



# An Investigation Factors Influencing Attitudes of Faculty Members in Agricultural Colleges Toward Knowledge Sharing

**Neda alizadeh**

Assistant Professor in Agricultural Research,  
Education and Extension Organization,  
nedalizadeh@yahoo.com

**Reza Pezeshki Rad**

Associate Professor in Agricultural College  
Tarbiat Modares University  
Gh.pezeshki@modares.ac.ir

**Hassan Alipour**

Associate Professor in Agricultural  
Research, Education and Extension  
Organization, h.alipour@yahoo.com

**Abstract** – The purpose of this study was to investigation factors influencing attitudes of faculty members in agricultural colleges toward knowledge sharing. A descriptive-correlation method was used for this study. Target population of this study was 204 of full-time university faculty members (N=204) in two agricultural colleges of Tehran and Tarbiat Modares universities, and 135 faculty members (n=135) were selected using stratified randomized sampling method. Data was collected using a questionnaire as a tool of the study. The reliability of the questionnaire was obtained through a pilot test among faculty members out of the research population (Cronbach's alpha=0.90, for the main scale). Results of this study showed that there were statistically significant relationships between organizational culture, organizational structure, ICT infrastructure, social trust, and relational social capital with the dependent variable (attitude toward knowledge sharing). The results of the multiple regressions also indicated that ICT was the only influential factor on attitudes toward knowledge sharing that could explain about 47 percent of the variations of the respondents' attitudes toward knowledge sharing.

**Keywords** – Knowledge Sharing, Attitude, Organizational Culture, Organizational Structure, Social Trust, Relational Social Capital.

## I. INTRODUCTION

Today's organizations need to activate their knowledge resources efficiently (27, 40, 43), because knowledge is considered as one of the most important recourses in any organization (23). A variety of organizations have applied knowledge management as a critical factor in the success of every sector, including higher education (29). Among knowledge management components, knowledge sharing means being aware of knowledge needs and making technical and production knowledge available to others who need it (29). Numerous previous studies have examined factors influencing knowledge sharing in various environments (2, 30, 29, 22, 38), but few studies have focused on attitudes toward knowledge and information sharing. As suggested by many studies (e.g. 3, 1, 15, 48), attitudes toward sharing is one of the critical elements affect knowledge sharing. In fact, knowledge sharing is a matter of individual's attitudes and sharing activities should be done willingly and without being forced.

Although faculty members in higher education create, produce and transfer new knowledge among their colleagues and students, few studies have addressed the faculty sharing attitudes. Sharing of knowledge among faculty members in higher education is related to the positive attitude toward knowledge sharing. Results of the

previous research (31) showed that inappropriate attitude among faculty members can cause weak willingness for knowledge sharing and non-collaboration among colleagues in an educational environment, but if effective collaboration exists among faculty, it can be hoped to create more opportunities for faculty until they exchange their ideas, increase their knowledge and achieve new experience from other colleagues.

The agriculture sector plays an important role in Iran's economy and employment. Therefore, there are many agricultural colleges educating future farmers and agricultural practitioners. Because little is known about knowledge sharing attitudes among university professors, this study investigates Iranian agricultural faculty attitudes toward knowledge sharing and factors affect it. To this end, we will define and examine hypotheses which are presented based on theoretical rationales. The research methodology and specific information pertaining to the research procedures and measures are given in Section 4, while Section 5 outlines the data analysis and presents the results. Finally, the implications of the findings are discussed in Section 6, together with managerial implications and an overview of the research limitations. The article gives scholars and professionals a real insight into the factors influencing individual's attitudes toward knowledge sharing and provides practical suggestions for improving knowledge sharing and information exchange in universities.

## II. LITERATURE REVIEW

### A. Faculty and Knowledge Sharing in Academic Institutions

University faculty members perform the crucial role of acquiring or generating knowledge and exchanging their knowledge and skills with students, other university professors, practitioners and all the university stakeholders, in local, national and worldwide spheres. Faculty create great amount of course-related resources at higher educations. Most of the time, these information and knowledge are organized and preserved by individual faculty members and they are not shared with colleagues who teach the same course, in condition if this valuable information and knowledge could be shared efficiently among faculty, this members could devote more time to research and interaction with students and other colleagues (29). Also, if knowledge cannot be efficiently shared, it is possible that it will fade away (48). According to (29), since faculty are the major component in generating and sharing knowledge in academic institutions, their sharing attitudes through campus-wide institutional repositories



are a fundamental part of the knowledge management process. (13) Argued that because collegiality and self-governance have long been defining principles of university life, university faculty members cannot easily be compared with the typical corporate workforce. He said power relationships and reward structures in academic and commerce life differ noticeably, and suggested that academic staffs are very similar to partners in a professional practice. Therefore, faculty members' knowledge sharing and their sharing attitudes require particular attention.

Anyway, few researchers have investigated knowledge sharing and sharing attitudes in academic institutions. For example, (25) investigated knowledge sharing among Malaysian academic staff in Business Schools and provided some suggestions for improving knowledge sharing, including rewarding personnel for sharing activities, encouraging academicians from top management to publish and dissemination knowledge, and improving the awareness of academia about the benefits of knowledge sharing. The results of (29) showed that perception was the most influential factor and reward systems were the second most influential factor on South-Korean faculty knowledge sharing. (28) Argued that scholarly activities such as teaching, research and knowledge sharing could be improved through effective knowledge management or via publicly accessible repositories on campus.

#### *B. Determinants of Knowledge Sharing Attitudes*

Knowledge sharing involves a set of behaviors that help the better exchange of information among individuals and their organizations, also can really reduce the time spent on problem solving and improve the quality of work (14). (7) Argued that the reason why knowledge management experiences fail is paying too little attention to people issues related to sharing of knowledge including attitudes toward knowledge sharing and motivation. A positive attitude toward knowledge sharing is associated with positive intention to share knowledge which in turn, influences knowledge sharing behavior. Here we will report research findings and arguments about factors affect sharing attitudes.

##### *B<sub>1</sub>. Individual Factors*

Some scholars (e.g. 17, 19) argue that some individuals are unwilling to share knowledge and possess a negative attitude toward sharing, because of their insecure feelings, such as their fear of being impeded from moving up or loss of career opportunities, job security considerations, and the notion of "knowledge is power". Some people express a preference to work alone; they think that they are experts (35) or extra workload (41) prevents them from sharing activities. (43) said that personal experience of sharing knowledge in a team or a knowledge management system could influence an individual's sharing attitude to knowledge sharing.

(4) Argued that the expectations of knowledge sharing reciprocation could influence individual's attitudes toward knowledge sharing. In fact, people who pose a positive sharing attitude seek to attain a balance between donating and collecting knowledge. They also proposed that

individual's expectations of usefulness of their knowledge and that through knowledge sharing they can develop relationships with others is related to positive knowledge sharing attitudes. Results of (8) study showed the difference in individual's attitudes towards sharing knowledge with a coworker from an out-group and someone in an in-group.

Results of (12) research indicated that work experience and years of schooling in business programs contributed to people's sharing attitudes. (10) found that social network and shared goals facilitate one's decision to share knowledge. As for social trust, they found no direct effect on sharing attitudes. Some other scholars (e.g. 9, 44) have also shown that social relationships and social ties and trust (6) can influence one's attitude toward knowledge sharing. As for gender, (46) study showed no significant difference between males and females on individual attitudes to knowledge sharing. (33) found in their study that richness of channel for knowledge sharing and individual's absorptive capability to learn from others had a positive influence on one's sharing attitudes. (39) found in their research that physician's attitude towards knowledge sharing was influenced by their subjective norms. Self-efficacy was also proposed by (6) as an influencing factor on sharing attitude. In our previous study on sharing attitudes, we (38) showed that individual's social relationships and social trust were associated with attitudes to knowledge sharing.

##### *B<sub>2</sub>. Organizational Factors*

(21) Proposed that fair and equitable decision-making practices are among human resources policies that could directly influence knowledge sharing attitudes. This factor is related to the flexibility of decision making processes in an organization or organizational structure. We (38) also found significant relationships between organizational structure and sharing attitudes of Iranian agricultural extension and education personnel. (6) argued that factors including work design (e.g. team working), staffing, training and development, performance appraisal, compensation and rewards, culture (e.g. organizational culture), and technology (e.g. information technology) could affect personnel attitudes to knowledge sharing. They argued that organizational culture could create an environment of caring and trust that is so important for encouraging people to share their knowledge with others. (24) also found that the cultural dimension, collectivism, was positively related to attitudes toward knowledge sharing when using group email function. Some work designs (e.g. team working) establishes interdependencies, increases the frequency of interactions and information flow requirements, and, in turn, enhance positive sharing attitudes. Cabrera and (6) argued that designing work around teams gives personnel the opportunity to work closely with their teammates and encourages knowledge sharing, especially when rewards are based on team results. (26) Also found positive relationships between task interdependences in teams of knowledge workers and knowledge sharing. Establishing necessary information technology infrastructures and providing user-friendly information technologies has the potential of reducing the



perceived cost of sharing knowledge and plays a vital role in encouraging individuals to share their knowledge.

Although many researchers and practitioners consider expected rewards as one of the major motivating factors that affect individual's decision to share their knowledge with others, Bock and Kim found that expected reward were negatively associated with the attitudes toward knowledge sharing. Also some other researchers argue that tangible rewards could not motivate personnel to share knowledge in the long run (37).

### III. RESEARCH QUESTION AND HYPOTHESIS

This study wants to address the following research questions:

1. Are there any significant relationships between the factors and faculty attitudes toward knowledge sharing?
2. What are the factors that influence knowledge sharing attitudes?

Positive attitude toward knowledge sharing require a variety of factors that can facilitate or impede sharing of knowledge among individuals. In this study, we examine organizational and individual factors that can influence faculty member's attitudes in Iranian higher education. We proposed factors such as organizational culture, organizational structure and ICT infrastructure belong to organizational factors and social trust and relational social capital belong to individual factors. Table 1 presents the list of factors in this study as well as the operational definition of each factor.

Table 1. Factors and operational definitions

Factors	Operational definition
Attitude toward knowledge sharing	The degree of one's favorable or positive feeling about knowledge sharing
Organizational culture	Beliefs and attitudes of individual toward knowledge sharing in organization
Organizational structure	Ability and flexibility of decision making in organization
ICT infrastructure	Access to and application of ICT in organization
Social trust	Trust to colleagues' expertise and cooperation
Relational social capital	Interaction among personnel

In this paper we attempted to examine the effect of these variables on dependent variable (attitude toward knowledge sharing), and for this purpose, six hypotheses were developed as following:

- H1<sub>a</sub>. Organizational culture is positively associated with attitude toward knowledge sharing.  
H1<sub>b</sub>. Organizational culture positively influences attitude toward knowledge sharing.  
H2<sub>a</sub>. Organizational structure is positively associated with attitude toward knowledge sharing.  
H2<sub>b</sub>. Organizational structure positively influences attitude toward knowledge sharing.  
H3<sub>a</sub>. The level of ICT support in the college is positively associated with attitude toward knowledge sharing.  
H3<sub>b</sub>. The level of ICT support in the college positively influences attitude toward knowledge sharing.

H4<sub>a</sub>. The level of social trust is positively associated with attitude toward knowledge sharing.

H4<sub>b</sub>. The level of social trust positively influences attitude toward knowledge sharing.

H5<sub>a</sub>. The level of relational social capital is positively associated with attitude toward knowledge sharing.

H5<sub>b</sub>. The level of relational social capital positively influences attitude toward knowledge sharing.

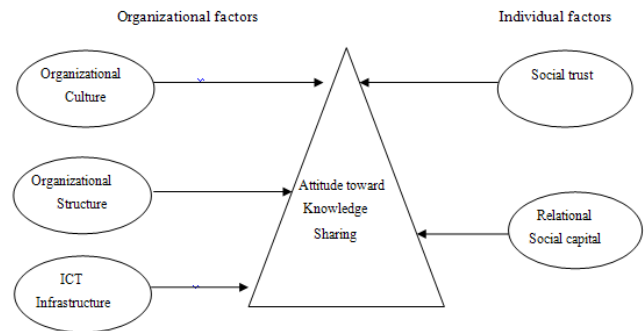


Fig.1. Research theoretical model

### IV. MATERIAL AND METHODS

A survey was undertaken to carry out this research. The research population consisted of 204 full-time faculty members (N=204) in Tehran university. Using stratified randomized sampling method, 135 faculties were selected following the recommendations of (32). The faculty members in this study were sampled from two agricultural colleges in Tehran and Tarbiat Modares universities, Iran. The oldest Iranian agricultural school in Karaj city was replaced by Agricultural college of University of Tehran, in about 5 decades ago. This college is now a well known and important college for educating agricultural professionals in Iran. The second case is the only agricultural college that has focused on graduate programs in agriculture, and was established with the mission of providing country universities with agricultural professors. But now that the number of Iranian colleges providing programs for doctoral degrees has increased, this college has expanded its objectives.

A questionnaire consisting of two sections was designed to collect data. Section one of the questionnaires was related to demographic information of the faculty, including: age, gender, and work experience. Section two of the questionnaire was designed to identify the factors influencing university faculty attitudes toward knowledge sharing, and was measured on a five-point, Likert-type scale that ranged from strongly disagree (1) to strongly agree (5). The scales for organizational culture, organizational structure, and ICT infrastructure were slightly adapted versions of the scales used by (18), (38). For relational social capital, a scale was used that integrated items from a social identification scale (16). Scale for social trust was adapted version of the scale used by (22). Seventy questionnaires (52%) were returned within two weeks. A follow-up letter was sent two weeks after the original to remind those who did not respond. As a result of this 2<sup>nd</sup> effort, an additional 29 questionnaire were received. In all, 99 survey instruments (73%) were



returned. To control nonresponsive error, later responses (21%) were compared to early responses (52%). No significant differences were found; therefore, according to (36), the results of this study could be generalized to the target population. A pilot test was conducted with 25 faculty members out of research population to improve the clarity and readability of the instrument.

## V. FINDINGS

### A. Demographic Information of Faculty

Faculty members were averagely 47 years old and majority of them (45.4%) were between ages 41-50. Ninety percent of faculty was male, and 43 percent of faculty members had 11-20 years of work experience.

### B. Assessment of Measure Instrument

Reliability test results indicated that the scales for attitude's faculty toward knowledge sharing (0.70), organizational culture (0.89), organizational structure (0.80), ICT infrastructure (0.75), social trust (0.85), relational social capital (0.79), and team work (0.80) were reliable for this study table 2 presents the reliability test results.

Table 2. Assessment of the measurement

Types of factors	Factors	Items	Cronbach's alpha
Independent variables	Organizational culture	7	0.89
	Organizational structure	5	0.80
	ICT infrastructure	5	0.75
	Social trust	5	0.85
	Relational social capital	5	0.79
Dependent variable	Attitude toward knowledge sharing	8	0.70

## VI. HYPOTHESIS TESTING

### A. Correlations Between Independent Variables with Attitude Toward Knowledge Sharing

To measure associations, Spearman's correlation coefficient was used. As presented in table 3, five independent variables, including organizational culture ( $r_s = 0.354$ ), organizational structure ( $r_s = 0.274$ ), ICT infrastructure ( $r_s = 0.492$ ), social trust ( $r_s = 0.469$ ), and relational social capital ( $r_s = 0.542$ ), were positively associated with the dependent variable, attitude toward knowledge sharing. Therefore, these results provided support for H1<sub>a</sub>, H2<sub>a</sub>, H3<sub>a</sub>, H4<sub>a</sub>, and H5<sub>a</sub>.

Table 3. Correlations of independent variables with attitude toward knowledge sharing

Variables	$r_s$	P
Organizational culture	0.354*	< 0.001
Organizational structure	0.274*	0.006
ICT infrastructure	0.492*	<0.001
Social Trust	0.469*	<0.001
Relational social capital	0.542*	<0.001

\* Correlation is significant at the 0.01

### B. Factors Explaining Variations in Attitude Toward Knowledge Sharing

Multiple Regressions analysis was employed to investigate causal relations between independent and dependent variables. Utilizing the enter method, the results of multiple regressions showed that ICT infrastructure ( $\beta = 0.316$ ,  $P < 0.01$ ) positively influenced attitude toward knowledge sharing, therefore our data confirmed H3<sub>b</sub>, but H1<sub>b</sub>, H2<sub>b</sub>, H4<sub>b</sub>, and H5<sub>b</sub> were rejected. Also, according to the results, this factor could explain about 47% ( $R^2 = 0.474$ ) of the variations in knowledge sharing (Table 4).

Table 4. Multiple regression analysis

Coefficients	Un standardized coefficients		Standardized coefficients		
	B	Std. Error	Beta	t	Sig
Constant	1.383	0.352	-	3.932	<0.001
Organizational culture (X <sub>1</sub> )	-0.041	0.078	-0.063	-0.522	0.603
Organizational structure (X <sub>2</sub> )	-0.034	0.078	-0.049	-0.438	0.662
ICT infrastructure (X <sub>3</sub> )	0.316	0.086	0.324	3.675*	<0.001
Social trust (X <sub>4</sub> )	0.141	0.109	0.187	1.297	0.198
Relational social capital (X <sub>5</sub> )	0.190	0.136	0.227	1.401	0.165

$R^2 = 0.474$  Adjusted  $R^2 = 0.440$   $F = 13.831$  ( $P < 0.01$ )

\*  $P < 0.01$

## VII. DISCUSSION

### A. Discussion of Empirical Implications

#### A<sub>1</sub>. Relational Social Capital

According to our results, relational social capital is associated with knowledge sharing attitudes. In fact, our study echoes the findings of prior studies (e.g., 4, 9, 20) and highlights the importance of relational social capital, one of the major aspects of social capital, in knowledge sharing. In fact, strong interactions among employees improve favorable attitudes toward knowledge sharing and reduce "no-sharing" attitudes. Relation among faculty in university is a major contributory factor to improving organizational culture by eliminating bureaucracy and secrecy (34).

#### B. Social Trust

Our findings about significant relationships between social trust and sharing attitudes confirm the results of prior studies (e.g., 38). As stated by (6), the willingness or motivation to share knowledge will be higher when mutual trust has been established between individuals. This finding indicates that faculty who trust each other are more willing to share relevant ideas and information.

#### C. ICT Infrastructure

Variance explained in the sharing behavior by ICT infrastructure is not very high (47%), but this is high variation explained by only one factor. We think that this is because of the considerable advantage of information technologies which reduce the costs of knowledge sharing and simplify the task and reduces the time spent for sharing information. The other reason could be the attractions of ICTs encouraging faculties to learn and employ them. Anyway, many Iranian professors are using only email services, and other communication and social



networking services (e.g. chat rooms) are not very widespread among university teachers. This could be explained by governmental filtering and social considerations about other services, such as chat rooms. Some Social networking websites like Face book whose educational implications are increasingly understood, have been filtered in Iran. Common belief is that chat rooms and social networking sites are services challenging family ties and community values, and enhancing the violation of religious beliefs, and think of it as a waste of time with the aim of only having pleasure with others. Finally, the reason could be low awareness about the new and good opportunities provided by these services for knowledge and information sharing.

#### D. Organizational Structure

As indicated in the literature review and as it was found in prior studies (e.g., 38), a favorable organization's structure with flexibility of decision making processes could encourage employees to share their knowledge. Our findings echo the findings of prior studies. According to (21), fair and equitable decision making practices could directly influence sharing attitudes and behaviors. Clearly, there will be higher levels of trust when individuals feel that organizational decisions are fair and their voices are heard when decisions are made in the organization.

#### E. Organizational Culture

Our findings provide support for the argument that organizational culture is associated with knowledge sharing attitudes, and confirm the findings of (24). As stated by (6), organizational culture can create an environment in which there are strong social norms with regard to the importance of knowledge sharing with others. They said that organizational culture can also create an environment of caring and trust that is so important for persuading employees to share their knowledge. They also suggested open communication, egalitarianism, fairness in decision making processes and perceived support from the organization, co-workers and supervisors, as people management practices that contribute to creating an open and trusting culture in an organization.

### VIII. LIMITATIONS AND FUTURE STUDY

This study was conducted among faculty members in only two universities in Iran. Therefore, the findings of this study may not be applicable in some universities and some countries, due to different factors. Second, self-reported measures represent the most appropriate method in this study because all the variables referred to subjective states, as with any self-reported behavior, this runs the risk of a response bias. Therefore, similar studies that use multi-method and multi-trait measurements should produce more powerful results. Third, this study was only able to explain less than fifty percent (47.4%) of the variation of knowledge sharing attitudes. Future studies are encouraged to examine other factors mentioned in the literature, such as organizational reward systems, work designs, individual's absorptive capability to learn from others, self-efficacy, staffing, training and development,

subjective norms, sharing experiences, flexibility of decision making processes, job satisfaction and performance appraisal.

### IX. CONCLUSION

Although university faculty members play great role in creating and sharing professional knowledge and information, little is known about their knowledge sharing attitudes and behavior. For this reason, the purpose of this study was to identify agricultural faculty members' attitudes toward knowledge sharing. Results of this study showed that organizational factors including organizational structure, organizational culture and ICT infrastructure, and two individual factors including social trust and social relationships were identified, positively associated with attitude toward knowledge sharing. Also according to regression analysis, ICT was the only factor which was found as influencing sharing attitudes, and other factors (organizational culture, organizational structure, social trust, and relational social capital) were not found to influence faculty attitude toward knowledge sharing. Finally, many other factors could affect faculty sharing attitudes, that some of them were mentioned in our study literature review and limitation part. Future researches could consider these factors for more powerful results. The findings of this study could promote the understanding how to enhance positive attitudes toward knowledge sharing.

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