ANALYZING VIEWPOINT OF AGRICULTURAL EXPERTS ON TELEWORKING

Prof. Dr., Sayed Hamid Movahed Mohammadi

Department of Agricultural Extension & Education
Faculty of Agronomy Sciences
College of Agriculture & Natural Resources,
University of Tehran, Karaj, Iran.

Mostafa Moradi Kafraj

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Abstract

In developing countries agricultural extension is responsible for agricultural development. Teleworking with its numerous advantages is a new form of work based on implementing information and communication technologies. Agricultural extension is a main area of utilizing these technologies. The main purpose of this study was analyzing viewpoint of Agricultural Extension Organization Experts on teleworking. Statistical population included all experts of Agricultural Extension Organization in Alborz and Tehran provinces. Out of them 125 respondents were selected through stratified random sampling among townships of each province. Research instrument was a questionnaire that was assembled based on review literature method. Content and face validity of instrument were established by investigating the attitudes of specialists. Questionnaire reliability was estimated by calculating Cronbach's Alpha (α= 0.88). Findings showed that attitude level of 16.8 percent of respondents about teleworking was "low" 29.6percent"relatively low" 42.4 percent “relatively high" and 11.2 percent was "high". The relation between the "attitude towards teleworking" as dependent variable and "job interest" (r=-0.281) and employee understanding about organization recognition of professional competences (r= -0.244) was negative at 5% level. Likewise, the relation between dependent variable and “commitment to organization (r=-0.281) was negative at 1% level. Finally, there was a meaningful deference between attitude of experts with bachelor degree and master science degree at 5 percent level.

Keywords; Jihad-e- Keshavarzi Organization; Karaj; teleworking; Tehran; staff transportation; ICTs

INTRODUCTION

Development of urbanization has caused increasing demand for employment in urban and metropolitan centers. In recent decades, Iran has experienced very high growth rate of urban population. And the production of private cars has been triplet during last fifteen years. o the most evident feature of such trend is the urban road congestion i.e. the waste of time and energy. (N.S.C., 2005). Tehran, as capital of Iran, today is faced with numerous challenges such as air pollution, heavy traffic jam and as a result huge fuel consumption and roads, vehicles and facilities depreciation and finally disruption of citizens' comfort due to

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several hours of stoppage behind the dense queues of vehicles and lack of enough parking spaces. Tehran atmosphere is heavily polluted due to excess emission of motor vehicles and Tehran's location which surrounded by tall mountains of Alborz range in north and east. Furthermore, the precipitation of Tehran is hardly sufficient to decrease the severity of air pollution. During winter, the Atmosphere inversion which occurs in most days has made the air critically dangerous and Tehran's atmosphere is constantly on the verge of disaster in most days during Fall and Winter. The statistics of the outcome of air pollution in Tehran is as follows: Death toll due to air pollution exceeding 4000 per annum, The expense of Over 260 m $ spend due to the disease caused by air pollution and Up to 89 % of air pollution is caused by mobile sources (vehicle) (T.T.C. Co., 2012). Karaj is a city beside Tehran. Karaj and is center of County, Alborz Province, Iran. At the 2006 census, its population was 1,377,450making it the fifth-largest city in Iran after Tehran, Mashhad, Isfahan and Tabriz. However, the city is increasingly becoming an extension of metropolitan Tehran. The economic base for Karaj is its proximity to Tehran, where transportation of products between the capital and the Caspian Sea is central. Chemicals, fertilizers and processed agricultural goods are also produced in Karaj.

During the past two decades, considerable steps have taken towards establishing required legislative frameworks to encourage public transportation and improving urban management in these two centers. This results, directly or indirectly, at the reduction of air pollution caused by vehicles. These legislations include Iranian forth development plan, Public transportation and fuel consumption management act and "teleworking" strategy. During the last decade (in 2010) the government passed the bill of implementing teleworking in all public organizations. Ministers of Commissioner for public affairs and electronic government according to law of 138of the constitution, with the aim of increasing productivity ,labor flexibility, and reduction of the government employees' volume of traffic adopted the regulation of teleworking (GIC, 2012). All organizations and government agencies are obliged to implement this plan gradually on the basis of a feasibility assessment. Agricultural Organization (Jihad-e-Keshavarzi) is one of these organizations that must run the teleworking plan but before it is need to be known about employees' perspective about accomplishing teleworking. Pérez et al.s' findings showed that one of the most obstacles teleworking implementation are employees. Since, employees can be goal of teleworking plans and teleworkers colleagues as well, The results of this study can provide the appropriate understanding about the required action that are needed to attain staff collaboration for administrative and policymakers.

Computer and telecommunications advances in recent years, including computer networks and data systems, FAX machines, and electronic mail, have dramatically widened the choice of workplace for information workers and others so they can work wherever these tools are available, including at home. This development has paralleled trends toward a service economy, greater worker flexibility, empowerment of employees, and rising frustration from the irritation and time loss associated with commuting. In effect, telecommunications services are substituted, partially or completely, for transportation to a more traditional workplace. This practice is called "telecommuting" (NTL, 2012).Telecommuting is defined as an alternative way of accomplishing work tasks while at the same time providing a variety of benefits to organizations, associates, communities, and the environment. Telecommuting replaces the traditional workplace via telephones, computers, and other telecommunications equipment at off-site locations (Green et al., 2009).According to the Telework Exchange website (2011) teleworking is: Any arrangement in which an employee regularly performs officially assigned duties at home or other work sites geographically convenient to the residence of the employee. The term teleworking or telecommuting[1] is attributed to Jack M. Nilles who first used it in 1973. He defines telecommuting as a subset of teleworking (i.e., all work-related substitutions of telecommunications and related information technologies for travel). Telecommuting is not a technology or collection of technologies. Rather, it is a work option that reduces dependence on transportation by exploiting information and telecommunications technologies. In many cases, telecommuting can be accomplished with equipment no more exotic than a telephone (MSU, 2010).Key benefits stemming from mainstream implementation of telework include: a workforce that is capable of teleworking on a regular basis is also capable of leveraging its decentralized, telework contributes to a greener environment by diminishing vehicle carbon emissions as a result of a truncated or nonexistent employee commute, the job performance of teleworkers has been documented to either exceed or remain on par with that of workers in a traditional workplace arrangement, telework increases personal freedom and flexibility, thereby improving morale and decreasing stress, a strong telework program improves employee retention and recruitment by increasing an

[1]-The terms "telecommuting" and "teleworking" are used somewhat interchangeably. "Teleworking" is probably a more accurate description of what actually occurs, but "telecommuting" continues to be the more commonly used term that created by Dr. Jack M. Nilles when he was director of information technology at the University of Southern California (Robertson, 2001).

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employer's attractiveness in the current competitive job market, accommodates persons with disabilities, permits more time for employees to care for their loved ones, can enable reduced demand for office space as well as reduced facility operating costs, allows for optimal use of technological advances (ITAC, 2002; TEW, 2011; USOPM, 2011). Telecommuting is not without possible negative effects. Concerns expressed in the literature include conversion of employees into contract workers lacking job protection and benefits, and perception of pressure to work excessive hours. Maintenance of a clear distinction between work and home life can be difficult for some, leading to serious stress and burnout. So far, these problems have proven minimal for most telecommuters, who continue to go to the office several days per week. Another concern is whether those who telecommute, particularly from a remote satellite center, will move still further into rural areas, thus negating the energy and emissions benefits and accelerating urban sprawl. Other negative impacts on land use, public and urban transportation are possible. From the employer's perspective, concerns include the cost and effort necessary to implement a program and the challenge of remote supervision (NTL, 2012).

The main purpose of this study was analyzing viewpoint of Agricultural Extension Organization Experts on teleworking in Alborz and Tehran Provinces. The other objectives of this study were:

1. Recognizing personal characteristics affecting viewpoint about teleworking,
2. Priority setting respondents' viewpoint about teleworking,
3. Assessment of level of respondents viewpoint about teleworking and
4. Comparing respondents viewpoint about teleworking in different groups

METHODOLOGY

This investigation is quantitative and descriptive in its nature; applied in type and survey in design. The target population included 618 agricultural experts at Agricultural Organization (Jihad-e-Keshavarzi) in Tehran and Alborz Provinces, Iran.125 experts were selected by stratified random sample technique (Table 1). The sample size was determined by using Cochran's formula. Research instrument was a questionnaire in three sections. The first section was designed to gather data on personal characteristics of respondents such as age, gender, record of services, marital status, course and level of studies. The second section was designed for measuring 10 independents variable that was predicted had effect on respondents viewpoint about teleworking and the third section with eighteen statements in a five-level Likret level (from very low=1 to very high=5) was designed for measuring respondents viewpoint about teleworking. The questionnaire Content and face validitywas proved by polling faculty members of Tehran University, College of Agricultural Economic and Rural Development. Research instrument reliability was estimated by calculating Cronbach's Alpha. In this regard, after accomplishing pilot study for upgrading Alpha coefficient, three statements of the third section were eliminated. Finally, alpha coefficient increased to 0.88 and number of statements decreased to sixteen. Data collected were analyzed using the $SPSS_{win14}$. For frequent distribution of respondents based on viewpoint about teleworking (the third objective of the study) ISDM formula was used as follow:

A: Negative: Min. ≤ A < Mean-S.D.
B: Relatively Negative: Mean – S.D. ≤ B < Mean
C: Relatively Positive: Mean ≤ C < mean + S.D.
D: Positive: Mean + S.D. ≤ D < max.

FINDINGS

Demographic characteristics of the respondents showed that the ages of the respondents ranged from 26-56, the mean age was 38 years (SD=8.88). The mean record of services was 12.27 years (SD=9). The mean of distance between home and office 15.35 Kilometer (SD=13.8). 55.2% of respondents were male and 33.6% were female and rest (11.2%) did not specify their gender. 73.6 % of respondents were married and 16.8 % were single and rest (9.6%) did not specify marital status. The study course of 76.8% of respondents was agricultural disciplines and 16.8% had nonagricultural studies and rest (6.4%) did not specify their study course. 23.2% of respondents hold M.Sc. and PhD degree, more than half of them (68%) hold B.Sc., 6.4% hold high school diplomas and only 2.4% hold diploma degree. 34.4% of respondents use personal automobile, 52% of respondents used public vehicles for transportation and 13.6% used the combination of them.

Respondents were asked to determine their viewpoint about each statement (pertinent to teleworking) on a five point Likert-type scale. The replies were prioritized based on C.V. index. Table (2) shows the Priority setting respondents viewpoint about teleworking. According to the findings "*collaboration with teleworkers "*with C.V. equal with 0.24 (M=3.86)**,"***obtaining more free time by teleworking*" with C.V. equal with 0.27(M=3.73)**,** "*teleworking cause to decrease in organizational costs***"** with C.V. equal with 0.32(M=3.59)**,**

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"*teleworking cause to Job autonomy*' with C.V. equal with 0.32(M=3.22) and **"** *collaboration with teleworkers*" with C.V. equal with 0.33(M=3.59) were recognized as the first five priorities, respectively. Likewise, "*teleworking cause to more rate in accomplishing tasks "*with C.V. equal with 0.41 (M=2.86)**, "***teleworking cause to better doing tasks*" with C.V. equal with 0.41(M=2.74)**,**"*tendency to teleworking* **"** with C.V. equal with 0.43 (M=3.10)**,** "*teleworking is not a threat for staff job"* with C.V. equal with 0.50 (M=2.43) and **"***teleworking is a need*" with C.V. equal with 0.51(M=2.31) were recognized as the last priorities, respectively.
Table (3) shows findings of respondents' frequent distribution in terms of level of viewpoint about teleworking. In this regard, 16.8% (21 persons) of respondents' level of viewpoint about teleworking was "*negative*", 29.6% (37 persons) of respondents' level of viewpoint was *"relatively negative*", 42.4% (53 persons) of respondents' level of viewpoint was *"relatively positive*" and 11.2% (14 persons) of respondents' level of viewpoint was "*positive*". In terms of percent cumulative index can be stated that less than half (46.4%) of respondents viewpoint level was "*negative and relatively negative*".

Table (4) shows status of the studied independent variables. This status was used for testing relation between each of them with dependent variable (amount viewpoint about teleworking).

For assessing relation between independent variables and dependent variable Spearman's correlation test was used (Table 5). In this regard, the relation between the dependent variable with "Interest to own job" (r=-0.244), 'understanding professional competencies by organization" (r=-0.244) was negative and significant at the 5% level of confidence, and with "commitment to organization" (r=- 0.281) was negative and significant at the 1% level of confidence. Likewise, the relation between the dependent variable with "being faced with the delay for timely presence" (r= 0.488) was positive and significant at the 1% level of confidence, and with "to have costly transportation to office" (r= 0.229) was positive and significant at the 5% level of confidence. The relation between dependent variable with "the distance between home and office" was positive but did not significant as well the relation between dependent variable with "age" and "record of services" was negative but did not significant.

For comparing respondents' viewpoint about teleworking among different groups the appropriate nonparametric tests were used. As shown in table (6) result of *Mann-Whitney test* revealed that there was a significant deference between male and female viewpoint about teleworking at the 1% level of confidence; but there wasn't a significant deference between staff and administrators' viewpoint about teleworking. There was not a significant difference between respondents' views that had used the private and public transportation vehicles. Result *of Kruskal -Wallis test* revealed that there was a significant deference among respondents' viewpoint with various level of education at 1% level of confidence.

Result of *Tukey test* revealed that this deference existed between "MSc.-PhD." and "bachelor" groups (Table 7).

CONCLUSION

As stated before, the main purpose of this study was analyzing Attitudes of Agricultural Extension Organization Experts on Teleworking in Alborz and Tehran Provinces. Based on the findings, the following conclusions can be presented:

It seems that the respondents had a right understanding about topic of teleworking. They believed that teleworking provides job autonomy, more free time for employees and costs decrease for the organization. Whereas, according to MSU (2010) and TEW (2011) teleworking increases employees' job performance and the increase rate of doing works, they believed it is unlikely the project lead to that the teleworkers do their task better or more quickly. In other word, however it is possible that teleworking has advantages for teleworkers but it cannot serve to organization unless its aim would be dismiss a land retirement of employees. So they ranked teleworking as an organizational need in the last priority.

Although, respondents stated that they would cooperate to implement the project but they would have few interest to be as teleworker. If the organization wants to initiate teleworking, we suggest that it should have attention to monitoring levers seriously thereby teleworkers perform their duties well and quickly. Due to these reasons, about of 50 percent of respondents had a negative and relatively negative viewpoint about teleworking. So, we recommend that before to implement teleworking it is necessary that educational and awaking programs must be implemented. It is recommended that this be done through mass media. According to Allum et al (2005) a person attitude about a phenomenon determines his/her behavior type about it, it is recommended that before to implement anything by utilizing appropriate actions, for instance training courses, the positive attitudes be created at staff. According to the results of the correlation test, the employees that had a positive viewpoint about teleworking were who that had less interest to some aspects of their job (commitment, salary or due to continue education). They could be called as "dissidents of the organization**".** They want to use teleworking as a means for separation (temporary or permanent) from the organization but they want still enjoy their organizational right and benefits. The findings showed revealed

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that there was a significant between male and female employees about teleworking. Women have a different perspective about their economical job. Due to fear to dismiss, women are more negatively- oriented than men. Hiroko et al. (2011) insist that under the same conditions, women prefer to take less risk in their jobs. They announced women are more vulnerable to redundancy and experienced more hardship in finding a new job after having been displaced from their old job. Likewise, those who had holding PhD and M.Sc. degree had better viewpoint about teleworking in compare with others. This topic confirm green et al (2009) finding. They find that the holders of higher education tended to do their work in the form of teleworking. This set of respondents wants to continue their studies at universities. They are good clients for teleworking projects. It is recommended that it should be noted that this should be done based on their consent.

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Table 1- respondents' frequency distribution in statistical population and sample

Colon.	Provinces	Population	Organization	Sample
1	Alborz	230	Headquarter of Alborz Province	18
			Karaj Township Office	14
			Sav'joblag Township Office	10
2	Tehran	388	Headquarter of Tehran Province	30
			Tehran Township Office	21
			Quds Township Office	7
			Shahriyar Township Office	6
			Varamin Township Office	12
			Rey Township Office	7
		618	**Sum**	**125**

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Table 2- Priority setting respondents' viewpoint about teleworking

viewpoints	Mean	S.D.	C.V.	Rank
Collaboration with teleworkers	3.86	0.93	0.24	1
Obtaining more free time by teleworking	3.73	1.00	0.27	2
Teleworking cause to decrease in organizational costs	3.59	1.16	0.32	3
Teleworking cause to Job autonomy	3.22	1.02	0.32	4
Collaboration with administrators	3.59	1.17	0.33	5
Possibility of monitoring on teleworkers	3.42	1.17	0.34	6
Teleworking goal is Adapting work with staff conditions	3.23	1.11	0.34	7
Teleworking cause to increasing staff Jobperformance	2.85	1.06	0.37	8
Teleworking goal is Adapting work with organization conditions	2.86	1.12	0.39	9
Teleworking cause to	3.04	1.22	0.40	10
Teleworking cause to more rate in accomplishing tasks	2.86	1.18	0.41	11
Teleworking cause to better doing tasks	2.74	1.11	0.41	12
Tendency to teleworking	3.10	1.32	0.43	13
Teleworking is not a threat for staff job	2.43	1.22	0.50	14
Teleworking is a need	2.31	1.18	0.51	15

Table 3- respondents' frequent distribution in terms of level of viewpoint about teleworking

Viewpoint level	F	%	Cum.%
Negative	21	16.8	16.8
Relatively negative	37	29.6	46.4
Relatively positive	53	42.4	88.8
Positive	14	11.2	100
Sum	125	100	-

Table 4- status of the studied independent variables

Variables	M	SD
Interest to own job	4.02	0.83
Tendency to continue education	4.29	0.95
Tendency to working beside co-workers	3.55	0.89
To have costly transportation to office	2.90	1.10
Satisfaction than received Salary	2.22	0.89
Commitment to organization	2.94	1.24
Understanding professional competencies by organization	2.43	1.11
Acquaintance reference to office as client	1.43	0.79
Being faced with the delay for timely presence	2.18	1.25

Table5- results of Spearman's correlation test between independent variables and dependent variable

dependent variable	Independent and personal variables	r	Sig
amount viewpoint about teleworking	Interest to own job	-0.244*	0.015
	Understanding professional competencies by organization	-0.244*	0.027
	Commitment to organization	-0.281**	0.005
	Being faced with the delay for timely	0.488**	0.000

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	presence		
	To have costly transportation to office	0.229*	0.023
	Age	-0.007	0.944
	Record of services	-0.057	0.576
	Distance between home and office	0.109	0.284

*Significant at 5% ** significant at 1%

Table 6- Results of nonparametric tests for comparing different groups of respondents

Variable	Grouping	F	Mean R.	Sum of R.	Test	Test amount	Sig.
Gender	Female	42	39.36	1456.50	Mann-Whitney	753.500**	0.006
	Male	69	55.65	3394.50			
Post	Administrator	30	65.23	1764.00	Mann-Whitney	1260.00	0.705
	Staff	95	62.36	6111.00			
Trans. Vehicle	Personal	40	42.14	1180.00	Mann-Whitney	774.00	0.412
	Public	63	47.02	2915.00			
Level of Education	Diploma	11	36.83	df=2	Kruskal Wallis	11.314**	0.003
	B.Sc.	85	44.44				
	MSc. And PhD	29	65.27				

*Significant at 5% ** significant at 1%

Table 7- Result of Tukey test

		Mean difference	Std. error	Sig.
Master of science and PhD	Diploma and high diploma	7,33333	4,13726	0.184
	Bachelor	6,30303*	2,11512	0.010

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