Analyzing cultural process in information technologies (IT) sector for management information system (MIS) applications

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Abstract

The aim of this study is analyzing the cultural process in the Management Information System Applications in Information Technologies sector. In this context, specially prepared a questionnaire and applied to individuals working in both sectors. In the questionnaire that is applied to individuals of IT sector, firstly, demographic information is taken. The motivation survey is applied and how strong the company culture is asked. In other questionnaire is applied to the individuals who are working on management information system applications. Demographic information is taken as same as the other questionnaire. After that, the selection of the entry level candidates, role models, supervision and promotion, education and self-discipline, reward and control is asked to the individuals. In this study, cultural process is analyzed on today's popular sectors of information technologies and management information system based on views and ideas of employees.

Keywords: information technologies, management information system, cultural analysis.

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1. Introduction

The aim of this study is analyzing the cultural process in the Management Information System Applications and Information Technologies sector. In this point, firstly, definition of the culture is important. It is defined as the shared patterns of behaviors and interactions, cognitive constructs, and affective understanding that are learned through a process of socialization.

Culture has been defined in a number of ways, but most simply, as the learned and shared behavior of a community of interacting human beings [7]. Culture is learned and shared human patterns or models for living; day- to-day living patterns. These patterns and models pervade all aspects of human social interaction. Culture is mankind's primary adaptive mechanism [1].

Cultural processes comprise all procedures through which people transform the world as it is into a world of our own. This includes all group specific norms and rules, values and ideas, information and knowledge as represented, exchanged, appropriated, altered and created anew in the process of communication [2]. The relationship between culture, people and processes is shown in Figure 1.
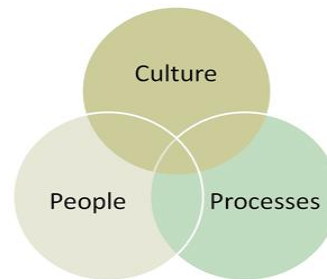

Figure 1. Culture, People and Processes

One of the most significant recent developments, featured as the theme of the 2013 meetings of the American Sociological Association, concerns the relationship between micro-cognitive processes and macro-level processes:

- sociologists are examining how individual-level cognitive processes contribute to macro-level phenomena such as

- residential and racial segregation [4];

- gender inequality [6];

- And employment, housing and credit discrimination [5].

While these contributions reveal how micro-level cognitive and social-psychological patterns affect the distribution of material and symbolic resources, many important dynamics have remained largely beyond the scope of inquiry. These pertain to how inter-subjective frameworks or cultural structures connect the cognitive to the macro-social [3].

Nomenclature

CPA	Cultural Process Analysing
IT	Information Technologies
MIS	Management Information System

2. Methodology

In this study, there are two surveys "Cultural Process Analyzing in IT Sector" and "Cultural Process Analyzing in MIS Applications". Both of them is applied to the participants to analyze their opinion.

The survey whose title is "Cultural Process Analyzing in IT Sector" has totally two parts which are demographical information and the motivation survey. The motivation survey has thirteen questions that are given in Table 1. To make simpler, Cultural Process Analyzing in IT Sector survey is named as Survey 1, Cultural Process Analyzing in MIS Application Survey is named as Survey 2.

Table 1: Motivation Survey

	Question
1	I respect myself at work.
2	In my job, I can catch opportunities of advancement and progress.
3	The work, I fulfill at work is prestigious. (I am held in esteem from the other workers)
4	I have the opportunity to think and act independently.
5	There is job security in my job.
6	My duties at work enable the opportunity to develop my personal competencies and capabilities.
7	My duty at work is equally prestigious outside. (I am held in esteem by the other workers in the market)
8	My job is worth doing.
9	My job is open to helping other people.
10	In my job, I have the opportunity to contribute in decisions regarding the targets of the company.
11	In my job, I have the opportunity to contribute in decisions regarding the determination of work methods and procedures.
12	I have the authority and responsibility at work
13	I have the opportunity to make close friends at work.

According to the questions, all answers are between 1 and 7 numerical value for Likert 7. 1 means that participant does not agree the idea, 7 means that s/he agrees with the idea. After taking all answers and making them quantization, the average of the answers are calculated. Each participant has an average value that belongs to him/her answers. If the calculated average value of the participant is higher than 5, it is thought that s/he is satisfied with the job. If the average is between 3 and 5, s/he is neutral. If the average is lower than 3, s/he is not satisfied with the job. Maybe, s/he is unhappy. The conditions are shown in Table 2.

Table 2: Average value and Conditions

Average	Condition
> 5	Satisfied
[3, 5]	Neutral
< 3	Not Satisfied

In other questionnaire that is Cultural Process Analyzing (CPA) in MIS Applications is applied to the individuals who are working on management information system applications. It has 6 parts that are shown in Table 3.

Table 3: Parts of the CPA in MIS Application Survey

Parts
Demographic information
The selection of the entry level candidates
Role models
Supervision and promotion
Education and self-discipline
Reward

In the cultural process analyzing in MIS applications survey, only two parts that are the demographical information and role model are examined for this research.

To make more comprehensive, in role model part, three questions are asked to the participants. Before asking the questions, ten keywords are given them. They are shown in Table 4.

Table 4: Keywords for the questions

Keywords
Energic
Aggressive
Leader
Responsive
Ambitious
Hard-working
Productive
Apt For team work
Finishing work in time
Working flexiable hours

According to the keywords, three questions in role model part are given in the Table 5. These questions are about their opinion.

Table 5: Questions in role model part

	Questions
1	What are the most important characteristics of the role models regarding duties int the company?
2	Sort the role models above for project managers according to the order of importance.
3	Sort the role models above for software experts according to the order of importance.

3. Findings

Methodology of this research is given in the methodology part. According to this, all results are examined.

There are 18 participants who are attended to the Survey 1 and the distribution of gender of Survey 1 is shown in Figure 2. The average age of the participants is 27.

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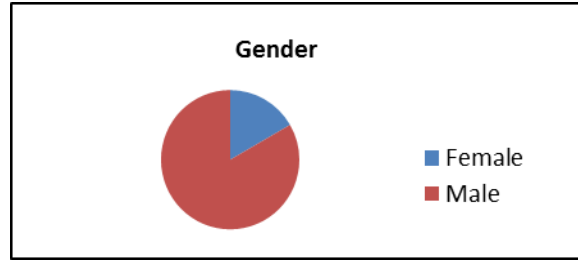
Figure 2. Distribution of the gender (Survey 1)

There are 19 participants that are attended to the Survey 2. The distribution of the gender of Survey 2 is shown in Figure 3. The average age of the participants is 29 for the Survey 2.
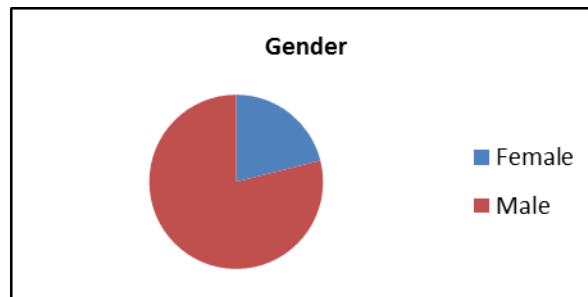

Figure 3. Distribution of the gender of Survey 2

For Survey 1, all averages are calculated. According to the averages, 7 people are satisfied with their job and 11 people are neutral to their job. No one's average is lower than 3. The result of average values is shown in Figure 4.
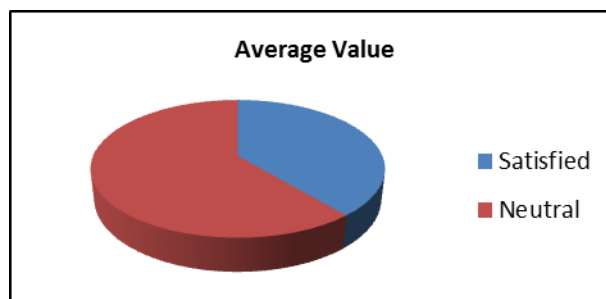

Figure 4. Average Values

For Survey 2, there are many parts, but we focus on only role models part. Role models part has 3 questions that are mentioned before. Some keywords are given to participants and it is asked to sort them in the order of importance. Keywords: Energic, Aggressive, Leader, Responsive, Ambitious, Hard-working, Productive, Apt For team work, Finishing work in time, Working flexiable hours. Questions are also mentioned before.

4. Conclusion

When all answers are analyzed, the most answered keywords for the first question (What are the most important characteristics of the role models regarding duties in the company?) are "Energic", "Responsive" and "Ambitious". The most important/selected keyword for the second

question (Sort the role models above for project managers according to the order of importance.) is "Leader". The most selected keyword for the last question in role model part (Sort the role models above for software experts according to the order of importance.) is "Productive". It is cleary seen that project managers should be a leader for the workers and software experts should be productive. If a person who is responsive, ambitious and energic, s/he will be happy with her/his job.

According to the findings, the other parts of Survey 2 should be added and examine all results again. In IT sector, analyzing the gender, %33 of women are satisfied with her job. Besides that 40% of men are satisfied. In MIS application, «Energic» is selected as the most important characteristics for the role models of the participants in the company.

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