Study of Trust Models and Semantic Structural Relationship between the Concepts of Organizational Trust for building High Trust Organization

Jawhara Rashid Al Harrasi* and Santhosh John**
*Postgraduate Student, Middle East College, Muscat, Sultanate of Oman
Email: PG13F1368@mec.edu.om
** Head of Department, Center for Postgraduate Studies and Consultancy
Middle East College, Muscat, Sultanate of Oman
Email: Santhosh@mec.edu.om

Abstract: Trust in workplace is a primary factor in how people work together, listen to one another and build effective relationship. Nowadays, building and maintaining high level of trust in organization sometimes is difficult, however, it is important to develop and encourage it. For success, they need to maintain high level of organizational trust which will help organizations to be more productivity, highly collaboration and more critical in thinking. This paper explains main things to establish high level of organizational trust in the workplace such as proven trust models. Additionally, presents how SME organization can build high level of organizational trust and the purpose of establishing a semantic structure relationship between the concepts of organizational trust by using one approach which is domain ontology. Nowadays ontology plays an important role in achieving interoperability across organizations and on the semantic web. The common goals in developing ontology are to improve the communication between agents human or software agent, reusing of domain knowledge and representing meaning rather than data. Therefore, ontology is the main building block of semantic web to provide the information in machine process able semantic models.

Keywords: Trust, Organizational Trust, Trust Model, Semantic Structure, Ontology.

Introduction

Organizational trust is an important element of an organization's long term success, as it is a central component of effective work relationships. Organizational trust is defined as an employee's feeling of confidence that the organization will perform actions that are beneficial [4]. When people trust each other and their leaders, they will work harder, sharing knowledge, confidence, integrity and more reliability. Organizational trust is an integral part in most organizations and without high level of organizational trust indicates to less performance, lower productivity and less job satisfaction. So to establish a higher level of organizational trust it is necessary to focus for the semantic structural relationship between the concepts of organizational trust. There are not many attempts are done or similar work like this research hence an ontology based approach can add value to maintaining high level of organizational trust.

Building, developing and maintaining high level of organizational trust refers to organization be more performance, job satisfaction, higher collaboration across departments and hierarchies and workers feel freedom to express their ideas when leaders created trusting environments in their organizations. According to the study of organizational trust among faculty members at Historically Black Colleges and University (HBCUs), showed that high-trust organizations collaborate well across departments and hierarchies, and seek fair resolutions to difficult situations [2].

On the other hand, to increase trust in organization among coworkers produces increased speed, profits, innovation, integrity, sharing common understanding of the structure of information among people or software agent and creating agreed upon vocabulary and semantic structure for exchange information. Moreover, building high level of organizational trust, the organization should have many dimensions of organizational trust and semantic application which can build on top of this structure relationship.

Related Works And Background Of Research

Trust in organization is not just critically important but it is the main thing and it is the essential element of organization success. Organizational trust plays a significant role in affecting overall organizational effectiveness. According to Long, 2002 examined the building of organizational trust. Smith, 2005 studied the structure of organizational trust and Ferres, 2005 described the connection between organizational trust and knowledge sharing [4].

A Diagnostic Survey and International Indicator, 2000 showed the result of measuring organizational trust, that the more positive the trust score was for an organization, the more effective the organization was perceived to be and the more satisfied employees with their jobs.[1] On the other hand, lower trust scores will be lower effectiveness and less job satisfaction. Other researcher (O'Brien, 2001; Reina & Reina, 1999) maintained that organizational trust increases creativity and critical thinking at the employee level. Additionally, workers felt greater freedom to express their ideas when leaders created trusting environments in their organizations.

Most recent literatures suggested, building level of organizational trust should provide many dimensions concept of trust such as ability, integrity, reliability, accountability, transparency and many others. According to Demarco , Loring & Donelson (2005), they find that mangers must treat all employees with care, concern and equality. When managers take a concern with the needs of employees and treat them organizational trust can be easily established [3,2].

Dasgupta ,(2000) described two types of behavior that are essential to behavioral integrity such as telling truth and keeping promise. Other mentioned openness and honesty support "need to share" approach for building high level of trust in organization to ensure communication process and practices to support core integrity. As a result successful firm not only build organizational trust but also should preserve and nurture it (Currall & Epstein, 2003).

Furthermore, many researches and articles showed that Ontology plays a good role in achieving interoperability across organizations and on the semantic web. It defined as "an explicit specification of a conceptualization" (Gruber, 93). Additionally, developing ontology will provide sharing common understanding of the structure of information among people or software agents. The goals to develop ontology are to create an agreed upon vocabulary and semantic structure for exchange information, enable reuse of domain knowledge and make domain assumption explicit. This paper will provide some domains ontology which was developed such as:

Medical Domain Ontology

Nowadays, using ontology in medical domain becomes important and mainly focused on representation and reorganizing of medical terminology. Developing medical ontology help build more interoperable information system in healthcare and supporting need of healthcare process to reuse and share patient data. Additionally it is appropriate for capturing medical knowledge in a formal way, allow for sharing the knowledge and reusing it whenever necessary. Ontology can be help in different types related to the medical domain such as in healthcare system, treatment, diagnosis, disease and others domain.

According, to (Sherimon & Krishnan, 2015) the article focusing for modeling and implementing (clinical guidelines) of OntoDiabetic system for diabetic patients. It is designed for diabetic patients that can provide appropriate treatment suggestions. The system includes two main ontologies which are (diabetic patient clinical analysis ontology); it is the core of the system and semantic profile. In this paper the researchers used two different approaches for ontological modeling of the guidelines. The first approach related with the concept, that mean each concept is made as similar to a state of finite state machines or process. The second approach used to design guideline rules from every path in this model. Additionally, the suitable language which was developed to build this domain ontology is OWL2 (Web Ontology Language). It is used for building and represent domain knowledge. Moreover, they also used OWL2 rules and reasoning process for the OntoDiabetic System. [10]

E .Government Domain Ontology

E-Government domain has been one of the most active areas of ontology development and many services for citizens can be created by using it effectively. E government ontology is being used to describe and specify the e services which enable easy composition, matching, mapping and integrating of various e-governments. In addition, using ontology for e government facilitate the semantic integration and interoperability of e government services.

 According to the case study of (Fonou-Bombueu & Huisman, 2011) present combining an ontology for building e government by using two state of the art Semantic Web Platforms which are Protégé and Java Jena Ontology API for semantic ontology development in electronic government. So, building an otology for a particular domain, the ontology developers need appropriate methodology that can guide them in process of developing ontology and also require platform. There is still no standard method for develop ontology. So, in this study the development methodology of Uschold and King is applied to build semantic ontology models in government service domain. On the other hand, this methodology takes enterprise modeling process and provides guidelines for (specification, conceptualization, formalization and implementation) of ontology.

In addition, the framework used in this study includes five stages for ontology development namely (identify the purpose, building the ontology, evaluation and documentation). Moreover, the UML formalization is also used in this study because it is widely used for object oriented system development. Furthermore, the advantages of selecting this methodology because it is more likely to be understood for the beginner ontology developers which encourage a quicker development of domain ontology. As mentioned in the study, the language has been selected OWL Language. It is a common language used for semantic knowledge representation in e government. In addition, this study used two semantic web development platforms namely protégé and Java Jena ontology API [11].

Research Contribution

Many researchers describe organizational trust in different models which help organization to build high level of trust between coworkers, leaders and management. As well this paper will focus for some models of organizational trust and how these models affect the effectiveness of work.

This research has carried out the government entity in Oman. As several methods has been used to analyzing the data for example: survey has been conducted, interview with managers has also been conducted to identify and understanding the concepts of organizational trust and how establish a semantic structure relationship between these concepts.

Findings

In order the solution for the above mentioned problem, to maintain high level of organizational trust, they need to have good trust model. They also need to have good semantic structural relationship of organizational trust concepts to build level of organizational trust.
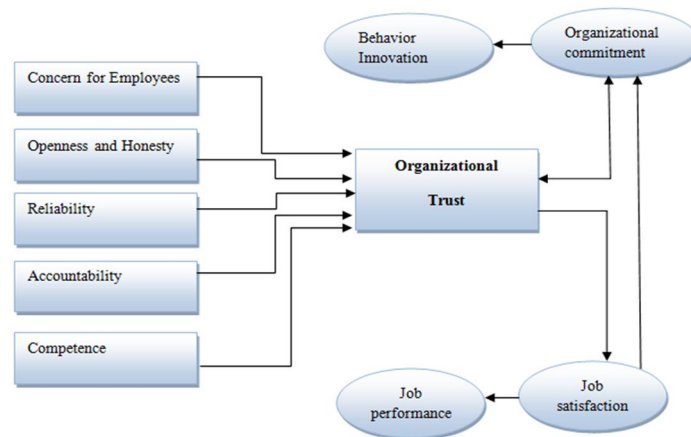
Figure1. Framework of proposed good Trust Model

The proposed trust model are designed from different studies mentioned to build high level of organizational trust should focus for multi dimension of trust. Additionally, many researchers have proved to build high level of organizational trust need follow some dominations/ models. According to Pamela, P. Morreala & Michael Z. Hackman, 2010, highlighted that there are Five Key Dimensions for Building High Level of Organizational Trust which are concern of employees, Openness and Honesty, Identification, Reliability and Competence [1].

The proposed trust model is organized according to the five-dimensional conceptualization of trust which is (Concern for Employees, Openness and Honesty, Reliability, Accountability and Competence).These models are considered factors influencing to build organizational trust. Organizational trust with its dimensions contributes to building organizational commitment and that is reflected on the organization's performance and success.

Trust in organization is one of the factors that encourage freedom, creativity and innovation because no trust the workers cannot working well and no willingness of the workers to make the best of their [9]. So when the rise of trust within organization, the openness, competence, creativity increased. The proposed trust model shows the effect of relationship between organizational trust model and the level of work outcomes attitudinal (organizational commitment and job satisfaction) and behavior (behavior of innovation, job performance).

There is other solution to build high level of organizational trust; they need to have good semantic structural relationship of organizational trust concepts by providing one approach (domain ontology) to help them achieve better understanding the relation between the concepts of organizational trust by using semantic application that can build on top of this structural relationship. In addition, regarding to similar work, there are not many attempts with semantic structural done with it.

Conclusion and Future Work

Trust is the key element in organizational effectiveness that means there is no organization that can take place in business without the present of trust between the people. Organizational trust is an important factor in the integration of the organization. Building high level of trust in organizations need to have good trust model and semantic structure.

This research paper proposes a good trust model which included five-dimensional conceptualization of trust that helps to build high level of organizational trust. Additionally, it focused about the purpose to establish good semantic structural

relationships of organizational trust concepts which also contribute to build high level of organizational trust by developing one approach (domain ontology for organizational trust).

Future work will use Ontology Platform (Protégé 4.3) editor that supports developing domain ontology to establish a semantic structural relationship between the concepts of organizational trust to build high level of organizational trust. In addition, focusing for semantic structure relationship is a good study of meaning that used for understanding human expression through language.

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