A study on Tele-working in administration, and an investigation on its effect to customer satisfaction in (Mazndaran waterworks and Sewerage Company)

Mohammad Gholami Azizi, Mehrdad Hosssien Zadeh, Shydollah Fathi Shobi and Aghdas Abedi

ABSTRACT

Tele-working or rendering the job in distance is a new concept that in recent decade is paid more attention. So far few researches have been done on this issue. So a wider range of research in this field seems to be necessary. In this study the relationship between Tele-working and customers satisfaction at the organization of Mazandaran water works and sewerage system is analyzed. Tele-working in this survey is considered as an independent variable while customer satisfaction is regarded as dependent variable. To pursue the study on customer satisfaction, speed, reliability and the quality of job rendered that these criteria which is derived from European customer satisfaction index model ECSI and the experts viewpoints were analyzed. In order to perform the research, necessary information is collected through by distribution and gathering of the questionnaires, and were analyzed by sps software. The findings of this research show that there is a direct and significant relationship between the quality and the speed of job done. It shows that it is an affecting factor and is significant to satisfaction for internal customers of the organization.

INTRODUCTION

So far several concepts regarding the organization and customer in management science and organizational behavior have been conducted and analyzed and were found that there is a close relationship between these two concepts, namely organization as being active and customer as an ultimate consumer of products and services were analyzes by the analyst and management experts. Different models have been introduced to measure the customer satisfaction and also to improve the organizational performance [1].

Several models such as "Farnel" "Kano" "servo koal", ACSI, CSI … are suggested to measure the customers satisfaction some techniques such as 5S, EFQM, re-engineering and continuous improvement.

Are used to improve the organizational performance. It seems that this trend never stops and new methods and ideas such as Tele-working have been introduced to develop the working condition and to enhance customer satisfaction in Europe and USA since 1973 and in Iran since 2010.

Considering it as a new topic in Iran, a survey on the effect of Tele-working to customer satisfaction in rendering the job seems necessary [2].

At present most organizational activities are done in a pre-determined location. But Tele-working means moving the job toward the worker but not the worker to the job. Tele-working depends primarily on information technology and internet. It may vary from an Office building to another or from the residence of an employee to the headquarter or it may be from a moving location such as a car or a train. Tele-working is considered as the fastest method to do the standard job, in comparison with the other methods suggested in performing the job. To render a flexible job, this method of job rendering is not designated to be done in a specific days of the week or in a certain time period or in a specific locality. The employee may on the basis of commanded task, or it may spend the whole or part of it, away from the job location, or it may use a few days of the week on Tele-working [3].
The physical attendance of the employees always is a burden to the government from the standpoint of transportation and traffic. For the employer providing the office or job site or paying the water and electric bills and other expenses is a major concern. on behalf of employee, transportation costs and waste of time is another problem which is to be tackled. These expenses may be aggravated especially if the residence of the employees and job sites are located far away from each other, the situation would be worse for both employee and employer and more difficulties are created [4].

The expansion and development of communication and technology and the possibility to access the computer and internet provides a situation that Tele-working is used in its best. For both the office works and personal use. The information technology and communication may cause to reduce the health disturbances by utilization of potential self-capability in enhancing the health and avoidance of sickness, and supporting the others.

Tele-working is an alternative which is used as an opportunity to develop the working condition, since the customers are considered as original elements of any business or service, efforts should done to provide a condition to eliminate dissatisfaction among customers, both for internal or external [5].

To render Tele-working some parts of the jobs is transferred from headquarter to other place, so the customers of these services may expect to receive their services from distance. So Tele-working may have a serious effect on satisfaction level of the customers. If this effect is regarded positive it may bring more satisfaction, and in reverse if considered, negative it may bring dissatisfaction. Tele-working may bring organizational isolation to Tele-workers. This problem could be reduced through transfer of frequent wave of information from the organization to the person involved. So by analyzing and assessing the strength and weakness also by right and logical exercise of this method may enhance and improve its efficiency. By increasing the quality, reliability and speed of the job done may foster the satisfaction level of customers.

**Literature Review:**

Some of researches related to this issue were found and studied, it constitute some paper and dissertation on Tele-working and about customer satisfaction that their abstract is as follows:

<table>
<thead>
<tr>
<th>author</th>
<th>Year published</th>
<th>topics</th>
<th>findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>syhanehre</td>
<td>2010</td>
<td>The feasibility of teleworking teleworking employees, managers tend to</td>
<td>This payment is based on the results of the model and superiority of the behavioral characteristics of two-stage structure model with full information maximum likelihood (FIML) is proposed.</td>
</tr>
<tr>
<td>Amir reza Mamdouh</td>
<td>2004</td>
<td>Role in the management of transport demand modeling, the use of teleworking teleworking</td>
<td>The results showed that, according to employees, 2/27, and according to manager 2/31% of the work day would be teleworking. Reduce the number of trips, especially at peak hours is equivalent to the corresponding major investments to build capacity.</td>
</tr>
<tr>
<td>William Kanvylr and William Bambr</td>
<td>2003</td>
<td>The effect of cognitive style and media richness on commitment teleworkers and virtual teams</td>
<td>The results show that specific combinations of cognitive styles and media to teleworkers and virtual team are committed to performance. As a result, specific recommendations for the selection of telework are.</td>
</tr>
<tr>
<td>Patryz Yu Di Nicola</td>
<td>2001</td>
<td>Home teleworking basic measures to increase job satisfaction among incumbents Message Center</td>
<td>The survey results showed that 75% of teleworkers had noticed an improvement in his private life was also found that teleworking can lead to organizational isolation with a steady flow of information among organizations and individuals telework This problem is somewhat.</td>
</tr>
</tbody>
</table>

**MATERIALS AND METHODS**

The Methodology and Model:
In 1960 jack Nils while working on rocket and satellite as a scientist in US air force had started to study on Tele-communication at south california university. It was at this point he is known as the father of Tele-working

In 1973 he conducted the first Tele-working project this project was a group of thirty people which was conducted by a private organization and funded by national foundation of science, the purpose of support was
about the study of related issue on policy of federal government in reconciliation between Tele-working and transportation and it was at this point that NILS had introduced Tele-working. By writing several books in this connection and offering consultation on Tele-working he is known as the organizer of Tele-working. After him various anticipators in their vast historic view point anticipated that the Tele-working would be the preferential organizing work in the future. One of these people was ALVIN TOFLER who had introduced the electronic cottage. and in 1980 he had established one of the first centers of Tele-centers in MARNEH LAVEL. after him the second was in 1982 in Sweden and the third was in 1985 in Switzerland at present there is many of these centers all around the world.

In 1985 PATRISH MOKHTARIAN the planner of transportation society in South California has established the association of international Tele-working (ITAC). At first it was working as subsidiary committee of Tele-working and communication of Los Angeles labor force and later on in 1988 changed to consulting association of Tele-working.

In 1997 ITAC has proclaimed that over 11 million people in USA do the Tele-working that in comparison with the year 1995 which was only 8 million, the reason behind its growth was the awareness to the advantages of Tele-Working, strong economy and especially increase in the use of computers.

Tele-working as a mix of information technology and communication with human resource management means a new model to exercise the job for companies that indulge in new economy, to explain the advantages or the barriers related to Tele-working so far little empirical studies had been conducted on industrial or service oriented companies.

Studies conducted, show that the main advantages of Tele-working consist of reduction in rental expenses, or it may cause to reduce the water, electric, gas and the Telephone bills. Resilience in case of unexpected events, and access to a vast source of labor force. Part time employment for periodical works and increase in labor productivity are among its advantages.

The main benefits to of employees, could regarded as flexibility of job performance. While it may promote personal productivity, saving of time and costs, and providing a job opportunity for those who may want to stay at home, especially the mothers who are care their little child and want to stay with their family while being active in their career, are among the social advantages. Some other advantages may be reduction in volume of traffic and air pollution, saving of energy and utilization of capability of disabled and less potential people, and also providing a job opportunity for the people who, live in remote areas are considered as the other advantages of Tele-working.

The employment of Tele-working may have some barriers and difficulties. The prime barriers of a successful Tele-working and the most important points challenging it are those which have been reported by the office of human resource management in USA.

![Fig. 1: The barriers related to Tele-working source. A report from the human resource management office in USA in 2011 to congress.](image_url)
indicator of reactionary elements, the both are regarded as services oriented. The European customer service index is known as a suitable model for performance appraisal of internal customer satisfaction.

Generally quality assessment of services is much more complex than quality assessment of goods. It is the total quality management that reduces the difference between quality model and performance of the system which seems to be very difficult to employ it in government services.

Among the many prevalent methods available to study the customer's satisfaction, the European customer satisfaction is considered as an inspiring model. This model is a structural model that embodies several hidden variables. And its framework is similar to American customer satisfaction index. In this structure, customer's satisfaction alongside with its main results meaning customer loyalty is shown. The impetus of customer satisfaction in this model is the received image of organization, customer's expectation, the quality and the valued perceived.

The quality perceived is divided into two division the quality of hardware, that is part of the quality, related to specifications of product and the quality of software which it refers to part of quality that is an indicator of reactionary elements to offer the services these are personal behavior, the situations of the environment and the services rendered are among those [9]. In this model six factors such as product, price, channel of distribution, services, the image of supplying organization and customer expectations are measured by indices such as quality of product, price level, terms of accessing time, accuracy and exactness of services, popularity of supplying organization and the personal needs are among those.

In this survey three factors such as quality, accuracy and speed of the work done are measured. Some other factors such as price, the image of supplying organization and customer expectations are omitted.

According to literature of the study and the main hypothesis, it is suggested -that Tele-working directly enhances the customer satisfaction, so in this research Tele-working is regarded as an independent variable while customer satisfaction is considered as dependent variable. On the other hand Tele-working indirectly and through customer orientation which itself may be a function of increase in exactness. Could bring customer satisfaction. In this study customer orientation is regarded as an intrusive variable.

Hypothesis
H1-Tele-working has a direct effect on customer satisfaction.
H2- There is a significant relationship between Tele-working and the quality of work.
H3 There is a significant relationship between Tele-working and the speed of work 3- there is a significant.

Relationship between Tele-working and the accuracy of work.

The planned data were collected using quantitative methods based on questionnaires,
The instrument used for data collection consists of data recording, interviews and questionnaire on the bases of 5 criteria likert model.
To identify the general structure of the issue the information gathered from various sources.
At first the necessary data were collected through questionnaire and the interview with experts and then classified by descriptive statistics. To analyze the data, the analytical statistics is used, to analyze the data. Frequency, percentage, means, standard deviation is used to describe the samples:
The population in this study consists of deputies, managers, and the experts in Mazandaran water works and Sewerage Company. To determine the sample, kocran for- mula was used , according to it, the suitable sample for this population would be 82 People and the response rate was 90% and the survey reliability was 84%.

Results:
According to collected information the number of respondent in this study are 82 people, out of this number 44.4 percent are male and the rest are females. 23.17 percent of the respondents are at the age range of 20 to 30 years old, and 64.44 percent are at the age of 31 to 45 years .and the rest which are almost 18.3 percent are at the age 45 and above. Majority of the respondent were college graduate with the percentage of 47.57 and 28.05 percent were master's degree and undergraduate with percentage of 14.63 and 8.53 percent high school graduate.

With respect to experience majority of respondent had an experience range of 10-20 years with a 47.2 percentage this group of respondents are most suitable for answering the question. 37.80 percent are among the chief of the group. 10.97 percent were assistant expert and the rests were among the heads of the offices managers, deputies of the company.

Table 2: The results obtained from spirmann correlation test.

<table>
<thead>
<tr>
<th>Significance</th>
<th>Degree of freedom</th>
<th>Name of variables</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.668</td>
<td>Tele working and its quality</td>
<td>1</td>
</tr>
<tr>
<td>0.00</td>
<td>0.712</td>
<td>Tele working and its speed</td>
<td>2</td>
</tr>
<tr>
<td>0.258</td>
<td>0.135</td>
<td>Tele working and its accuracy</td>
<td>3</td>
</tr>
<tr>
<td>0.00</td>
<td>0.732</td>
<td>Tele working and customer satisfaction</td>
<td>4</td>
</tr>
</tbody>
</table>
The results obtained from the Friedman test. With regard to this statistical test, the mean difference of affecting factors on customer satisfaction, both speed, accuracy, and quality of the work done were examined.

### Table 3: Results from Friedman test

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean average</th>
<th>SD</th>
<th>Degree of freedom</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed of work done</td>
<td>2.69</td>
<td>0.31</td>
<td>144.076</td>
<td>0.076</td>
</tr>
<tr>
<td>Exactness</td>
<td>2.65</td>
<td>0.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of work done</td>
<td>1.65</td>
<td>0.31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results from this test showed that the priorities and importance of the hypothesis are not the same so with regard to these test priorities of the hypotheses are as follows in below table.

### Table 4: Hypotheses priorities

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed of work done</td>
<td>2.69</td>
</tr>
<tr>
<td>Exactness</td>
<td>2.65</td>
</tr>
<tr>
<td>Quality of work done</td>
<td>1.65</td>
</tr>
</tbody>
</table>

By analyzing information gathered and the use of Friedman test, it was shown that the speed of work done with mean average of 2.69, and exactness with mean average of 2.65 and the quality of work done with average of 1.69 have the highest priorities for the employees.

**Conclusions:**

The prime purpose of present study is to investigate the effect of Tele-working on internal customer's satisfaction of the organization. To conduct the study, three elements, such as quality, the speed and exactness of work done which were among the affecting factors to customer satisfaction were tested.

The results obtained from the study showed that Tele-working is as an affecting and effective factor to speed. The quality of the work done by internal customer of the organization or staff of employees who are receivers of Tele-working services, also at 95% confidence level.

It is shown that exactness does not have any effect on satisfaction of employees in Mazandaran water works and sewerage company, perhaps several different reasons could be suggested for this instance; reasons behind might be the existence of decentralization in working area by providing a small space as working areas in the residence, this problem could be solved the residence. The other reasons of inexactness could be lack of specific time designated to perform the job.

Maybe there is such an impression on Tele-working that it could be done in any time in 24 hours. But with respect to type, conditions, and specifications of the job the time might be different. So by allocating a suitable time for performing any of these activities, the errors could be reduced and may further increase to its exactness.

**REFERENCES**
