

# Organizational IT Culture, A New Concept and Perspective Of Relationship Of Organization and IT

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## Summary

In globalizational information technology (IT) environment, it is a critical issue of developing a new integrated, pluri-dimensional concept and perspective of culture on interaction of organization and IT. Existing literature of organizational culture, IT and culture is categorized and reviewed, a new concept and perspective of relationship of organization and IT – organizational IT culture (OITC) is proposed, and its boundary and connotation are defined. This new concept and analytical framework can open a new path for the study of IT and culture.

## Key words:

*Organization, IT, Culture, Organizational IT Culture*

## 1. Introduction

From the initial development stage of IT studies, researchers have focused on the cultural phenomenon [1] in IT application. And in the IT application of organizations, the problems of “a lack of system/culture fit” have emerged in a large amount, especially in the systems [1] [2] “work ‘right’ technically but are resisted by their users”. In the past 50 years, practitioners and researchers noticed that organizational culture had made a great impact on IT application. Over the years, researchers spend a lot of energy to investigate the relationship between IT and culture. Culture has imperceptibly influenced both of organization and individuals, but the influences are powerful, so it is very important to comprehend culture in IT studies. In recent years, the enthusiasm has been constantly increased. In 2003, IEEE Transactions on Engineering Management took culture as a special subject to discuss; ProQuest conducted formal statistics to the literatures from 1985 -2006, and found that nearly 40% of the literatures on the studies between IT and culture were published in the year from 2001 -2006. In 2012, European Journal Of Information Systems (EJIS) carried out “Special Issue on Cross-Cultural IS Research: Perspectives from Eastern and Western Traditions”, which demonstrated the importance of culture studies in IS domain once more.

Basing on two different perspectives, namely organizational culture and national culture, two distinct

mainstreams are formed in the traditional culture studies of IS domain. Nevertheless, due to the diversity and difficulties in understanding of culture definition, the studies in this domain are notably fragmentary [1] [3] [4]. With the increasing importance and popularity of IT in social activities, the relationship between IT and social practice become more and more close, thus both organization and individual need to solve the problem of how to face IT in spirit. Although the traditional studies are rich in content, it is a critical issue [3] [4] [5] to develop an integrated, multi-dimensional culture perspective on the interaction of organization and IT in globalizational IT environment.

## 2. Theoretical Consideration

Researchers have concerned the important effect of people’s belief, values, and code of conduct to IT long ago. In the early studies, various concepts have been carried out, such as sociotechnical systems [6], social system, social structure [7], in which culture has not been mentioned definitely, but the studies above focus on group belief, assumption, and values and can be included in culture category [1] [5]. In recent years, similar new concepts have emerged in endlessly, i.e., technology culture, digital culture, and information culture [2] etc, reflecting the new thought to cultural phenomenon in the perspective of IT.

Leidner et al. [4] proposed the concepts of “IT Culture” and “IT Values” in MISQ, an important literature of theoretical construction and summarization, and they thought that the two concepts resembled in essence, where “IT Values” is the values that organization member gives IT. Moreover, they emphasized the pioneering significance of the non-public study result on IT culture that Kaerst Brown et al. [8] [9] obtained in their early study stage. Kaerst Brown et al. [8] [9] firstly put forward IT culture in their study, and 5 IT culture models, which are “the fearful IT culture, the controlled IT culture, the revered IT culture, the demystified IT culture, and the integrated IT culture” are identified using grounded theory and ethnology.

Walsh et al. [5] carried out Individual IT Culture. In their study, hierarchy of IITC was put into individual culture

onion model by applying social identity theory (SIT) and virtual onion model (VOM), and the position, utilization, mode, values, belief, conduct, and basic assumption of individual to IT were all incorporated in an independent and specific IITC hierarchy. In addition, the sub-layer structure of IITC was defined in the reference of Schein's culture hierarchy model, then a new domain and perspective of individual culture hierarchy in IT era was opened, providing basis to this study in further proposing organizational IT culture model.

### 3. Organizational IT Culture

Starting from the study of Kaerst Brown et al. and basing on the IITC concepts of Walsh et al., this study focuses on the cultural phenomenon in the whole level of organization in IT environment. Walsh's study effectively solves the problem of IT culture construction in individual level. But the study in this paper mainly concerns about how organizations integrate IITC culture hierarchy in individual level and overall organizational IT Culture (OITC) emerges in organization level, and IT culture study is further extended in organization level.

In the globalization and informatization era, the powerful and profound influence of IT technology has spread to almost all countries, regions, nations and races, as well as the organizations in various forms. The communication and cooperation between people, organization departments, organizations, regions, countries, are all achieved by IT technology, and almost all works need the support of IT technology more or less. Therefore, IT technology has become an important influencing factor that must be considered in individual social life environment and the external and internal environments of organization. If the problem of how to construct and measure IT culture values level needs to be solved in individual culture hierarchy structure, the culture study in organization hierarchy faces the similar problem—how to construct IT culture in organization level. Thereby, the concept of IT culture can be predicted to extend to a broader group in larger scale, such as the hierarchy of society and country.

On one hand, in individual level, IT shows more and more importance and popularity in people's daily life and works, plus the increasing prominence in its sociality. IT culture layer exists in almost all individuals, regardless its nationality, religion, age, race, gender etc. This hierarchy belongs to culture level beyond country level[10]. Thus all organizations face the same condition, which is, organization individuals possess IT values generally, namely IITC. And IITC in the individuals is the important aspect that must be considered by organizations in using IT. Thereby, the basis for the formation of organizational IT culture is provided in the whole level of organization. On

the other hand, in organization level, to solve the problem of survival and development, existing organizations must determine how to adapt external IT technology environment all the time. As a major tool in internal management and external communication for organizations, IT has become an important technology environment can not be avoided with its trans-boundary spread and inter-organization operation. In regard to organizations, the problems they face are when they adopt IT and how to use IT to obtain optimal benefit, instead of determining whether to adopt it or not.

Schein [11] inferred in his study that the function of organizational culture is to solve two basic problems of organization, which are "the survivability in external environment and the adaptability to external environment" and "the internal bonding capacity ensuring the long-term survival and adaptation of Enterprises" respectively. As for the organizations at present, IT is an important external environment as well as an important internal management factor. Furthermore, IT culture values hierarchy also occurs in all the individual culture structure of organization members. Organizational culture is a spiritual product integrated from the adaption to external environment and internal strength, and the internal strength integrated by organizations is also the spiritual strength of organization members—culture. In IT environment, organizations must externally adapt the new IT environment, whilst internally integrate the organization members who possess IITC hierarchy. Therefore, almost all of the existing organizations have generated organizational IT culture in the large category of organization culture. Here, organizational IT culture can be defined as:

The total characteristic and model of organization IT values formed by organizations to adapt external IT environment and integrate the IT values of internal members. This model exists as a potential guidance to the IT practical behaviour of organization members.

Where, the concepts of organizational IT culture in this study are concentrated to the investigation on values level, but do not involve the behavioural characterization and basic assumption related to IT. Firstly, according to the culture three-layer model of Schein in 2011, it seems that organizational IT culture should investigate more behavioural characterizations related to IT, then further study the deep basic assumption related to IT. However, in the quantitative study of organizational culture and the study between IS and culture, values is always set as a major investigating objective, and this kind of convention and tradition is followed in this study to provide this study and related studies with sufficient continuity and comparability. Certainly, as the organizational IT culture study goes on, the culture hierarchy needs to be constructed and perfected in the future.

On the other hand, the starting point of this study is emphasized on investigating the IT values characteristic equipped in the whole organization, the significance of the investigation lies in that organizational IT culture will influence the organizational practical behaviour, and focus on IT values to effectively observe the influence of IT values to IT practical behaviour. In addition, IT practical behaviour will be further influenced in the values orientation of organizational IT culture, thereby, the organizational IT construction can be achieved, and consequently the basis for promoting enterprises management in the view of IT values was provided.

#### 4. Conclusion

The study of organizational IT culture is a newly developing topic between IT and culture in recent years. Basing on the traditional theory of organizational culture, this study reviews existing studies and considers the social influence of IT nowadays to construct the new concept of organizational IT culture. Moreover, the interaction of organization and IT is treated from the perspective of IT culture values widely shared by organizational members. Then organizational IT culture is separated from traditional organizational culture and national culture, and a new concept and perspective is generated. Comparing with traditional national culture and organizational culture, the new concept and perspective constructed in this study are conducive to the concentration of study focus on the category of culture values closely connected with IT. Then a more direct and real insight to the cultural issues of the interaction between IT and organization is further obtained.

Limited by time and objective conditions, there are several restrictions in this study. On one hand, the concept of organizational IT culture proposed in this study is based on the interpretation and deduction of existing studies, thus it is inevitably influenced by the culture values of researchers. As for researchers, influenced by their own culture, they will treat culture with their own assumptions and values, so culture is attached with researchers' demands in investigating and interpreting ineluctably in culture studies. On the other hand, culture is in a continuous dynamic evolution but do not stay invariable. Organizational IT culture is a stage achievement in the continuous competition of dynamic evolution; it is a dynamic, continuous internal competition evolution process more than a start point or an end. Though the evolution is characterized by long-time and imperceptibility most of the time. However, with the rapid development of IT, the IT environment faced by organizations and the IT values of the organization members will be influenced, enabling the

dynamic property of organizational IT culture to become an issue must be paid attention to.

Nevertheless, the restrictions mentioned above do not reduce the effectiveness and importance of the conclusion of this study. The analysis above indicates that there are a lot of issues remained to be deeply studied around organizational IT culture. Thus in the future, the studies can deeply extend from qualitative and quantitative aspects. Concerning qualitative aspect, more field researches should be adopted, and the representative enterprises in suitable condition should be selected to perform long-time longitudinal study to observe the formation and evolution of organizational IT culture. And the notable characteristics presented by organizational IT culture in enterprises should be laid stress on in investigation. Through vast investigations, richer study materials are accumulated, providing the concept of organizational IT culture with more vividness, specification and richness.

In quantitative study of organizational IT culture, the dimension should be classified and its operability should be defined, like various quantitative tools usually used in the study of national culture and organizational culture[12] [13] [14]. On one hand the characteristics of organizational IT culture are analyzed via the important dimension scores, on the other hand various organizational IT culture can be classified by constructing typical organizational IT culture. In conclusion, further studies should base on enterprise investigation in large sample, and various typical prototype of organizational IT culture should be identified in the quantitative way. Then by comparing and analyzing these prototypes, the influences of organizational IT culture to organizational IT application level can be obtained. Consequently, ideal level of IT application will be gained through organizational IT culture.

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