	λ					
X7	λ	a1, a3	a1,a2,a 3	λ	λ	a1,a2,a 3				
X8	a1,a2,a 3	λ	a1,a2,a 3	a1,a2,a 3	a1,a2,a 3	a2,a3	a1,a2,a 3			
X9	λ	a1,a2,a 3	a1,a2,a 3	λ	λ	λ	λ	a1,a2,a 3		
X10	a1,a2,a 3	λ	a1,a2,a 3	a1,a2,a 3	a1,a2	a2	a1,a2,a 3	λ	a1,a2,a 3	

5) Reduction Determining (Reduced)

According to the concepts of Rough theory If $P \subseteq Q \subseteq A$ then P is called as a reduction of Q, whenever:
 $U/IND(P)=U/ IND (Q)$ $U/IP=U/IQ$

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In which IP is inseparability equivalence relation of U in compare with the characteristics in P. (Sevainyarasky, 2001).

Therefore, by using the data resolution matrix (table No. 2), have earned subscribe between the whole data of per cell and after eliminating extra information (similar) were specified the reduction or reduced as follows:

$$\begin{aligned}
 P(M) &= (a1 \vee a2 \vee a3) \wedge (a1 \vee a2 \vee a3) \wedge (a1 \vee a2 \vee a3) \wedge (a1 \vee a2 \vee a3) \wedge \\
 & \quad A \\
 & \quad (a1 \vee a2 \vee a3) \wedge (a1 \vee a3) \wedge (a1 \vee a2 \vee a3) \wedge (a1 \vee a3) \wedge (a1 \vee a2 \vee a3) \wedge \\
 & \quad (a1 \vee a2 \vee a3) \wedge (a1 \vee a2) \wedge (a1 \vee a2 \vee a3) \wedge (a2 \vee a3) \wedge (a2) \\
 & = (a1 \vee a2 \vee a3) \wedge (a1 \vee a3) \vee (a1 \vee a2 \vee a3) \wedge (a1 \vee a2) \wedge (a2) \\
 & = a2 \wedge (a1 \vee a3) = (a1 \wedge a2) \vee (a2 \wedge a3) \quad \Longrightarrow \quad \left\{ \begin{array}{l} \text{RED2} = \{a2, a3\} \\ \text{RED1} = \{a1, a2\} \end{array} \right.
 \end{aligned}$$

This also can be indicated in the reduction table:

Table 4: RED 1

	a1	a2	D
X1	0.82	0.82	Average 0.6
X2	0.88	0.74	Maximum 1
X3	0.60	0.57	Min 0.2
X4	0.82	0.82	Average 0.6
X5	0.85	0.57	Average 0.6
X6	0.91	0.68	Average 0.6
X7	0.80	0.74	Average 0.6
X8	0.91	0.85	Maximum 1
X9	0.77	0.65	Average 0.6
X10	0.91	0.85	Maximum 1

Table 5: RED 2

	a2	a3	D
X1	0.82	0.48	Average 0.6
X2	0.74	0.62	Maximum 1
X3	0.57	0.34	Mim 0.2
X4	0.82	0.48	Average 0.6
X5	0.57	0.45	Average 0.6
X6	0.68	0.45	Average 0.6
X7	0.74	0.54	Average 0.6
X8	0.85	0.60	Maximum 1
X9	0.65	0.40	Average 0.6
X10	0.85	0.45	Maximum 1

As an instance, Table 4 is shown that in terms of financial, administrative and education staff , it means x1, x4 subjects, respect to legal obligations (component a1) and respect to moral commitments (component a2) if were higher than-average level, the amount of social responsibility of the university will be in the moderate level or if these two components are respected greatly, in terms of administrators and faculty members of the university (it means x10, x8 subjects) will have the maximum amount social responsibility in the university. Therefore, based on the information of these tables we able to consider the same opinion among the staff, and remove extra and similar information and achieve more basic data

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about the amount of social responsibility in the university in this way. Other interpretations are reduced so.

6) Core Determining (Reduction of Subscribe)

According to the obtained reductions from the resolution table, it can be possible to obtain optimum information for decision-making and also remove some extra information by using Subscribe reduction, which is called core (Yavou, 2011), it means:

CORE= RED 1 \cap RED 2 = {a2}

7) Inference and Interpretation of the Decision Making Rules

The last step of the process of analyzing the obtained data from the questionnaires, are extracted decision rules, that by using the RED 1 and RED 2 and **Rosetta software** were extracted the following rules:

General Rules

- Rule 1. (a1 = 0.6) => (Dec = 0.2); [1, 1, 100%, 100%][1, 0, 0] [{} , {} , {3}]
- Rule 2. (a1 = 0.82) => (Dec = 0.6); [2, 2, 33.33%, 100%][0, 2, 0] [{} , {4,1} , {}]
- Rule 3. (a1 = 0.85) => (Dec = 0.6); [1, 1, 16.67%, 100%][0, 1, 0] [{} , {5} , {}]
- Rule 4. (a1 = 0.8) => (Dec = 0.6); [1, 1, 16.67%, 100%][0, 1, 0] [{} , {7} , {}]
- Rule 5. (a1 = 0.77) => (Dec = 0.6); [1, 1, 16.67%, 100%][0, 1, 0] [{} , {9} , {}]
- Rule 6. (a2 = 85) => (Dec = 0.6); [1, 1, 16.67%, 100%][0, 1, 0] [{} , {6} , {}]
- Rule 7. (a2 = 0.85) => (Dec = 1); [2, 2, 66.67%, 100%][0, 0, 2] [{} , {8} , {} , {}]
- Rule 8. (a1 = 0.88) => (Dec = 1); [1, 1, 33.33%, 100%][0, 0, 1] [{} , {} , {}]

**END

Or can be expressed as follows:

- Rule 1. (a1 < 0.685) => (Dec = 0.2); [1, 1, 100%, 100%][1, 0, 0] [{} , {} , {3}]
- Rule 2. (a1 in [0.685, 0.865]) => (Dec = 0.6); [5, 5, 83.33%, 100%][0, 5, 0] [{} , {9,7,5,4,1} , {}]
- rule3. (a2 >= 42.925) => (Dec = 0.6); [1, 1, 16.67%, 100%][0, 1, 0] [{} , {6} , {}]
- Rule 4. (a1 >= 0.865) & (a2 > 42.925) => (Dec = 1); [3, 3, 100%, 100%][0, 0, 3] [{} , {10,8,2} , {} , {}]

**END

The Law Interpretation

Rule 1: if A1 component: respect to the legal obligations is reached the score less than 0.685 it means that the first process of social responsibility model in the university has some incompetence.

Rule 2: if A1 component: respect to the legal obligations is reached the score between 0.685 to 0.865 it means that the Islamic Azad university has taken primary steps to perform its correct social responsibility.

Rule 3: if A2 component: respect to the moral obligations is reached the score higher than 0.42 it means that Islamic Azad university is moderate in performing its social responsibility based on the model Kate Davis.

Rule 4: if A1 component: respect to the legal and inherent obligations is reached the score more than 0.865 and the A2 component: respect to the moral obligations has reached the score higher than 0.42 it is indicated that the responsibility level of Islamic Azad University-based on Kate Davies model is higher than the average.

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RESULTS AND DISCUSSION

According to the results of the Above Rules determined that Universities in the city of Amol, including the Islamic Azad University of Amol, based on Keith Davis Social Responsibility model is at the first step in this direction and at this point, they have provided an acceptable performance, but to pass this stage and reach the ideal point of this model i.e. "solving the social problems within the scope of their activities, beyond legal and moral responsibilities" there is a need to identify the weaknesses concerned and propose solutions, and in the researcher's opinion the observed weaknesses are as follows:

- 1) Insufficient scientific and technical information exchange, with domestic, foreign and international scientific centers and sources.
- 2) Insufficient planning and allocation of resources for translation and authoring books, articles and scientific and research publications.
- 3) Insufficient provision of technical, research and consultancy services, in various areas to various public and private agencies and institutions.
- 4) Inefficient use of student feedback system.
- 5) Little feedback of the results of the university activities and programs to stakeholders and community.
- 6) Insufficient participation in solving social problems and movement for social welfare improvement, encourage other organizations and institutions to move towards the interests of society, the lack of transparency of university policy effects on unemployment rate, inflation, etc. Ineffective system of accountability, etc.
- 7) According to the goals and missions and defined organizational structure, the Open University may not be specifically for a particular unit, and could not have more activities on the areas mentioned. This it can be used as a basis for further research about the Islamic Open University.

The Overall Results of the Study

1. Managers of agencies and private organizations (such as the Islamic Open University) for model selection and the amount of their social responsibility to act do not have very much authority and must in these cases follow functions and missions pre-determined by the relevant authorities.
2. To achieve second and third stages in the evolution of social responsibility, based on Keith Davies model, it is necessary that the legal and specific responsibilities, for which the organization has been created, are done complete and without any fault because if at this stage they are faced with problems and shortcomings, realizing social responsibility of the organizations is impossible.
3. Observing the principles of customer focus, suggestions system, customer tribute and principles of this kind, are considered as the main index in achieving higher levels of social responsibility.
4. Practicing social responsibility and respect for all its aspects and establishing a relationship, based on mutual interests, between organizations and society can as a major factor, play a key role in increasing the profitability of the organization and they also gain a competitive advantage.

Suggestions

Achievements of this research as mentioned in the previous sections suggests that non-state universities in the practice of their responsibilities are faced with various problems and weaknesses in order to enrich the first step and reach the second and third stages of the given model (acting on moral obligations and solving social problems) fixing these defects are inevitable.

Therefore, the following suggestions are offered:

1. Scheduling and resource allocation for the exchange of scientific and research achievements, as much as possible, (given that majority of courses held in this unit are located in the Science, Engineering and Technical departments) with the country's scientific, and industrial centers for creating jobs in the industrial sector of the city and province along with agriculture, through which the first part of the social responsibility, to act on their legal obligations, in the Davis model is provided.
2. Planning and allocating resources for authoring and publishing various scientific, cultural and research magazines and publications and the translation of foreign literature, through which the first part of the CSR in Davis model, i.e. the practice in legal obligations is provided.

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3. To organize the student feedback system and to account for students' opinions in decision-making, as far as possible, through which the second part of the CSR in Davis's model, i.e. practicing moral obligations is provided.
4. More respect for the principles of customer focus and appropriate and timely response to students (of course, at present this is being observed to a great extent), through which both the first and second part of the Davis's model, i.e. acting on legal and ethical obligations, is provided.
5. To organize seminars and conferences on various issues of social pathology, such as unemployment, addiction, etc, and invite relevant experts and organizations, and provide feedback on the results through which the second part of the Davis model, i.e. action to solve social problems beyond the inherent duties, is provided.
6. Financial assistance (to the extent that the University regulations allow) to nonprofits institutions and charities or in the public service through which the third part of the Davis model, i.e. the attempt to solve the social problems outside of inherent duties, is provided.

ACKNOWLEDGEMENT

We are grateful to Islamic Azad University, Kerman branch authorities, for their useful collaboration.

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