

Study of factors influencing research productivity of agriculture faculty members in Iran

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Abstract The purpose of this research is to analyze the relationship between individual, institutional and demographic characteristics on one hand and the research productivity of agriculture faculty members on the other. The statistical population of the research comprises 280 academic staff in agricultural faculties all over Tehran Province. The data regarding research productivity and demographic characteristics were extracted from the faculty members' profiles. Questionnaires were utilized to collect information concerning individual and institutional variables. The reliability of the questionnaire was calculated to be between 0.74 and 0.97 using the Cronbach's Alpha. The regression analysis revealed that from among demographic characteristics two variables, namely, academic rank and age ($R_{AD}^2 = 0.265$), among individual characteristics, three variables, namely, working habits, creativity as well as autonomy and commitment ($R_{AD}^2 = 0.097$), and among institutional characteristics four variables namely, network of communication with colleagues, resources of facilities, corporate management and clear research objectives ($R_{AD}^2 = 0.151$) were significant predictors for agricultural faculty members' research productivity.

Keywords Research productivity · Agriculture faculty members · Individual characteristics · Institutional characteristics · Demographic characteristics

Introduction

The study presented in this paper aimed at identifying individual and institutional areas in which the faculties of agriculture were strong, and ones in which improvement is needed; identifying strategies for addressing weak areas in agriculture faculties; and providing a baseline against which to measure the impact of any efforts initiated to increase research productivity of faculties. The information of the results of this assessment is used to further our understanding about the specific characteristics that facilitated the research

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productivity of agricultural faculties. Based on these objectives, the following questions were studied:

1. What significant relationship exists between demographic variables and research productivity of agriculture faculty members?
2. What significant relationship exists between individual factors and research productivity of agriculture faculty members?
3. What significant relationship exists between institutional factors and research productivity of agriculture faculty members?
4. What individual, institutional and demographic variables, best predict for agriculture faculty member's research productivity?

The following sections of this paper lay out the organization of the research, section “[Introduction](#)” deals with a theoretical framework on the faculty research productivity, information on the Iranian system related to research productivity. Section “[Methods and materials](#)” has to do with methodologies adopted, the data sources and field of observation for the study. Section “[Results and discussion](#)” explores firstly relationships between three factors including demographic, individual, and institutional and research productivity. This section ends with identifying predictors of faculty members' research productivity. The last section presents conclusions and the final considerations of the study.

Theoretical framework

Studies in the productivity of higher education have gained importance since 1970. Since then, numerous researches have tackled the productivity of university and faculty members (Dundar and Lewis 1998). Research productivity refers to innovative thoughts and ideas which, after theoretical and applied studies, lead to publication of articles in leading journals, patent registration or documentation. In other words, any field of knowledge that puts forth a new idea to the world and records it, possesses research productivity. University of Utah defines research productivity as refereed publication of library or field journal papers, book chapters (Ransdell 2001). Zainab (1999) considers research productivity as reporting and publishing research findings in (inter)national journals, conference presentations, patent registration, impact factors and reviews.

Various factors influencing the research productivity of faculty members has been identified by previous research. They are, institutional factors including positive culture for the research within research institution (Creswell and Bean 1996; Teodorescu 2000). Research has also laid emphasis on individual factors (Finkelstein 1984; Turner and Mairesse 2003). In particular, it has been shown that productivity at first increases with age and then decreases (Turner and Mairesse 2003). From the sex viewpoint, there are significant differences between males and females on number of published articles and impact factors (Turner and Mairesse 2003). Besides, remaining in a professional position for a long time, especially in high ranks affects productivity in a negative way (Turner and Mairesse 2003). Furthermore, social (Blackburn et al. 1978; Brocato 2001) and leadership (Dundar and Lewis 1998) characteristics have received great attention. In particular, faculty member group size has been identified as one of the most significant predictors of faculty research productivity (Dundar and Lewis 1998). Other features included factors such as being a private rather than a public institution, having a larger number of full professors and having a larger percentage of faculty members actively publishing in peer-reviewed journals within a department (Dundar and Lewis 1998).

Several models have been proposed to measure and predict the research productivity of faculty members. One of the most commonly used theoretical model to study the research productivity is the Bland et al. (2005) model. They have studied the research productivity of faculty members based on three components (Fig. 1).

To identify and confirm the broad range of characteristics associated with faculty research productivity within three research-oriented colleges among colleges of agriculture in Iran, Bland et al. (2005) model and other studies (e.g. Finkelstein 1984; Brocato 2001; Turner and Mairesse 2003; Smeby and Try 2005; Kortlik et al. 2002; Creswell and Brown 1992; Steiner et al. 2002) on faculty research productivity were used to develop the theoretical framework of this study. Components of productive research organization were designed to assess all the characteristics: the individual, institutional, and demographic characteristics that prior literature has found to be associated with high academic productivity (see Fig. 2).

The Iranian system

This method and framework will be used in order to study the determinants for agricultural research productivity in Iran. We will therefore first provide some information about this system.

Research in Iranian universities abides two main policies. On the one hand, research is prevalently carried out in centers of excellence and research institutes established in academic departments in line with the policy of strengthening the ties between the university and the industry. The subjects of these research projects are specified based on needs of the society in domains such as agriculture, industry, medicine, socio-economy, etc. The research is often done as team work such that an executive, some assistants and other research staff are defined and appointed. During the last 10 years, considerable incentive policies have been adopted for establishing centers of excellence (CoE) at Iranian universities. CoEs are established based on the scientific capabilities of departments. For

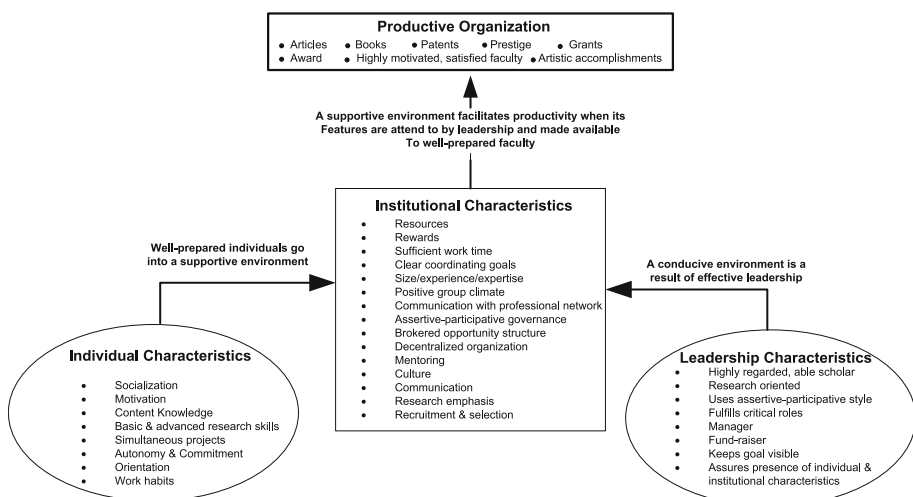


Fig. 1 Model for the faculty research productivity (Bland et al. 2005)

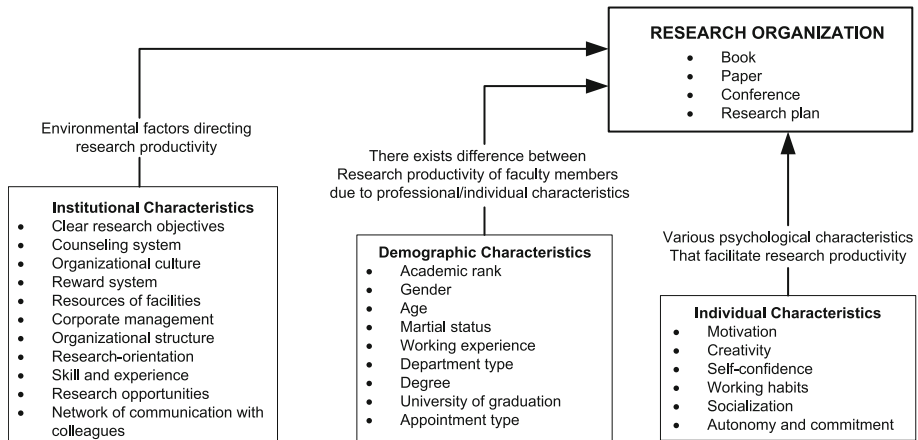


Fig. 2 Conceptual model of individual, institutional, and demographic characteristics predicting faculty member's research productivity

the time being, more than 100 Agriculture CoEs are active in Faculties of Agriculture all over the country which pursue national research projects. The budget for CoEs is specified and allocated by the government and based on their level of activity. In addition to CoEs, research centers have been established in some universities and departments. These institutes cooperate with various private and governmental sectors and their budget is procured by different industrial or agricultural organizations. National research projects have drawn the attention of many authorities during recent years, but many faculty members are still not involved in such projects. This problem is more evident in agriculture faculties and caused many research projects to be irrelevant to the needs of the society. Nevertheless, the problem is not the same in all fields of agriculture. In some fields of agriculture, national research has a longer history in which a few faculty members are involved. Lack of contact and cooperation among faculty members is among the causes of neglecting national research projects. On other hand, research projects are carried out individually by faculty members and based on their interests. Besides, case studies are sometimes accomplished through MSc and PhD theses and dissertations. The results of these projects are often published in ISI or JCR journals in which case, for each paper, an amount accrues to the grant credit of the corresponding faculty member. The expenses of these projects are paid from grants. Grant credits are accumulated through research activities such as publishing books and papers as well as participating in conferences. Although case studies are not that relevant to the needs and issue of the society, they are more widespread among Iranian Universities especially Agriculture faculties and faculty members are more prone to embarking on them.

Methods and materials

The design of the study was descriptive-correlation kind which was carried out by a survey method. The statistical population comprises 303 faculty members from College of Agriculture and Natural Resources (198 people) and College of Abureihan (50 people) at University of Tehran, as well as Faculty of Agriculture at Tarbiat Modarres University (55

people) in Tehran Province. The reason for choosing faculties of agriculture in Tehran province was easy access to the data. Additionally, these faculties had the most scientific productions. Data collection was conducted by a complete census. The data concerning the research productivity of faculty members in 2007 and 2008 was extracted from personal and research files in the form of a documentary study. Their research productivity was assessed with four scales, namely, books published, papers published, papers presented in conferences, and research plans conducted. The research productivity score of faculty members was obtained on the basis of The Research Guideline of Iranian Faculty Members. The data considered in this research are divided into three components: (1) Demographic variables such as gender, age, marital status, degree, academic rank, working experience, university of graduation, appointment type, and department type, (2) individual-psychological variables, such as creativity, working habits, autonomy and commitment, motivation, socialization and self-confidence, and (3) institutional variables. After reviewing the literature in order to measure institutional factors, 11 variables were chosen. They were: clear research objectives, corporate management, organizational culture, research opportunities, research-orientation, counseling system, network of communication with colleagues, reward system, skill and experience, organizational structure and resources of facilities (see Fig. 2).

The data regarding individual and institutional variables was gathered by questionnaires. The questionnaires were handed into all faculty members of which, 280 were returned. The content reliability of the questionnaire was validated by asking for the opinion of 30 faculty members of agriculture scientific societies in Iran. The reliability of the questionnaires calculated with pretests and Cronbach's Alpha, was between 0.74 and 0.97. The final questionnaires had 54 primary questions, many with subquestions, resulting in about 115 items. The items were rated on a five-point scale with 1 = strongly disagree and 5 = strongly agree. The data analysis was conducted through mean score, standard deviation, variation coefficient, correlation coefficient, Mann–Whitney, Kruskal–Wallis, and *T* tests as well as multiple regression analysis in the SPSS environment.

Results and discussion

Among faculty members under study 93.6% are male and 93.6% married. Their average age is 46 and the youngest and oldest are 32 and 70 years old. The working experience of 37.6% of them is between 1 and 10 years, 36.1% between 11 and 20 years, 13.6% between 21 and 30 years, 8.9% between 31 and 40 years and 1.8% between 41 and 50 years. The working experience of 8% is not known. Among the 280 faculty members under study 67.9% teach at College of Agriculture and Natural Resources (CANR), 18.4% at College of Abureihan (CA) and 13.6% at the faculty of Agriculture at Tarbiat Modarres University (TMU). 14.6% hold full professor positions, 26.8% are associate professors, 48.2% are assistant professors and 10.4% are lecturers. Among all, 96.3% of faculty members are full-time (those working more than 40 h per week), 90% hold a PhD and 10% hold MSc degrees. Finally, 42.1% have acquired their degrees from Iranian universities and 57.9% from universities outside of Iran.

Data analysis concerning research productivity of faculty members revealed that the number of books published is 83 volumes and 80.7% of faculty members have published no books since 2 years before this research. The number of papers published is 311 ones and 47.2% have presented between 1 and 10 papers. Also, the number of research plans is 104 and 46.8% of faculty members has had no research plans during the 2-year span.

The data of faculty members in terms of productivity score shows that 42.1% have a score between 1 and 5.

The attitude of faculty members about the effect of individual-psychological and institutional characteristics on research productivity was by using mean score and standard deviation. As shown in Table 1, among psychological variables, respondents considered “creativity” as the most favorable variable related to research productivity of faculty members. Among institutional variables, respondent felt the most familiar with the “skill and experience” variable.

Relationship between demographic variables and research productivity

Four demographic variables (such as gender, marital status, and degree and appointment type) in this survey were not significant predictors of faculty members’ research productivity. There was no difference in productivity due to marital status and appointment type. Since most faculty members in this sample are married and full-time, these differences are not prone to analysis. Additionally, the difference between faculty members’ research productivity due to gender and degree (PhD and MSc) could not be analyzed. At the first glance, we found male and PhD faculty members published more than female and MSc faculty members, but this difference was eliminated when the density of female and MS faculty members in lower ranks was taken into account. Thus, in the present study, we

Table 1 Faculty member’s attitude towards the individual-psychological and institutional characteristics on research productivity

Variable	Mean	Standard deviation	Coefficient of variation
Individual characteristics			
Creativity	23.24	1.280	0.05
Working habits	23.79	1.051	0.04
Motivation	23.91	0.812	0.03
Socialization	11.90	2.086	0.13
Autonomy and commitment	12.19	1.789	0.14
Self confidence	20.50	3.537	0.17
Institutional characteristics			
Skill and experience	12.72	2.486	0.19
Organizational structure	12	2.519	0.20
Resources of facilities	28.72	6.342	0.22
Research orientation	7.86	1.977	0.25
Organizational culture	7.96	2.016	0.25
Counseling system	11.55	2.94	0.25
Corporate management	15.89	4.345	0.27
Clear research objectives	7.96	2.181	0.27
Research opportunities	15.73	4.599	0.29
Reward system	8.73	2.306	0.29
Network of communication with colleagues	7.72	2.26	0.29

Based on a 2008, Agricultural Colleges in Tehran Province

N = 280 Scale: Strongly disagree = 1, Disagree = 2, Moderate = 3, Agree = 4, strongly agree = 5

found no difference in productivity due to gender and degree when rank is controlled. However, previous studies have concluded that male faculty members tend to publish more than female ones (Sax et al. 2002). Prpic (1996) clarified that a highly remarkable variable in research productivity is getting a PhD. Smeby and Try (2005) discovered that those teachers who hold PhD degrees have the greatest impact on research productivity.

The relationship between age, working experience and academic rank (e.g. full professor, associate professor, assistant professor, and lecturer) on one hand and research productivity on the other was studied by the Pearson and Spearman correlation coefficient. It can be inferred that there is a significant relationship between the faculty members research productivity and age ($r = 0.357$). These results are contrary to those obtained by Rushton et al. (1987), Babu and Sing (1998) and Creswell and Bean (1996). Also, Bland et al. (2005) did not find any relationship between research productivity and age. Turner and Mairesse (2003) pointed out that, at first, research productivity increases with age and then decreases. Additionally, the results show that there is a significant relationship between faculty members' research productivity and their academic rank ($r = 0.569$). Because research productivity is one of the major criteria for promotion, high research productivity among high-ranking faculty members is understandable. Bently (1990) realized that academic rank is an important means of anticipating the research productivity of faculty members. Wang and Huang (2008) show that the academic size is robust in affecting the research performance. In addition, there was a significant relationship between faculty members' research productivity and working experience ($r = 0.336$). Further, Babu and Sing (1998), found a significant relationship between working experience and research productivity.

A comparison between faculty members' research productivity and variables of university of graduation (inside/outside of Iran) and department/school/college type was done using the Krukal-Wallis and T test. There is a significant difference between faculty members' research productivity according to department type ($\text{Chi} = 27.474, P = 0.017$). Again, the same analysis was done between the faculty members' research productivity and the school/college type. There exists a significant difference between the two ($\text{Chi} = 22.119, P = 0.002$). Previous research found a positive association between size of department and level of department research productivity (Dundar and Lewis 1998; Kyvik 1990; Jordan et al. 1988). The results show that there is a significant difference between faculty members research productivity and university of graduation ($Z = 4.119, P = 0.000$).

Relationship between individual variables and research productivity

The relationship between individual-psychological variables and research productivity of faculty members was studied using the Pearson correlation coefficient (see Table 2).

Five of the six variables in Table 2 (self-confidence, creativity, autonomy and commitment, socialization and working habits) were positively associated with research productivity, meaning that faculty members' responses to these questions were associated with higher research productivity. The results of this study show that no association exists between the motivation and faculty members' research productivity. Pelz and Anderews (1976) did not find any relationship between research productivity and motivation while Bland et al. (2005) found some association. Berber and Kurul (2009) are believed to be helpful in managing significant human resources for increased motivation and productivity in R&D activity. Rushton et al. (1987) defined a productive scholar as a creative individual. Pelz and Anderews (1976) and Merton (1973) examined the working habits of

Table 2 Relationship between individual-psychological variables and research productivity

Variables	College of agricultural and natural resources		College of Abureihan		Faculty of agriculture at (TMU)	
	r	Sig.	R	Sig.	r	Sig.
Motivation	0.095	0.304	0.189	0.249	0.258	0.205
Creativity	0.100	0.529	0.527**	0.001	0.415*	0.023
Self confidence	0.397**	0.009	0.664**	0.001	0.277	0.138
Working habits	0.136	0.138	0.518**	0.001	0.481**	0.007
Autonomy and commitment	0.198	0.023*	0.160	0.332	0.128	0.051
Socialization	0.056	0.528	0.487	0.200**	0.43	0.452

Based on a 2008, Agricultural Colleges in Tehran Province

** $P < 0.01$; * $P < 0.05$

productive scientists and acknowledged that productive scholars have specific research habits. Some findings show that productive scholars enjoy a high self-confidence (Kortlik et al. 2002). In this study, there is a small significant relationship between research productivity and socialization ($r = .20$) and autonomy and commitment ($r = .19$). In the evolution of the Bland et al. (2005), Blackburn et al. (1978), and Brocato (2001) models, they have noted these variables, but they did not find any association.

Relationship between institutional variables and research productivity

The relationship between institutional variables and the research productivity of faculty members was studied using the Pearson correlation coefficient (see Table 3). Results showed that from among institutional variables, there is significant relationship between the style of corporate management, clear research objectives, reward system, counseling system, sources of facilities, skill and experience, network of communication with colleagues, research opportunities and research-orientation and research productivity. Previous research found a positive association between the above variables and research productivity (Reskin 1977; Bland et al. 2005; Creswell and Brown 1992; Fonseca et al. 1997; Creswell and Bean 1996; Bland and Ruffin 1992). Hadjinicola and Soteriou (2006) identified funding received from external sources for research purposes and better library facilities promote research productivity. Levin and Stephan (1991) offered a research productivity model wherein researchers work not only in hope of rewards but also for the mere pleasure of problem solving (Gonzalez and Veloso 2003). Itagaki and Pile-Sellman (2005) found a positive relationship between budget and research productivity. Creswell and Bean (1996), Bland and Ruffin (1992) found a meaningful relationship between research productivity and the importance of the research. Steiner et al. (2002) talk about a positive relationship between research productivity and presence in the organization as a counselor. Creswell and Brown (1992) confirmed that the more the individual does research activities the more experience he will acquire and will turn into a better researcher. Sources of facilities include access to grant, library and research farms and laboratories on which Bland and Ruffin (1992) have put emphasis. Results show that two variables, organizational culture and organizational structure, were not significantly related to faculty members' research productivity. This is not consistent with previous studies.

Table 3 Relationship between institutional variables and research productivity

Variables	College of agricultural and natural resources		College of Abureihian		Faculty of agriculture at (TMU)	
	r	Sig.	r	Sig.	r	Sig.
Clear research objectives	0.378*	0.017	0.398*	0.012	0.539**	0.002
Corporate management	0.451**	0.002	0.435**	0.006	0.186	0.326
Organizational culture	0.085	0.294	0.297	0.067	0.183	0.334
Research opportunities	0.199	0.184	0.361*	0.024	0.368*	0.043
Research orientation	0.365*	0.027	0.170	0.301	0.186	0.325
Counseling system	0.358*	0.035	0.225	0.169	0.672**	0.000
Reward system	0.374*	0.026	0.215	0.189	0.489**	0.000
Skill and experience	0.352*	0.028	0.417**	0.008	0.535**	0.002
Organizational structure	0.010	0.906	0.076	0.644	0.262	0.162
Research of facilities	0.027	0.734	0.353**	0.028	0.473**	0.008
Network of communication with colleagues	0.340*	0.050	0.398*	0.012	0.392*	0.032

Based on a 2008, Agricultural Colleges in Tehran Province

** $P < 0.01$; * $P < 0.05$

Bland et al. (2005) approved of the influence of decentralized structure on research productivity.

Predictors of faculty members' research productivity

A regression analysis was conducted to identify the relationship between individual, institutional and demographic characteristics on research productivity of faculty members. To this end, variables showing a meaningful relationship with research productivity in the correlation test, were incorporated into the model using the SPSS software and the Stepwise Method. As shown in Table 4, the multivariate linear regression indicated that among the demographic variables, academic rank and age can explain about 26.5% ($R_{AD}^2 = 0.265$) of the variations in research productivity. Academic rank specifies 24.8% and age specifies 1.7% of the variance research productivity. The following predication equation was formulated to estimate the research productivity.

$$Y = 41.392 - 7.836 \times 1 - 0.213 \times 2$$

$$R = 0.520; R_{AD}^2 = 0.265; R_2 = 0.270; F = 50.126$$

Regression procedures indicated that among the individual variables, working habits, creativity and autonomy and commitment explain about 9.7% ($R_{AD}^2 = 0.097$) of the variations in research productivity. These variables respectively specify 4.9, 2.6 and 2.2% of the variance in research productivity. The Prediction equation was formulated to estimate the research productivity as follows:

$$Y = 42.903 + 0.669 \times 1 + 2.128 \times 2 - 1.617 \times 3$$

$$R = 0.333; R_{AD}^2 = 0.097; R_2 = 0.111; F = 8.146$$

Table 4 Multivariate regression analysis variables influencing research productivity

Variable	Unstandardized coefficient		Standardized coefficient		
	B	Std. error	Beta	t	Sig
Demographic characteristics					
Constant	41.392	5.373	–	7.704	0.000
Academic rank	7.836	0.821	0.591	9.549	0.000
Age	0.213	0.080	0.165	2.667	0.000
Individual characteristics					
Constant	42.903	16.521	–	2.597	0.010
Working habits	0.699	0.260	0.185	2.684	0.008
Creativity	2.128	0.725	0.204	2.934	0.004
Autonomy and commitment	1.617	0.674	0.164	2.399	0.017
Institutional characteristics					
Constant	14.883	4.519	–	3.294	0.001
Network of communication with colleagues	2.616	0.975	0.226	2.156	0.009
Researches of facilities	3.825	1.001	0.272	3.820	0.000
Corporate management	3.198	1.198	0.028	3.121	0.002
Clear research objectives	1.238	0.582	0.159	2.127	0.035

Based on a 2008, Agricultural Colleges in Tehran Province

The regression indicated that, among the independent variables, network of communication with colleagues, corporate management, resources of facilities and clear research objectives could explain about 15.1% ($R_{AD}^2 = 0.151$) of the variations in research productivity (see Table 4). Network of communication with colleagues specifies 6% of the variance research productivity. Resources of facilities, corporate management and clear research objectives respectively specify 5, 2.6 and 1.5% of the variance in research productivity. The prediction equation to estimate the research productivity is as follows:

$$Y = 14.883 + 2.616 \times 1 - 3.825 \times 2 + 3.198 \times 3 - 1.238 \times 4$$

$$R = 0.410; R_{AD}^2 = 0.151; R2 = 0.168; F = 9.824$$

Conclusion and suggestions

Research is an important academic activity and any faculty member is expected to engage in it. The results of the study show that different factors affect faculty members' research productivity. In the present research, based on the model of Bland et al. (2005) influential individual, institutional and demographic characteristics on research productivity were studied at faculties of agriculture in Tehran Province. The results indicate that age, academic rank, university of graduation, department type, creativity, self-confidence, working habits, research objectives, corporate management style, counseling system, network of communication with colleagues, research opportunities, experience and skill, research-orientation, and sources of facilities in the organization have a meaningful relationship with the faculty members' research productivity. The regression that predicted research productivity (see Table 4) contains two of the demographic characteristics (academic rank

and age), three of the individual characteristics (working habits, creativity and autonomy and commitment) and four of the institutional characteristics (network of communication with colleagues, sources of facilities, corporate management and research objectives). Research productivity of faculty members seems to be primarily associated with demographic and institutional variables rather than with individual variables.

Considering the above results we suggest that the similarity of this group's research objectives with the country's research priorities and faculty members' awareness of these priorities lead individuals to select special research paths and be able to organize their research activities towards achieving these goals. Utilizing corporate management style is an approach that should be considered more by deans of faculties of agriculture. Observing working principles and regulations as well as honesty in research and an efficient feedback, mentoring and guidance system in the organization can improve faculty members' research productivity. The importance of research in an organization points to the fact that research in that organization should have a priority equal to or even higher than other objectives and the organization ought to set the controls towards research. Perhaps it can be claimed that presence in a research environment affects the research behavior and performance of individuals. Although instruction is the main duty of faculty members and this is quite obvious in agriculture faculties, the university should be able to meet the research needs of the society too. Thus, policies should be adopted in this regard in order to motivate faculty members to cooperate more in national projects. This is how research will become purposeful in universities. Establishing communication networks to attract the cooperation of faculty members and conducting joint research projects among universities can be an effective measure in this regard. Such circumstances are very rare in agriculture faculties of Iran.

Thus, through creation of such positive group climate, the administration of the organization ought to prepare the ground for research activities of its faculty members. We found that having an external network is essential to research productivity. This external network of communication with colleagues is likely to set an example of highly productive research for other members. Colleagues are viewed as important sources of information and motivation. They are influenced by one another's attitude, behavior and activities. Therefore, the existence of a network of communication will lead to yet more instigation of faculty members to act. Establishment of these powerful networks and enhancing them is recommended. The results of the research show that financial rewards are more welcomed by faculty members rather than spiritual ones, insertion in bulletins and lionization in scientific conferences. Hence, it is recommended that in the enhancement and reward system financial rewards be considered more for these may alleviate some of their hardships.

These results suggest that having an organizational structure and organizational culture within the department is not necessary for research productivity. The reason for this is that in Iranian universities research often is done individually and based on personal grants. Faculty members usually pick research subjects based on the students' theses subjects and their interests and have no contact whatsoever with other members or even organizations through the course of the research. In Iranian universities, organizational research with objectives identified based on the needs of the society and research teams formed to conduct them rarely take place. This is one of the major problems of research in Iranian universities. Lack of motivation among faculty members to do research, a fact this research does confirm either, is due to these problems.

Based on everything mentioned, perhaps it can be claimed that to improve the research productivity of faculty members, their awareness of research priorities of the organization

in line with national ones, which lead to defining various research projects, have become a necessity and prevents loss of resources. Moreover, forming research teams at academic departments will help improve faculty members' quality of research. The very existence of these teams, first, turns them into a reference and counseling group for other members, second, identifies the research capabilities of the department for a given research priority and, third, illuminates research paths for interested members. These groups can also help students become familiar with important research trends in their major field of study. Nevertheless, departments, faculties or universities that want most of their faculty members to be highly research productive should emphasize institutional characteristics such as clear coordinating goals, forming research teams and reward system.

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