Presenting the activists model of accounting information system in Iran according to Activists Network Theory (ANT)

Bahareh Banitalebi DEHKORDI1, Fraydoon Rahnamay ROODPOSHTI1,*
Hashem NIKOMARAM1, Ghodratollah TALEBNIA1

1Department of Accounting, Science and Research branch, Islamic Azad University, Tehran, Iran.

Received: 22.03.2015; Accepted: 29.05.2015

Abstract. The purpose of accounting information system is ensuring of the system components management in such a way that could prepare the possibility of presenting desired performance for economic decisions of users. This term is not only meant to control systems but also it is a collection of behavioral communications, a process that through it the numerous operations of activists interact with each other and information system. With increasing the technology and transactions, the importance of accounting information systems will be increased. Therefore identifying the advantages of these systems and their role and also the importance of individuals interactions with these important information systems become abundant. In this research, a model has been presented with this purpose that how activists network assists to the users evaluation of accounting information system.

According to the results of this research, it became clear that activists networks theory as one of the comprehensive theories of sociology science has the capability of consideration and explanation in Iran accounting information system. Also 5 main activists including organizational, technical, economic, technology and political-social activists have important role to implement and perform Iran accounting information system successfully. 11 sub-activists are also effective in communications among 5 main activists of Iran accounting information system.

Keywords: Activists network theory, accounting information system, sub-activists

1. INTRODUCTION

First activists (addressees) of accounting information system are the accountants and producers of accounting information who assist to produce the information, making its generated information practical and …. Managers are considered as another activist of accounting information system and may belong to the governmental and non-governmental parts. The information users are known as the other beneficiary group in this network that could be a shareholder, creditor, competitor company, governmental or private organizations, bank, investor, government and…. Since the exact definition of social groups and also the costs and revenues of each group assist to promote properly and thus the effective use of information, the public and specific addressees should be identified through suitable process.

In addition, numerous preconditions are needed for benefits and applying the forecasts in special situations and decisions. Mainly practical forecasts are considered by special users of information system. In addition to the need to identify the addressees and their requirements, identifying the goals of accounting information users is sometimes necessary to strengthen the information and its publication mechanism. In this regard, we should know:
Presenting the activists model of accounting information system in Iran according to Activists Network Theory (ANT)

- Which one of the economic interests is important for addressees?

- To which group (managers, accountants, management accountants, government, intra and extra-organizational users) do the addressees belong?

- Are the real users able to pay the costs of received information? Or is the expense of information provided by legal users (commercial institution, accounting unit, audit company and…) paid?

Perception and also other similar conceptions like belief systems, recognition, attitude refer to the activists imagination of the world around them and they mainly focus on casual beliefs. The perception of the activists is formed based on communicating and understanding each other, and with communication, the wrong perception of activists is amended according seen and heard by them.

The goals show the directions that activists tend to move toward them. This issue that the activists hope to solve what problems and tend in what ways is one of the activists' goals. Similar conceptions like values and interests indicate the abstract levels to achieve the special goals. Preferences are also overseeing on special level of goals so that a consequence or fairly desired solution could be obtained.

Sources refer to the practical tools for recognizing and achieving the goals and also the things which are controlled or attracted by activist. Sources may be seen in material form (financial sources and budget) and immaterial (situation in network), in a manner that they enable the activist to influence on environs (activists, relations and network rules). Therefore, source conception has an important relation with the conceptions of network level and it may have conception in a special network frame (knowledge in a special scope) or it may be independent and perhaps doesn’t belong to the special local and chronological scope (like money) or it may be related with power sources or issues. Controlling on sources determine the control on activists and show the power and ability of sources movement (Hajiabadi, Mohammadhossein, 2003).

When these three conceptions: perceptions, goals and sources are combined, action will be appeared. While the sources are applied for occurring the action, the usefulness of action is determined through goals. Perception also shows that the relation between applying the sources and achieving the goals to what extent has been understood by activist. With appearing an action by activist, the effect/effects of that action will be appeared on other activists or physical environment. In other words, activist interacts with his environs by action. Therefore action links the activists with the external environment or other activists and also their network.

In the researches of activists network theory, node/actant/activist/factor are the general conceptions for human and non-human manufactures that with their action and movement, other network components start to move. The theorists of activists network believe that human and non-human components of network have an equal performance; in fact activists are identities who embark to do action. The distinction of activists in activists network theory with other comprehensive visions in social sciences is that in these definitions, more emphasis is on doing the action compared to activists whether in the form of social identities or technical. The actions also have more capacity in interactive continuum of social-technical identities compared with separated behavior of social and technical components.

Quoted by Ivrit Dring, Latour as one of the founder of activists network theory, activist is everything or person who has the actant role. Therefore activist is as a component that embarks to do the special action in a specific field. These components regardless of the field are the actants who have
independent reality and inside the field are likened to the activist who is related to do an action. In other words, activists are engaged to the action, because they are present inside the network.

The wide range of accounting information system activists could be considered in the frame of users and addressees and concerned or effective people of this system, so that each one of the activists groups has a unique nature and different information needs. With increasing the technology and transactions, the importance of accounting information systems will be increased. Therefore, identifying the advantages of these systems and their role and also the importance of individuals interaction with these important information systems become abundant. In this research a model has been presented with this purpose that how the activists network assists to the users evaluation of accounting information system.

2- THE PACE OF TRANSFORMATION IN DESIGNING AND DEVELOPING THE INFORMATION SYSTEMS

Transformations in information systems and information technology were not only allocated to the hardware, software and their application in the organizations, but also the methods and approaches of designing and developing the information systems were changed too. Information systems are not engineering and functionalist systems, but also the information systems are social systems of humans which are designed and developed in the environment and organization field (Hajiha, Zohreh. Pourazizi, Zolfaghar, 2012).

1-2- Accounting Information System (AIS)

Accounting information systems has an important role in assisting to the organization for accepting and keeping a strategic situation. Reaching to a suitable situation with activities assistance requires that the data related to each activity to be collected with a suitable method. Then, these data should be converted to the information in order to be used in management decisions process and these activities could be matched with each other more. This information should be always reliable and accessible in order to be used in decision making process.

Therefore, an accounting information system which has been designed properly is necessary to reach to a constant strategic situation. Accounting information systems are the subset of companies organizational structure that supports the performance of an organization's value chain activities. One of the ways that accounting information system through it increases the value of commercial institution and organization, is providing the correct and timely information for implementing various activities of value chain.

An accounting information system which has been designed correctly could increase the effectiveness and efficiency of these activities through quality improvement and decreasing the goods production expenses or services, improvement of decision making, knowledge transmission and division (Hajiha, Zohreh; Pouazizi, Zolfaghar, 2012).

Therefore useful information should be related, reliable, comprehensive, timely and provable so that they could be considered in decision making. Accounting information system could present the necessary aids in all stages of decision making for solving the problems. Accounting reports could help us in identifying the potential problems (Isaee khosh, Ahmad, 2007).

Accounting information systems have important role in helping to the organization for accepting and keeping a strategic situation. Achieving a suitable situation with the activities assistance requires that
Presenting the activists model of accounting information system in Iran according to Activists Network Theory (ANT)

data related to each activity to be collected with a suitable method. Then, these data should be converted to the information in order to be used in management decision process and these activities could be matched with each other more. This information should be always reliable and accessible in order to be used in decision making process.

Therefore, an accounting information system which has been designed properly is necessary to reach to a constant strategic situation. Accounting information system is the subset of companies organizational structure that supports the performance of an organization's value chain activities. One of the ways that accounting information system increases the value of commercial institution and organization is providing the correct and timely information for implementing different activities of value chain (Hosseini Rad, Hamed. Bayat Tork, Amir. Fallah Shams, Mirfeiz and et al, 2014).

Ed in 2000 A.D. has considered the manner of information system characteristics effect on judgment on decisions of users. The obtained result indicated that accounting information systems provide the primary information for decision making.

Maldin and Rachel (2005) have presented a fundamental theory for development of information systems that identifies the designing specifications importance and system operation. Their research collection explains three analytical levels (cognitive, technical and organizational structure) that could be done in the researches of accounting information systems.

David et al proposed this issue in 2005 that accounting information system acts as a intermediator that through it three separated variables influence on organizational behavior. Accounting information system provides information about economic events and decision maker uses of it in planning, supervising and controlling of the organization. According to their opinion the decision making process is a function of three variables: 1-goals 2-conceptions 3-symbols. According to this theory, accounting information system should be able to provide the understandable and comparable information and users could work with those data and convert them to the needed economic conceptions.

![Figure 1](image.png)

*Figure 1. The relation between the system variables and accounting information system (Hajiha, Zohreh; Pourazizi, Zolfaghari, 2012).*

**2-2- Activists and their components:**
First activists (addressees) of accounting information system are the accountants and producers of accounting information that help to facilitate the information production, make the produced information practical, … Managers are considered as other activists of accounting information system and may belong to the governmental, non-governmental parts, The information users are known as the other beneficiary group in this network that could be a shareholder, creditor, competitor company, governmental or private institutions, bank, investor, government and … Since the exact definition of social groups and also expenses and revenues of each group help to promote properly and thus the effective use of information, the public and specific addressees should be identified by suitable process. (Latour, B. 1996).

In addition, numerous preconditions are needed for profits and applying the forecasts in special situations and decision making. Mainly practical forecasts are considered by special users of information system (Hu et al, 2006). In addition to the need to identify the addressees and their requirements, identifying the goals of accounting information users is a necessary step in order to strengthen the information and its publication mechanism. In this field, it should be known (Latour, B, 1996):

- Which one of the economic, social, security, financial interests is important for the addressees?

- To which group (managers, accountants, management accountants, government, intra and extra-organizational users) do the addressees belong?

- Are the real users able to pay the cost of received information? Or is the expense of information provided by legal users (commercial institution, accounting unit, audit company) paid?

These categories will lead to produce information well. According to this, some of the most considerable components in activists level are: perception, goals and sources that they form the action of activities (figure 2). Although, different titles may be allocated to these three conceptions, all of them could be identified in different theoretical frames (Busco, C, 2009).

Perception and also other similar conceptions like belief systems, recognition, attitude and … refer to the activists imagination of the world around them and they mainly focus on casual beliefs. The perception of the activists is formed based on communicating and understanding each other, and with communication, the wrong perception of activists is amended according seen and heard by them.

The goals show the directions that activists tend to move toward them. This issue that the activists hope to solve what problems and tend in what ways, is one of the activists goals. Similar conceptions like values and interests indicate the abstract levels to achieve the special goals. Preferences are also overseeing on special level of goals so that a consequence or fairly desired solution could be obtained.

Sources refer to the practical tools for recognizing and achieving the goals and also the things which are controlled or attracted by activist. Sources may be seen in material form (financial sources and budget) and immaterial (situation in network), in a manner that they enable the activist to influence on environs (activists, relations and network rules). Therefore, source conception has an important relation with the conceptions of network level and it may have conception in a special network frame (knowledge in a special scope) or it may be independent and perhaps doesn’t belong to the special local and chronological scope (like money) or it may be related with power sources or issues. Controlling on sources determine the control on activists and show the power and ability of sources movement.
Presenting the activists model of accounting information system in Iran according to Activists Network Theory (ANT)

When these three conceptions: perceptions, goals and sources are combined, action will be appeared. While the sources are applied for occurring the action, the usefulness of action is determined through goals. Perception also shows that the relation between applying the sources and achieving the goals to what extent has been understood by activist. With appearing an action by activist, the effect/effects of that action will be appeared on other activists or physical environment. In other words, activist interacts with his environs by action. Therefore action links the activists with the external environment or other activists and also their network.

Figure 2. The effective structures on appearing the action in each activist (Busco, C, 2009).

Relations, rules)

Figure 2. Conceptual frame of studying the accounting information system with the approach of activists network theory (Sharifzadeh, Maryam, 2010).
3-2- A variety of activists

Schrieber (2002) believes that the activists who intervene in managers decisions about innovation by presenting the information and technology, could be divided into social, economic and public activists. Family, neighbors and other social associated units with managers are social activists. Important activists in economic transactions with the managers, market factors, processing the products and consumers are accounted as economic activists. Governmental institutions like research, promotive and market institutions could be known as public activists. In his opinion, the activists in an innovation system of accounting information could be divided into the factors of knowledge and technology production and also information canal (Schreiber, 2002).

Knowledge networks include communicative and interactive models which have been organized and fixed more and less among social activists, and they exchange the information with each other and it is achieved as a result of the efforts for creating the relation among the activists. In a knowledge network, individuals with various characteristics exchange the information, therefore knowledge networks determine that whom or what is known in the society. Social network concentrates on individuals and their position in the relations among them in specified time (MacKenzie, D. 2009).

From accounting information producers point of view, accessing to the information is a determining factor in applying it for economic decisions which is due to the promotion of generated data. The activists of information producers believe that the gap between the researches (information producers) and users is an important obstacle for recognizing the information production activists and consequently awareness to the services of information producers institutions. On the other hand failure to dynamic interaction between the information producers and users leads to confidence negation among the information users.

3- SOCIAL ACTION

We are always social activists. We influence on others, communicate with them, escape from them, deceive them, penetrate in them, show our affection to them, create art for them…, almost anything we do includes the social element, because considers and accounts others. To cooperate, play, love, fight, reason and… we are always involved in social action.

Action: ((action)) is all human behaviors in which activist attributes a mental meaning to his behavior. Action in this meaning may be obvious or merely internal or mental, may include positive intervention in a situation or intentional prevention from such an intervention or the passive acceptance of situation. Max Weber purpose of action is meaningful and targeted behavior. The action conception from Parsouz point of view is all human behavior (or any other action) that its motivation is the meanings that attract his attention. Parsouz evaluates the action conception first in social system and then generalized it to the economic system (MacKenzie, D, 2009). Parsouz in explaining his purpose of action conception has mentioned criteria for it which are as follows:

- Action requires an agent existence namely an ((activist)).
- Action requires having ((goal)). (obtaining an academic degree)
- Action is done in a situation that requires two elements: the things that activist couldn’t control them (conditions), and other, those things that activist could control on them, (devices) like: educational facilities, personal computer.
- ((Norms and values)) play role in order to select tools for achieving the goals, like administrative rules execution (Latour, B. 1996).
Presenting the activists model of accounting information system in Iran according to Activists Network Theory (ANT)

1-3- The difference of behavior with action

Parsounz with acknowledging to the subjective nature of human activities, tried to clarify the distinction between two conceptions of action and behavior. From Parsounz point of view, ((behavior)) apparently indicates a mechanical reaction to the motive, while ((action)) indicates an active and innovative process. Parsounz tried to separate the action theory from behaviorism. He has expressed emphatically, if the mental aspect of human activity is considered in a theory, it can be an action theory (Latour, B, 1996). In other words action is specified as a behavior that through it the collection of agent answers in a specified situation has a motivational origin, while the behavior is directed by the agent conscience.

Weber believes that behavior is the thing that we do without attributing a meaning to it. If I sneeze or cough or wink, my motions could be interpreted as the final result of physical processes in my body, namely about the physical obvious result and no meaningful action, sociology is meaningful about second one namely action. Of course just the meaningful actions that are inclined to other humans or account the others are the sociology subject, not all of them.

2-3-Social action

Social action is accounted as the significant unit and fundamental cell in social studies. The human superiority over other creatures is in that the manner and nature of his behaviors seem different compared with other creatures. In other words humans behave in a way that other creatures are not able to do it. The humans behavior is always associated with thought and policy, therefore it could be said that action means meaningful and conscious behavior.

But on the other hand the human effort for creation and establishment of relation and communication with other society members is related to his natural desire to live socially. In other words this tendency, leads the humans to communicate with others and provides the social life continuation. In other words, action as the earliest common element of human social life includes a collection of behaviors that humans do them to each other for achieving the specified goals. From this action to the directed action toward the other person is called social action in terminology. Social action indicates any activity which is organized as the result of intellectual trends and directed toward a goal. Therefore social action is the simplest element of human joint life and a series of obvious movements that a human do them for achieving a goal to the other human. Max Weber knew sociology as the science of learning the social action. (Power, M, 1996a).

Weber believes that if the action accounts the others behavior merely based on the mental meaning that the activists attribute it to the action and therefore they are directed to that, it will be social. In Weber definition three criteria are hidden: first, the persons must consider the others behaviors and presence and existence in action. Second, person’s action must have indicative (symbolic) value for others and also others action must have indicative (symbolic) value for the person so that they could understand the purpose of each other. Third criterion in Weber definitions is that the individuals behavior in a social action is influenced by their perception of others action meaning and their action.

In Weber opinion, social action is a meaningful movement. Action is understandable and we should refer to the activist in order to understand it (Burchell, S. Clubb, C. Hopwood, A.G. Hughes, J. and Nahapiet, J.1980). From his point of view the agents of social actions are the individuals. If a behavior is noticed by the other we will call it social action that may be active or inactive (passive). For example, consider a worker who tries with whistling (active action) to warn a person who passes from...
the edge of the construction building part, but that person doesn’t notice to his behavior. Therefore, he has shown a passive action. Social action could be past, present or future behavior. If the behavior is noticed by lifeless things (for example the person who collects the spilled leavings at the beach), the action can be non-social. But active social action is the one that seeks a reaction, while inactive social action seeks no reaction. Weber has recognized four kinds of social meaningful action that their difference is in their meaningfulness and rationality degree (Power, m. 1996a).

1-Traditional action: it is directed by customary intellectual habits or ((Eternal past)) in Weber interpretation. For example, presence at university is customary for family or the most part of daily actions that people have accustomed to it are close to this kind of action. 2-Emotional actions: it is based on the emotional states of the person, no rational evaluation of goals and the ways for reaching to them. For example a person selects a school for education merely for the reason that his friend has been registered in that school, this could be a sample of emotional action. 3-Action based on value: it is an action that the efforts to achieve a goal may not be rational by itself, but the ways for following it may be rational. The example of this case is a person who follows a prophet doctrine or lives with a special method because he hopes to achieve the ((Eternal salvation)). 4-Rational action based on goal: it could be known the same ((Technocratic thinking)), it is an action in which the ways for reaching to a specified goal are chosen rationally. Like a scholar that with the hope of achieving a job for financial security follows college degree (Star, S.L. 1991). Dourkim definition is different from Weber definition and further has the concrete aspect. From Dourkim point of view, social action is the manner of action, thought and feeling that are out of the person and whether they are compulsory and binding that thanks to it, they impose themselves to the person. Dourkim proposes two concrete criteria for social action: 1-the external states of thought and feeling in relation with the persons 2- the coercion and pressure that the individuals tolerate it (Busco, C. 2009). Social action in a meaning that Parsounz understands it, is all human behavior that meanings are its motivation and guidance that activist explores them in outside world, the meanings that attract his attention and he answers to them. The conception of Parsounz social action shouldn’t be known equal to the individual behavior. Vice versa, he generalizes the social action conception to any existence, individual or crowd that a behavior from him can be understood in which the existing meaning basis is interpretable. Parsounz activist is a ((creature in status)) , because his action is always understanding the meanings of the collection of signs that he finds in the environment and answers to them (Star, S.L.1991).

4-THE PROPOSED MODEL OF THE RESEARCH

According to the proposed theoretical bases in this research about Activists Network Theory (ANT) and accounting information system, it became clear that accounting information system according to activists network theory has been formed of various human and non-human activists collection which has been shown in the proposed model of research in figure 4. The manner of relation among the effective activists collection on accounting information system according to this research results is a bilinear relation in a manner that each activist of human and non-human kind has an effective role on accounting information system and on the other hand accounting information system also plays role in different aspects of relations among activists and the manner of interaction among them.

In this model, the activists who are effective on accounting information system according to the activist network theory are 5 groups of technical, political-social, organizational, economic and technology activists that each one of them has different subset of factors and components.
Presenting the activists model of accounting information system in Iran according to Activists Network Theory (ANT)

Figure 3. General proposed model of research.

In the following, the researcher according to 5 identified activists of accounting information system and their relations with each other which have been presented in the proposed model in figure 3, developed the identified sub activists for this model according to the theoretical bases of the researches which have been done with the purpose of localization and making the model practical.

The result of proposed model development of figure 3 has been led to the localized proposed model and the second finding has been developed that the sub-activists indicator has been identified for 5 activists and their relation kind with these 11 activists is in the space of Iran accounting information system and it has been shown in the proposed model of figure 4.

In fact, figure 4 is the new, developed and localized model of research in the space of Iran accounting information system with the purpose of identifying the main sub-activist according to the activist network theory for any comprehensive activist in Iran accounting information system that it has been drawn after theoretical consideration and test of proposed general model associated with sub-activists of each main activist.

In this model, the effective activists on accounting information system according to the Activists Network Theory (ANT) include 11 activists: human, technology, provisions, administrative, extra-organizational users, governmental institutions, scientific associations, occupational associations, economic, technical and political-social activists, that each one of these activists has numerous factors and components.
5- CONCLUSION

In this research, according to the activists network theory in accounting information system, the activists could be divided into two groups of human activists like, beneficiaries, managers, accountants, auditors, decision makers and politicians and non-human activists like technology, provisions, administrative agents, extra-organizational users, governmental institutions, scientific associations, occupational associations, economic, technical and political-social that the relation between activists and accounting information system is bidirectional. In the basic proposed model of the research 5 main activists including organizational, technical, economic, technology and political-social activists have important role in successful implementation and execution of Iran accounting information system. In the developed and localized model of the research the most effective sub-activists on accounting information system have been presented which include 11 activists: human, technology, provisions, administrative, extra-organizational users, governmental institutions, scientific associations, occupational associations, economic, technical and political-social activists.
Presenting the activists model of accounting information system in Iran according to Activists Network Theory (ANT)

Also accounting information system according to this theory has executive, organizing, planning, policy-putting layers in which standards, principles and professions customs and provisions which are necessary for accounting information system are codified. According to the Activist Network Theory (ANT), accounting information system has also the tools in which the provisions integration, financial and technical sources are evaluated according to the conditions and requirements of occupation and society and after identifying the strength and weakness points and system requirements, it is led to amend and improve the accounting information system.

REFERENCES