J. Agr. Sci. Tech. (2017) Vol. 19: 1469-1484

Pathology of Scientific Articles Publishing in the Field of Agriculture as Perceived by Faculty Members and Ph.D. Students (The Case of Colleges of Agriculture at Public Universities, Iran)

F. Majidi[1], M. Bijani[1*], and E. Abbasi[1]

ABSTRACT

Scientific publication is considered as one of the basic requirements of scientific community. In this regard, the purpose of this study was analyzing pathology of publishing scientific articles in the field of agriculture from the perspective of faculty members, and PhD. students. The research method was descriptive which was carried out by a survey technique for gathering data. The statistical population consisted of all faculty members and PhD. students of agriculture in the public universities of Iran. The study population was 6,773 people (N= 6773). By using Krejcie and Morgan's Table and multi stage sampling, 363 people were selected as a sample (n= 363). The data collection tool was a questionnaire of which its validity was confirmed by a panel of faculty members of agricultural extension and education. The reliability of the items of the questionnaire was approved with calculating Cronbach's Alpha test ($0.66 \leq \alpha \leq 0.92$). Injuries of scientific articles publishing were classified in three areas of "publishing background", "publishing structure" and "publishing behavior" by using three branches theory. By taking advantage of factor analysis, three factors entitled "problem statement and research method", "weakness of titles and analysis" and "innovativeness and applicability" could explain 57.68 percent of changes in publication quality of scientific articles. Finally, according to research findings, the status of agricultural education has been explained to improve the quality of the publication of scientific articles.

Keywords: Agriculture, Pathology, Quality, Scientific article, Scientific publication.

INTRODUCTION

The developed number of scientific articles and citations to these papers are now the main factors of science and knowledge production (Sangwal, 2013). In fact, the scientific publication is considered as an integral part of development (Einstein, 2015). In this regard, the researchers and particularly the faculty members and also the postgraduate students try to present a large number of papers at universities and research institutes (Moradi *et al.*, 2011; Sangwal, 2013). According to the importance of publishing such articles, their publication is considered as the only way for creating science in scientific communities; and development of knowledge depends on writing such articles. In other words, the existence of such publications indicates the dynamics, survival and development of training courses and promotion of scientific and academic community levels (Islami-Ardekani, 2013; Christopher, 2015). However, the published scientific articles on agriculture will face damages at various stages of publication process including the idea development, writing, judgment, approval and publication stages (Majidi *et al.*, 2016a).

Despite the fact that publication plays a very important role in any scientific discipline to

[1] Department of Agricultural Extension and Education, College of Agriculture, Tarbiat Modares University (TMU), Tehran, Islamic Republic of Iran.
* Corresponding author; email: mbijani@modares.ac.ir

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

facilitate the exchange of knowledge, the exchange of articles between writers and publications is very complicated because law plays an important role in an exchange; and any publication has its own rules (Namvar and Kousha, 2013). However, the climate of scientific paper production both in terms of economy (Najafi Alamdarlo, 2016) or managerial aspects including the ethics, integrity, sharing scientific interests, moral education among teacher and students indicates the lack of precise regulation (Kazemi, 2008; Cariappa *et al.,* 2016). The most important damages to this field include the "plagiarism", "data manipulation", "data production", "lack of ethics in research", "dispersion and incoherence of article contents", "lack of correct arrangement of research", "superficiality in methodologies of articles", "imposition of meaning to text", "delayed publication" and "lack of support by domestic publications" (Majidi *et al.,* 2016a).

On the other hand, the practical journals and published research papers have been growing in Iran over the past decade. Obviously, this trend is due to the expansion of higher education especially in graduate studies. Despite the undeniable expansion of higher education in Iran, it has been along with an imbalance between quantitative and qualitative expansion. Most of the researchers believe that in Iran a bulk of studies and their do not include innovation or new knowledge. The repetition of numerous studies and saturation of subsequent fields have been criticized during the past two decades. In other words, the quantity is replaced by quality in science production. Based on evidence, most of the thesis and their articles do not have the expected quality and have repeated content (Majidi *et al.,* 2016b; McKenna, 2016).

The theoretical context of this research is derived from "three dimensional model" which includes "context", "content" and "structure" of publication. According to this model, the damages have basic reasons which cause crisis for any structure. These factors can be classified into three categories including "behavioral" (Biswas, 2015; Broeckelman-Post, 2009; Majidi *et al.,* 2016a), "structural" (Krishnan, 2013; Cariappa *et al.,* 2016; Hall, 2011; Majidi *et al.,* 2016a) and "contextual" (Ibegbulam and Jacintha, 2016; Zakeripour *et al.,* 2011; Majidi *et al.,* 2016a). The behavioral factors refer to all factors related to human resources such as motivation, job morale and satisfaction (Zakeripour *et al.,* 2011). Structural factors include the collection of regular relations which govern the internal components of system and make up its body such as the structure of system, rules and regulations. Finally, the contextual factors include the environmental and external conditions which lead to structural and behavioral factors. This model is called three-dimensional because due to the relationship among structural, behavioral and contextual factors, none of the phenomena or systematic events can occur outside of interaction among these three dimensions (Ibid).

Given the main objective of this study on identifying pathology of published scientific articles about agriculture from faculty members and PhD. students' perspective, it seeks to find out the pathology of published scientific articles, and then provide the theoretical framework of research through these components (Figure 1).

The theoretical framework of the research is as follows based on the overall objective of research and theoretical literature.

MATERIALS AND METHODS

This research is quantitative from perspective of research paradigm; non-experimental based on variables control; descriptive in terms of data analysis; and survey is used to collect data. The research population included 6,773 faculty members and PhD. students of the Iranian public agricultural faculties affiliated with the Ministry of Science, Research and Technology (MSRT). As suggested in Krejcie and Morgan's (1970) table, a sample of 363 faculty members and PhD. students were selected in the current study using stratified random sampling method with proportional allocation. A stratification system developed by the MSRT was utilized for the sampling. The researcher-made questionnaire was the data collection tool which was given to a panel of agricultural extension and education experts

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

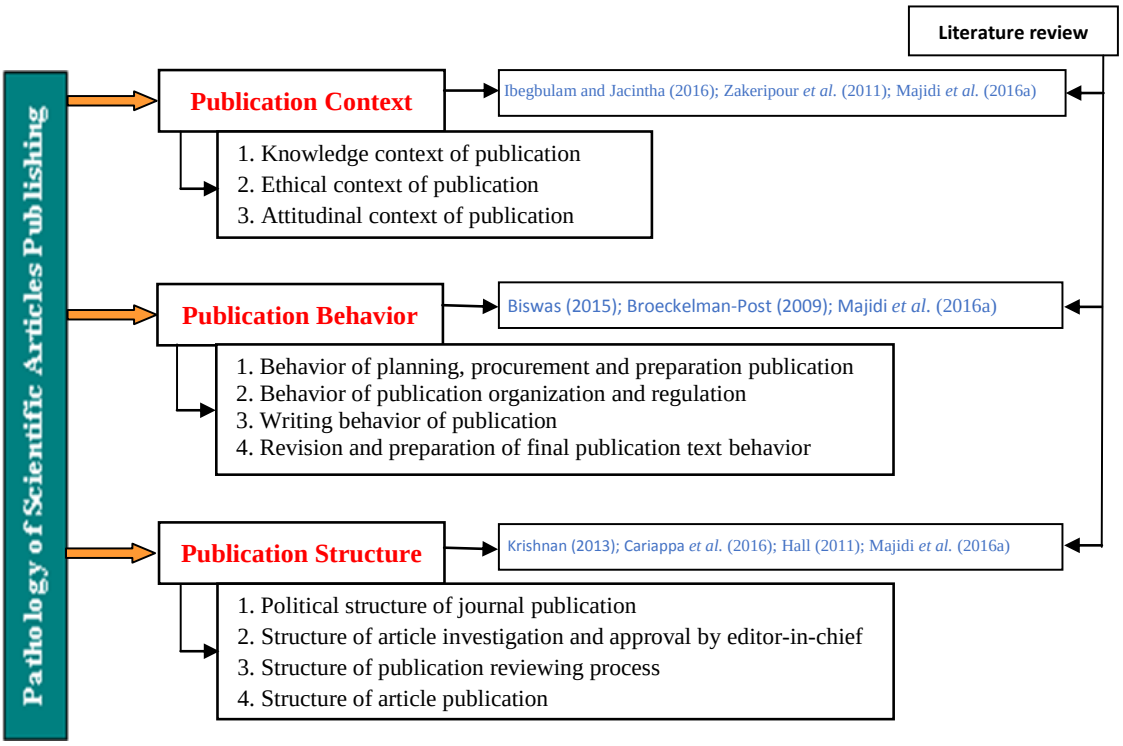

Figure 1. Theoretical framework of the research.

Table 1. Stratification system developed by the MSRT.[a]

Scientific center	Province
First center	Tehran, Alborz, Golestan, Semnan, Mazandaran, Qom, Qazvin, Guilan, and Zanjan
Second center	North Khorasan, Razavi Khorasan, South Khorasan, Kerman, and Sistan and Baluchestan
Third center	West Azarbaijan, East Azarbaijan, Ardabil, Kurdistan, Kermanshah, and Hamadan
Fourth center	Isfahan, Yazd, Chaharmahal and Bakhtiari, Lorestan, Khuzestan, and Ilam
Fifth center	Kohgiluyeh and Boyer-Ahmad, Bushehr, Fars, and Hormozgan

[a] (Source: Ministry of Science, Research and Technology- Deputy of Research, 2014)

Table 2. Number of calculated samples for each university.

College	Selected population		Total	Selected sample		Total
	PhD students	Faculty members		PhD students	Faculty members	
College of Agriculture, Tarbiat Modares University (First center)	234	78	312	51	17	68
College of Agriculture, Ferdowsi University of Mashhad (Second center)	197	126	323	43	28	71
College of Agriculture, Razi University of Kermanshah (Third center)	173	65	238	38	14	52
Ramin University of Agriculture and Natural Resources (Fourth center)	374	77	451	81	17	98
College of Agriculture, Shiraz University (Fifth center)	200	139	339	44	30	74
Total	1178	485	1663	257	106	363

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

and a number of editors-in-chief in reliable research-scientific agricultural journals to confirm the face and content validity.

Furthermore, 30 copies of questionnaire were given to the University of Tehran professors and students (who were outside of the selected sample) at the beginning of research in order to determine the reliability of the questionnaire. Calculated Cronbach's Alpha for parts of Likert scale, Table 3 indicates that the reliability of questionnaire was acceptable for conducting the research. The research variables include the knowledge, ethical and attitudinal context of publication (article), behavior of publication planning and preparation, publication organization, publication writing, publication modification, political structure of journal, structure of reviewed and accepted articles by editor-in-chief, the publication judgment structure, structure of paper publication, and quality of scientific publication. These variables are measured by Likert scale ranging from: Strongly disagree (1), disagree (2), no idea (3), agree (4) and strongly agree (5). After responding to the questionnaires, the processes of encoding, data extraction and transfer are done on computer; and the statistical calculations (descriptive and inferential) were performed by SPSS22 software after data processing.

RESULTS AND DISCUSSION

According to results, 81 (69.5%) out of 121 faculty members are men and 40 (30.5%) female. Most of them are at the age range of 30 to 45 years and most of them (45 and 37.2%) have 5 to 15 years of work experience. Their mean work experience is 11.79, the mode is 2 and median is 11 years. Furthermore, 155 out of 223 PhD. students (66.1%) are male and 68 students (33.9%) female.

The respondents' mean age (faculty members and PhD. students) is 34.63 years; the minimum is 24, maximum is 67, mode is 30 and median is 31 years. Moreover, 145 people (65.0%) do not have any work experience. On the other hand, the mean work experience is 2.08 years, and the mode and median are zero for students. 292 respondents (84.9%) do not have any work experience in agricultural journals (Table 4).

Based on the results, in the field of "knowledge context of publication", the item of "inefficient provided education for authors is an obstacle to creation and development of new ideas" has the lowest coefficient of variation and is in the first rank; but the item of "the authors do not know in what issues they need to take effort" has the maximum coefficient of variation and is in the last rank (Table 5). For "ethical context of publication"

Table 3. Cronbach's Alpha for studied scales.

No	Macro variable	Micro variable	No of items	Cronbach's Alpha
1	Publication context	Knowledge context of publication	7	0.74
2		Ethical context of publication	10	0.76
3		Attitudinal context of publication	10	0.81
4	Publication behavior	Behavior of publication planning and preparation	8	0.84
5		Behavior of publication organization	8	0.81
6		Behavior of publication writing	6	0.83
7		Behavior of publication modification, review and preparation of final text	8	0.85
8	Publication structure	Political structure of journal	8	0.83
9		Structure of reviewed and accepted articles by editor-in-chief	5	0.74
10		Publication judgment structure	8	0.81
11		Structure of paper publication	6	0.66
12	Quality of scientific publication		20	0.92

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

Table 4. Respondents' descriptive statistics.

Variable		Class/Category	Frequency	Percentage	Cumulative percentage
Gender	Faculty members	Male	80	69.5	---
		Female	41	30.5	
	Students	Male	155	66.1	---
		Female	68	33.9	
Age (Years) ($\bar{x}$= 34.63, SD= 8.30) (Min= 24, Max= 67)		$X_i \leq 30$	107	31.1	31.1
		$30< X_i \leq 45$	190	55.2	86.3
		$45< X_i \leq 60$	41	12	98.3
		$60< X_i$	6	1.7	100
Educational degree		PhD Student	223	64.8	64.8
		Instructor	10	2.9	67.7
		Assistant Professor	76	22.1	89.8
		Associate Professor	23	6.7	96.5
		Professor	12	3.5	100
Faculty members' work experience (Years) ($\bar{x}$= 11.79, SD= 8.21`) (Min=0, Max= 35)		0	2	1.7	1.7
		$0< X_i \leq 5$	29	24	25.7
		$5< X_i \leq 15$	45	37.2	62.9
		$15< X_i \leq 25$	34	28.1	91
		$25< X_i$	11	9.1	100
PhD students' work experience (Years) ($\bar{x}$= 2.08, SD= 4.01) (Min= 0, Max= 20)		0	145	65	65
		$0< X_i \leq 5$	39	17.5	82.5
		$5< X_i \leq 15$	31	13.9	96.4
		$15< X_i \leq 25$	8	3.6	100
		$25< X_i$	0	0	100

variable, the item of "some authors do not report how to inform the respondents of research nature (research methods and study benefits) in their studies" has the lowest coefficient of variation and is in the first rank, but the item of "studies should not humiliate or prejudice people and groups" has the maximum coefficients of variation and is in the last rank.

According to results, in "attitudinal context of publication" variable, the item of "the authors do not enjoy conducting research and only write articles to develop their resumes" has the lowest coefficient of variation and is in the first rank, but the item of "the easygoing author is the obstacle to create new ideas" has the maximum coefficient of variation and is in the last rank.

Based on findings, in "behavior of publication planning and preparation" variable, the item of "there are not facilities needed to conduct papers properly especially among students" has the lowest coefficient of variation and is in the first rank, but the item of " authors do not have necessary expertise to select journals to which they want to submit their articles" has the maximum coefficient of variation and is in the last rank (Table 6).

For "behavior of publication organization" variable, the item of "there is not any logical connection between content of different parts of articles" has the lowest coefficient of variation and is in the first rank, but the item of "tips for guiding the authors are not respected by authors" has the maximum coefficient of dispersion and is in the last rank.

For "behavior of publication writing" variable, the item of "principles and rules of punctuation and Persian language method are not considered in some articles" has the lowest coefficient of variation and is in the first rank, but the item of "an appropriate style is not usually chosen for writing articles" has the

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

Table 5. Ranking the items of scientific publication context.

Variable	Item	Mean [a]	SD	CV [b]	Rank
Knowledge context of publication	Inefficient provided education for authors is an obstacle to creation and development of new ideas.	3.49	1.14	0.33	1
	Most of the authors do not have necessary information for operational planning on development and dissemination of idea.	3.36	1.11	0.33	2
	The authors have limited knowledge about transferring the views and thoughts to audiences.	3.31	1.09	0.33	3
	The authors' have low knowledge about organizing the content of articles.	3.20	1.05	0.33	4
	The authors' low capacity of problem solving is an obstacle to creativity and innovation of idea.	3.38	1.17	0.34	5
	The authors' do not have necessary information about idea development.	3.15	1.11	0.35	6
	The authors do not know in what issues they need to take efforts.	3.08	1.16	0.38	7
Ethical context of publication	Some authors do not report how to inform the respondents of research nature (research methods and study benefits) in their studies.	3.45	0.95	0.27	1
	The authors do not explain how to introduce their roles, position and objective to respondents.	3.31	0.97	0.29	2
	The authors do not refer to secrecy in their papers.	3.19	0.95	0.30	3
	Some writers do not adhere to scientific and ethical norms in selection of subject.	3.55	1.13	0.32	4
	The standards of direct quote are not respected by authors	3.46	1.11	0.32	5
	The authors lack the spirit of criticism.	3.29	1.05	0.32	6
	The researchers should tell the respondents that they are able to participate or leave their collaboration in study at any time and without any certain conditions.	3.32	1.20	0.36	7
	Studies should have moral commitment forms.	3.51	1.42	0.40	8
	Sometimes the people are mentioned in the article as the authors who have not played any role in conducting the article.	3.54	1.48	0.42	9
	Studies should not humiliate or bias people and groups.	3.47	1.46	0.42	10
Attitudinal context of publication	The authors do not enjoy in conducting research and only write articles to develop their resumes.	3.58	1.10	0.31	1
	The authors' non-belief in the fact that their violation will be found out by journals and conferences.	3.42	1.12	0.32	2
	The authors do not think that their studies are useful.	3.30	1.10	0.33	3
	The authors do not have a sense of loyalty in research which they are going to conduct.	3.18	1.08	0.34	4
	According to some authors, their articles are not challenging and purposeful.	3.43	1.20	0.35	5
	The instructors and trainers do not feel responsible for authors' learning.	3.39	1.19	0.35	6
	The authors do not think about the consequences of their violation.	3.33	1.17	0.35	7
	There are not necessary incentives for motivation and increasing the desire to conduct right research for authors.	3.49	1.27	0.36	8
	There should be a sense of duty to conduct any research with integrity.	3.40	1.30	0.38	9
	The easygoing authors are the obstacles to creation of new ideas.	3.41	1.36	0.40	10
Total mean: knowledge context (3.28), ethical context (3.41) and attitudinal context (3.39)					

[a] Mean ranges from 1 to 5. [b] The coefficient of variation (CV) is used to rank items, and the mean item is used for ranking in the case of equal coefficients of variation.

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

Table 6. Ranking the items of scientific publication behavior variable.

Variable	Items	Mean [a]	SD	CV [b]	Rank
Behavior of publication planning and preparation	There are not facilities needed to conduct papers properly especially among students.	3.49	0.99	0.28	1
	The appropriate research method is not properly selected.	3.27	0.99	0.30	2
	The papers do not have preliminary research plans.	3.23	0.99	0.31	3
	Data collection is not properly done.	3.33	0.09	0.32	4
	The statement of problem is not clear and based on rational criteria in most of the articles.	3.05	1.05	0.34	5
	There are not suitable drafts for articles.	3.15	1.17	0.37	6
	The authors do not have necessary budgets for preparation of research.	3.33	1.29	0.39	7
	The authors do not have necessary expertise to select journals to which they want transfer their articles.	3.12	1.26	0.40	8
Behavior of publication organization	There is not any logical connection between content of different parts of articles.	3.15	0.90	0.29	1
	The absence of a common organizational system for journals will make the authors confused.	3.39	1.04	0.31	2
	There is not any mutual trust among colleagues to share the existing knowledge.	3.39	1.09	0.32	3
	The authors have less accountability and compliance with working principles.	3.36	1.07	0.32	4
	The authors do not have specialized knowledge and skills needed to set up and organize the contents of article.	3.23	1.02	0.32	5
	The theme is not clearly divided, and its sub-themes are irrelevant.	3.19	1.02	0.32	6
	The contents of articles do not have necessary cohesion.	3.17	1.08	0.34	7
	Tips for guiding the authors are not respected by authors.	3.16	1.06	0.34	8
Behavior of publication writing	Principles and rules of punctuation and Persian language method are not considered in some articles.	3.25	0.98	0.30	1
	The articles do not have diversity in wording.	3.35	1.05	0.31	2
	Sentences are not correctly and effectively applied.	3.26	1.01	0.31	3
	The reasons for selection of article theme are not explained in writing the articles.	3.28	1.06	0.32	4
	The simplicity and clarity of sentences are not observed in studies.	3.25	1.08	0.33	5
	An appropriate style is not usually chosen for writing articles.	3.14	1.02	0.34	6
Behavior of publication modification and revision	There is not any attention to whether there is a need for further explanation or not.	3.33	0.89	0.27	1
	There is not any attention to whether there are suitable sources or not.	3.34	0.92	0.28	2
	There is not any attention to whether the conclusions of papers are logical.	3.32	1.04	0.31	3
	There is not any attention to whether the facts need greater explanation or not.	3.23	0.99	0.31	4
	There is not any investigated consistency of suggestions with conclusions and findings.	3.28	1.05	0.32	5
	There is not any investigated useful and complete content of article.	3.21	1.06	0.33	6
	There is not any logical analysis and interpretation of data.	3.15	1.11	0.35	7
	Conclusion of papers is not based on data and interpretations.	3.13	1.09	0.35	8
Total mean: behavior of publication planning and preparation (3.25), behavior of publication organization (3.25), behavior of publication writing (3.25) and behavior of publication modification and revision (3.25)					

[a] Mean ranges from 1 to 5. [b]The coefficient of variation (CV) is used to rank items, and the mean item is used for ranking in the case of equal coefficients of variation.

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

highest coefficient of variation and is in the last rank.

For "behavior of publication modification and revision" variable, the item of "there is not any attention to whether there is a need for further explanation or not" has the lowest coefficient of variation and is in the first rank, but the item of "conclusion of papers is not based on data and interpretations" has the highest coefficient of variation and is in the last rank.

Based on the results, for "political structure of published scientific journals" variable, the item of "journals allocate the priority of approval to articles in which one of the authors have High distribution of citations (H-Index)" has the lowest coefficient of variation and is in the first rank, but the item of "journals take the advantage of judges for judgment in non-specialized disciplines" has the highest coefficient of variation and is in the last rank (Table 7).

For "structure of reviewed and accepted articles by editor-in-chief" variable, the item of "Persian-language journals do not have software for coping with plagiarism" has the lowest coefficient of variation and is in the first rank, but the item of "journal authorities accept the incoming papers based on their interest" has the highest coefficient of variation and is in the last rank.

For "publication judgment structure" variable, the item of "the process of paper judgment is long" has the lowest coefficient of variation and is in the first rank, but the item of "specialized authorities are not applied to judge articles" has the greatest coefficient of variation and is in the last rank.

For "structure of paper publication" variable, the item of "publication of papers incurs high cost" has lowest coefficient of variation and is in the first rank, but the item of "journal editors do not care about dictation and grammatical mistakes" has the highest coefficient of variation and is in the last rank.

For "quality of scientific publication" variable, the item of "there are not any novelty and innovation in subjects of articles and new ideas are not presented" is in the first rank with minimum coefficient of variation; and the item of "citation to reputable references such as scientific journals, books and other credible references" has the highest coefficient of variation and is in the last rank (Table 8).

As Shown in Table 9, the mean of variables (pathology of publication in the fields of context, behavior and structure) is from 3.18 to 3.41. In other words, the damage of scientific publication in the field of agriculture is higher than the average (2.5) from respondents' perspective.

The Interval of Standard Deviation from Mean (ISDM) is used to describe the quality of published scientific articles in agriculture. In this method, the scores are converted into four levels according to the following procedure (Ranjbar *et al.*, 2011; Mosavi, 2016). Based on *ISDM*, each of the independent and dependent variables are classified into four levels according to their percentage and frequency.

A< Mean- SD: Negative

Mean-SD< B< Mean: Fairly negative

Mean< C< Mean+SD: Fairly positive

Mean+SD< D: Positive

According to results, 60 respondents (17.4 percent) have negative views about quality of published scientific articles, 92 respondents (26.7 percent) have fairly negative views, 144 respondents (41.9 percent) have fairly positive views, and 48 (14.0 percent) have positive views. Furthermore, based on Table 4, the scientific publication quality is obtained from fairly negative to fairly positive according to most of the respondents (68.6 percent). This finding is consistent with findings obtained from Table 9 and can be verified (Table 10).

In another part of the results for better understanding factor analysis is used to classify the quality of published scientific articles in agriculture into more limited factors (Table 11). Kaiser-Meyer-Olkin (KMO) coefficient is 0.945 and value of Bartlett's test is 3628.840 which are significant (at the level of 0.01), and showed the items are suitable for factor analysis, considering that a *KMO* value between 0.8 and 1 indicates that the sampling is adequate (Mansourfar, 2006). Furthermore, the varimax rotation method is utilized to determine the simple structure of "scientific publication quality" component. Moreover, the items are classified into three factors namely the "statement of problem and research methodology" with 12 items, "weak titles and analyses" with four items, and "innovation and

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

applicability" with four items (Table 12). These factors could explain 57.68 percent of changes in publication quality of scientific articles (Table 11 and Figure 2).

CONCLUSIONS

In the field of knowledge context of publication by understanding the findings, the authors know in what areas they need to try,

Table 7. Ranking the items of publication structure variable.

Variable	Items	Mean [a]	SD	CV [b]	Rank
Political structure of journal publication	Journals allocate the priority of approval to articles in which one of the authors have high distribution of citations (H-Index)	3.25	1.13	0.35	1
	There not approved rules to accept articles in journals.	3.19	1.11	0.35	2
	Articles with descriptive levels are ignored, and instead there is an emphasis on articles with low statistics.	3.25	1.18	0.36	3
	The connection between authors and journal authorities is used as a criterion for acceptance.	3.27	1.21	0.37	4
	The journal officials do not adhere to approved research priorities of journal.	3.25	1.23	0.38	5
	Journals of any university or scientific institute put the received articles of the same university or scientific institute on the first priority during the acceptance of articles.	3.23	1.24	0.38	6
	Publishers and scientific journals do not embrace the publication of local research results.	3.17	1.24	0.39	7
	Journals take the advantage of judges for judgment in non-specialized disciplines.	2.97	1.20	0.40	8
Structure of reviewed and accepted articles	Persian-language journals do not have software for coping with plagiarism.	3.24	1.29	0.40	1
	The journal editors-in-chief usually take the responsibility of article acceptance to inexpert people due to the high workload.	3.16	1.28	0.40	2
	Some of the journals do not use the electronic acceptance system and this makes problems for sending article to these journals.	3.12	1.32	0.42	3
	The response to articles is slowly done by editor-in-chief.	3.26	1.44	0.44	4
	Journal authorities accept the incoming papers based on their interest.	3.12	1.44	0.46	5
Publication judgment structure and process	The process of paper judgment is long.	3.62	1.18	0.33	1
	During the judgment process, the journal authorities do not have proper accountability to new authors.	3.23	1.07	0.33	2
	There is not any approved model to judge the articles.	3.31	1.15	0.35	3
	Rules of journals are violated by judges.	3.05	1.10	0.35	4
	The paper evaluation is not fair.	3.22	1.17	0.36	5
	Judges have not worked with new statistical software.	3.24	1.19	0.37	6
	The poor judgment is used for judging the papers in some journals.	3.24	1.23	0.38	7
	Specialized authorities are not applied to judge articles.	2.91	1.43	0.49	8
Structure of paper publication	Publication of papers incurs high cost.	3.29	1.17	0.36	1
	Publication of accepted articles is delayed due to the limited numbers of journals.	3.27	1.29	0.39	2
	There is not any integrated system to prevent sending a paper to several journals.	3.24	1.28	0.39	3
	Some articles are simultaneously published in two journals.	3.00	1.20	0.40	4
	There is bias in prioritization of publishing the accepted articles.	3.24	1.38	0.43	5
	Journal editors do not care about dictation and grammatical mistakes.	3.04	1.34	0.44	6
Total mean : Political structure of publication (3.20), structure of reviewed and accepted articles (3.18) , publication judgment structure (3.23) and structure of paper publication (3.18)					

[a] Mean ranges from 1 to 5. [b] The coefficient of variation (CV) is used to rank items, and the mean item is used for ranking in the case of equal coefficients of variation.

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

Table 8. Ranking the items of scientific publication quality variable.

Items		Mean[a]	SD	CV [b]	Rank
Quality of scientific publication	There are not any novelty and innovation in subjects of articles and new ideas are not presented.	3.62	1.03	0.28	1
	The subjects are not taken into account in terms of local scientific needs of country, discipline and expertise field.	3.53	0.98	0.28	2
	The quotations and expert references are not appropriate.	3.34	0.96	0.29	3
	There are not ant scientific and clear analysis of data, information, and opinions and also conclusion of papers.	3.58	1.07	0.30	4
	Articles lack the appropriate eloquence of content.	3.23	1.00	0.31	5
	There are not appropriate research methods.	3.22	1.00	0.31	6
	Data does not have sufficient credit in terms of collection and comprehensiveness.	3.31	1.06	0.32	7
	The dispersed contents are considered in writing articles, and they do not have necessary cohesion.	3.29	1.05	0.32	8
	The grammatical principles of writing and language are not applied.	3.24	1.03	0.32	9
	The footnotes, references and specialized equivalents are not consistent with standards of references.	3.18	1.02	0.32	10
	The literature review is not well done.	3.14	1.01	0.32	11
	The titles of articles are not transparent and do not refer to research content.	3.24	1.07	0.33	12
	The authors are not familiar with issues related to research subject.	3.22	1.07	0.33	13
	The appropriate figures, tables and charts are not used in writing the papers.	3.07	1.01	0.33	14
	Articles do not have logical and proper theoretical frameworks.	3.08	1.05	0.34	15
	Articles do not have certain objectives and hypotheses.	3.01	1.07	0.34	16
	Articles do not have perfect abstracts and introduction.	3.02	1.07	0.35	17
	Articles do not have new references associated with research subject.	2.97	1.04	0.35	18
	The limitations of research are not mentioned in writing articles.	3.23	1.16	0.36	19
	Citation to reputable references is not done such as scientific journals, books and other credible references	2.97	1.07	0.36	20
Total mean of scientific publication quality (3.22)					

[a] Mean ranges 1 one to 5. [b] The coefficient of variation (CV) is used to rank items, and the mean item is used for ranking in the case of equal coefficients of variation.

Table 9. Total mean of variables.

No.	Macro variable	Micro variable	Total mean [a]
1	Publication context	Knowledge context of publication	3.28
2		Ethical context of publication	3.41
3		Attitudinal context of publication	3.39
4	Publication behavior	Behavior of publication planning and preparation	3.25
5		Behavior of publication organization	3.25
6		Behavior of publication writing	3.25
7		Behavior of publication modification and revision and preparation of final text	3.25
8	Publication Structure	Political structure of journal	3.20
9		structure of reviewed and accepted articles by editor-in-chief	3.18
10		Publication judgment structure,	3.23
11		Structure of paper publication	3.18
12	Scientific publication quality		3.22

[a] Mean ranges from one to five.

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

Table 10. Levels of scientific publication quality variable.

Variable	Level	Frequency	Percentage	Cumulative percentage	Mode
Scientific publication quality	Negative	60	17.4	17.4	Fairly positive
	Fairly negative	92	26.7	44.1	
	Fairly positive	144	41.9	86	
	Positive	48	14	100	
Total		344	100		

Table 11. Factor analysis of scientific publication quality.

Component	KMO	Bartlett's test	Sig	Eigenvalue	Percentage of variance	Cumulative Variance [a]
1				9.40	31.29	31.29
2	0.945	3628.840	0.000	1.18	16.58	47.87
3				1.06	9.81	57.68

[a] One of the criteria to determine factors is measuring the cumulative percentage variance. In social studies, analysts usually extracted continue operating as much as 60 percent of the total variance of variables In some cases lower than 60 percent, especially when the main criteria for factor determination is eigenvalue (should be more than 1), we can have a cumulative percentage variance lower than 60 percent (Mansourfar, 2006; Abbasian *et al.*, 2017; Sabzali-Parikhani *et al.*, 2018).

Table 12. Summarized factor analysis results of scientific publication quality

Factors		Items	Rotated factor matrix (varimax rotation)		
			Factor and factor loading [a]		
No	Title		1	2	3
1	Statement of problem and research methodology	Articles do not have logical and proper theoretical frameworks.	**0.782**	0.155	0.092
		Data does not have sufficient credit in terms of collection and comprehensiveness.	**0.726**	0.280	0.212
		Research methods of articles are not appropriate.	**0.719**	0.319	0.067
		Articles do not have perfect abstracts and introduction.	**0.706**	0.131	0.235
		The footnotes, references and specialized equivalents are not consistent with standards of references.	**0.666**	0.406	0.115
		The literature review is not well done.	**0.658**	0.282	0.246
		The authors are not familiar with issues related to research subject.	**0.647**	0.255	0.197
		Citation to reputable references is not done such as scientific journals, books and other credible references.	**0.638**	0.228	0.281
		The limitations of research are not mentioned in writing articles.	**0.627**	0.139	0.260
		The dispersed contents are considered in writing articles, and they do not have necessary cohesion.	**0.622**	0.404	0.065
		Articles do not have certain objectives and hypotheses.	**0.621**	0.175	0.301
		The appropriate figures, tables and charts are not used in writing the papers.	**0.602**	0.348	0.207
2	Weak titles and analyses	There are not ant scientific and clear analysis of data, information, and opinions and also conclusion of papers.	0.261	**0.794**	0.30
		There are not any novelty and innovation in subjects of articles and new ideas are not given.	0.147	**0.773**	0.124
		The grammatical principles of writing and language are not applied.	0.443	**0.590**	0.055
		The titles of articles are not transparent and do not refer to research content.	0.376	**0.540**	0.270
3	Innovation and practicality	Articles do not have new references associated with research subject.	0.146	0.043	**0.767**
		The quotations and expert references are not appropriate.	0.324	0.439	**0.560**
		Articles lack the appropriate eloquence of content.	0.386	0.391	**0.524**
		The subjects are not taken into account in terms of local scientific needs of country, discipline and expertise field.	0.291	0.331	**0.521**

[a] Bold items indicate that the item has been loaded and it takes place on this factor.

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

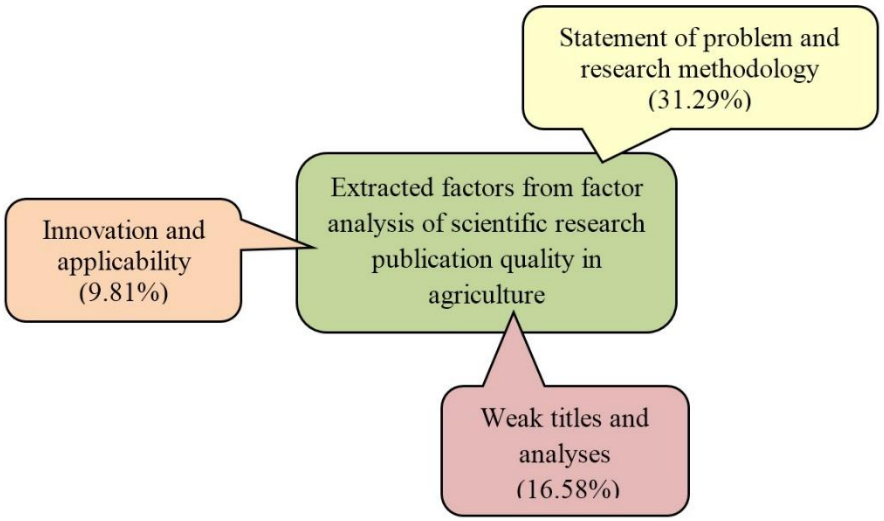

Figure 2. Extracted factors from items of scientific research publication quality.

but they have problems in the field of organizing the content, conveying their views and thoughts to audiences, and operational planning for developing and sharing their ideas (was in agreement with the findings of Ibegbulam and Jacintha (2016); Majidi *et al.* (2016a)). Therefore, this problem should be solved by revision of contents which are taught to researchers in article-writing courses and classes. Furthermore, the extra courses can be very useful in strengthening the researchers' knowledge.

For ethical context of publication, we can conclude that the researchers and authors do not share enough information with audiences about research topic, but according to respondents' perspective, adding the names of those who have not played any roles in research, is less likely. Furthermore, their studies are usually far from bias and audience humiliation [in agreement with the findings of Majidi *et al.* (2016a)]. Therefore, it is suggested that the training centers should provide the necessary education for authors and researchers in order to communicate with audiences; and the researchers should give the explanation of research importance to audiences in their first priority.

For attitudinal context of publication, according to the results, we can conclude that the studies by researchers have paid more attention to the need for professional progress, and this apathy will become as the cause of existing damages, and thus the sincerity will disappear [consistent with the results of Ibegbulam and Jacintha (2016)].

One of the main reasons for researchers and authors' disinterest in studies is the non-applicability of their research results; hence, it is suggested paying attention to the applicability of idea and subject during its selection in order to prevent the loss of capital and conduct the high quality and useful research. Furthermore, the responsible institutions should take necessary measures for utilization of useful and applied studies.

According to results, the authors have minimum problem in selecting the journals to which they want their articles sent, for behavior of publication planning and preparation, but the lack of facilities for conducting the research is their main problem.

The results of behavior of publication organization indicate that the authors have good views about compliance of tips by authors, but the contents of papers do not have proper correlation with content of articles [was in agreement with the results of Biswas

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

(2015); Broeckelman-Post (2009)]. Given the authors' problems in organizing the contents of articles, it is recommended teaching the authors about writing articles during the education and in- service to enhance the scientific richness of articles.

Based on results for behavior of publication modification and revision, the style of writing articles is appropriate from respondents' views, but the papers do not have high quality in terms of rules of punctuation and Persian language style [in agreement with the findings of Majidi *et al.* (2016a)]. Since the rules of punctuation and Persian language style can be easily forgotten, the journals are suggested paying necessary attention to this issue in order to avoid development of such mistakes.

For political structure of publication, the results suggest considering the authors' distribution of citations (H- Index) as an important criterion for acceptance of papers.

There are numerous problems due to the lack of approved laws for journals; hence, it is suggested that the approved rules for judgment, acceptance and publication of scientific articles by responsible agencies should be set for journal and enforce them to implement the rules [consistent with the findings of Krishnan (2013, 2016); Mosavi *et al*., (2014); Hall (2011)].

For structure of reviewed and accepted articles by editor-in-chief, the research results indicate that the possibility of this damage has been increased due to the lack of Persian software to cope with plagiarism. Furthermore, the journal editors-in-chief do not take their responsibilities for received papers due to their higher workload; however, the bias towards papers is at the lowest level.

For publication judgment structure variable, despite applying the executives for paper judgment, this judgment process is too long. One of the main factors influencing the prolonged process of judgment is the reviewer's lack of motivation due to the unpaid remuneration for reviewing the articles. Despite assuming that during reviewing process the reviewer will find more access to newer ideas and subjects or the reviewer should do free judgment due to the professional and ethical commitment, it seems that all these cases will become diminished and the process of response will become lower after a while. It is suggested approving a certain wage of judgment by the Supreme Article Supervisory Council in accordance with level and type of journals, and enforcing the journals to pay the reviewers.

According to findings for publication structure, the authors pay high paid costs to journals, but the papers are well investigated in terms of literary and dictation.

According to results of ranking for quality of scientific paper publication, despite the fact that the results of published papers utilize creditable references for citation, the main content of papers are in fact the repetition of previous papers and do not add any special information to existing knowledge.

As shown in Table (9), the ethical and attitudinal contexts of publication have the highest values with total mean of 3.41 and 3.39 respectively; and the variables namely the structure of reviewed and accepted articles by editor-in-chief and the publication judgment structure with total mean of 3.18 are put in the last rank. It can be concluded that these damages of scientific publication process is more in context than other sectors, and in general the total mean of all variables is above average.

It is suggested taking necessary measures to create effective connection between scientific and executive agencies in order to make the scientific studies more useful, make them applicable, and investigate the executive problems of agricultural sector. However, most problems of the agricultural sector will be resolved in this way.

On the other hand, the need for professional progress is more taken into account by researchers and this disinterest is a factor for existing problems, and thus the sincerity will fade. One of the main reasons for researchers and authors' disinterest in studies is the non-applicability of their research results; hence, it is suggested to pay attention to the applicability of idea and subject during its selection in order to prevent the loss of capital and conduct the high quality and useful research. Furthermore, the responsible institutions should take necessary measures for utilization of useful and applied studies.

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

The improvement of scientific agricultural publication structure needs appropriate information and counseling; and the agricultural training plays a wide role in improving this structure (Kidd *et al.,* 2000). The author is the pillar of ethical principles in publication of external world; and the education of agriculture can play an active role in comprehensive improvement of scientific publication in the field of agriculture by educating the authors in this regard (Sivakumar, 2014). Accordingly, the agricultural education can play a significant role in growing the awareness and focus on different scientific publication sections as an intervening factor. Furthermore, the investigation of reviewing and delay in publishing the articles and other problems, and also making the researchers aware of different aspects of scientific agricultural publication damages can be effective at early stages in terms of clarifying the public views about damages of publication and stages such as plagiarism. The ethics in research is another scientific publication aspect which needs the intervention of agricultural education. In this regard, the agricultural education can be helpful in terms of growing the researchers' awareness, and thus the study on scientific publication is significantly important in terms of agricultural education nature.

REFERENCES

1. Abbasian, A. R., Chizari, M. and Bijani, M. 2017. Farmers' Views on the Factors Inhibiting the Implementation of Soil Conservation Practices (the Case of Koohdasht Township, Iran). *J. Agr. Sci. Tech.,* **19(4):** 797-807.
2. Biswas, A. E. 2015. When Emotion Stands to Reason: A Phenomenological Study of Composition Instructors' Emotional Responses to Plagiarism. PhD. Dissertation, University of Dayton, Dayton, Ohio.
3. Broeckelman-Post, M. A. 2009. Building a Culture of Academic Integrity: The Role of Communication in Creating and Changing Understandings and Enactments of Academic Integrity. PhD. Dissertation, Ohio University.
4. Cariappa, M. P., Dalal, S. S. and Chatterjee, K. 2016. To Publish and Perish: A Faustian Bargain or a Hobson's Choice. *Med. J. Armed Force. India*, **72(2):** 168-171.
5. Christopher, M. M. 2015. Weighing the Impact (Factor) of Publishing in Veterinary Journals. *J. Vet. Cardiol.*, **17(2):** 77-82.
6. Einstein, A. 2015. Writing and Publishing a Scientific Paper: Facts, Myths and Realities. *Med. J. Armed Force. India*, **71(107):** 107_111.
7. Hall, C. M. 2011. Publish and Perish? Bibliometric Analysis, Journal Ranking and the Assessment of Research Quality in Tourism. *Tour. Manage.,* **32(1):** 16-27.
8. Ibegbulam, I. J. and Jacintha, E. U. 2016. Factors that Contribute to Research and Publication Output among Librarians in Nigerian University Libraries. *J. Acad. Librarianship*, **42(1):** 15-20.
9. Islami-Ardekani, S. H. 2013. Fatness or Swelling; an Analysis of (Non) Scholarly Articles in Humanities. *Method. Soc. Sci. Human.*, **19(74-75):** 91-119. (in Persian)
10. Kazemi, A. H. 2008. Difficulties in Measuring Scientific Output of Iran. *Health Inform. Manage.*, **5(2):** 175-178. (in Persian)
11. Kidd, A. D., Lamers, J. P. A., Ficarelli, P. P. and Hoffmann, V. 2000. Privatizing Agricultural Extension: Caveat Emptor. *J. Rural Stud.*, **16(1):** 95_102.
12. Krejcei, R.V. and Morgan, D.W. 1970. Determining Sample Size for Research Activities. *Edu. Psychol. Measur.,* **30:** 607-610.
13. Krishnan, V. 2013. Etiquette in Scientific Publishing. *Am. Assoc. Orthodont. Dentofacial Orthoped.*, **144(4):** 577-582.
14. Majidi. F., Bijani. M. and Abbasi. E. 2016a. A Pathology Analysis of Scientific Articles Publication in the Field of Agriculture: Application of Three Branches Model. *J. Res. Approach. Soc. Sci. (RASS)*, **2(5):** 149-161. (in Persian)
15. Majidi. F., Bijani. M. and Abbasi. E. 2016b. Pathological Inquiry of Scientific Publication Articles in the Agricultural Academic Field of Iran. *The Second National Congress of Development and Extension of Agricultural Engineering and Soil Science of Iran*, Tehran, Iran. 16th June 2016. (in Persian)
16. Mansourfar, K. 2006. *Advanced Statistical Methods: Using Applied Software.* University of Tehran Press. (in Persian)

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

17. McKenna, L. 2016. The Contemporary Landscape of Journal Publishing. *Collegian*, **23(1):** 1-2.
18. Ministry of Science, Research and Technology: Deputy of Research. (2014). *Research Assistant; National Scientific Journal Commission*. Available at: http://journals.msrt.ir. (in Persian).
19. Moradi, H., Bijani, M., Shabanali Fami., Fallah Haghighi, N., Tamadon, A. R. and Moradi, A. R. 2011. Analysis of Effective Components on Professional Development of Agricultural Extension Agents in Kermanshah Province in Iran. Int. *J. Food Agric. Environ.*, **3-4(9):** 803-810.
20. Mosavi, S.H. (2016). Energy price reform and food markets: The case of bread supply chain in Iran. *Agr. Econ-Blackwell*, **47(2):** 169-179.
21. Mosavi, S.H., Esmaeili A.K and Azhdari, S. (2014). Evaluating Economic Effects of Exchange Rate Depreciation on the Rice Market in Iran. *J. Agr. Sci. Tech*., **16(4):** 705-715.
22. Najafi Alamdarlo, H. (2016). Spatial and temporal factors affecting agricultural trade in the European Union (EU) and Economic Cooperation Organization (ECO). *J. Agr. Sci. Tech. (JAST)*, **18(Supplementary Issue):** 1721-1733.
23. Namvar, Z. and Kousha, K. 2013. The Delay in Publication of Scientific Articles International Comparative Interdisciplinary Study. *J. Iran. Res. Instit. Inform. Sci. Technol.*, **28(2):** 347-362. (in Persian)
24. Ranjbar, A., Kalantari, Kh. and Asadi, A. 2011. Measuring Social Capital among Agricultural Cooperatives Members in Markazi Province. *Sci. Res. Quarter. J. Cooper. Agri.*, **1(4):** 1-17. (in Persian).
25. Sabzali-Parikhani, R., Sadighi, H., and Bijani, M. (2018). Ecological Consequences of Nanotechnology in Agriculture: The Researchers' Perspective. . *J. Agr. Sci. Tech. (JAST)*, **20(2):** In press.
26. Sangwal, K. 2013. Citation and Impact Factor Distributions of Scientific Iournals Published in Individual Countries. *J. Inform.*, **7:** 487-504.
27. Sivakumar, A. 2014. The Fear of Scientific Publishing. *Am. J. Orthodont. Dentofacial Orthoped.*, **2(145):** 128-129.
28. Zakeripour, G., Rezagholi, F. and Ahmadabadi, M. 2011. Human Resources Pathology of Fateb in Order to Improve Development. *Quarter. Towsee-Quarter. Dev. Human Resour. Logistic.*, **6(22):** 7-20. (in Persian).

آسیب‌شناسی نشر مقاله‌های علمی در عرصه کشاورزی از دیدگاه اعضای هیأت علمی و دانشجویان دکتری (مورد مطالعه: دانشکده‌های کشاورزی دانشگاه‌های دولتی ایران)

ف. مجیدی، م. بیژنی و ع. عباسی

چکیده

نشر علمی یکی از نیازهای اساسی جامعه علمی هر کشوری است. در واقع، عدم نشر یافته‌ها و نتایج پژوهش‌ها، به ویژه در بخش کشاورزی، باعث بی‌نتیجه ماندن یافته‌های پژوهشگران می‌شود. از طرف دیگر، کیفیت نشر مقاله‌ها دارای اهمیت بسیاری می‌باشد. در این راستا، هدف این مقاله، آسیب‌شناسی نشر مقاله‌های علمی در عرصه کشاورزی از دیدگاه اعضای هیأت علمی و دانشجویان دکتری بود. این تحقیق از نوع توصیفی‌بوده که از فن پیمایش برای جمع‌آوری داده‌ها استفاده گردید. جامعه آماری پژوهش، شامل اعضای هیأت علمی و دانشجویان دکتری کشاورزی دانشگاه‌های دولتی ایران بودند (N=۶۷۷۳). حجم نمونه بر اساس جدول کرجسی و مورگان برآورد گردید (n=۳۶۳). انتخاب اعضای نمونه نیز با استفاده از روش نمونه‌گیری چند مرحله‌ای (سه مرحله) انجام گرفت. ابزار جمع‌آوری داده‌ها، پرسشنامه‌ای

[DOR: 20.1001.1.16807073.2017.19.7.10.7]

بود که جهت تأیید روایی ظاهری و محتوایی، در اختیار پانلی از متخصصان ترویج و آموزش کشاورزی و تعدادی از سردبیران مجلات معتبر علمی ـ پژوهشی در حوزه‌ی کشاورزی قرار داده شد. همچنین، پایایی دسته‌گویه‌های پرسشنامه مذکور، با استفاده از آزمون آلفای کرونباخ، مورد تأیید قرار گرفت (۰/۹۲ $\geq \alpha \geq$ ۰/۶۶). با کاربرد نظریه سه‌شاخگی، آسیب‌های نشر مقاله‌های علمی در سه حیطه "زمینه نشر"، "ساختار نشر" و "رفتار نشر" دسته‌بندی شدند. کیفیت نشر مقاله‌های علمی از دیگر مؤلفه‌های مورد بررسی در تحقیق بود. با بهره‌گیری از تحلیل عاملی، برای مؤلفه کیفیت نشر مقاله‌های علمی، سه عامل "طرح مسأله و روش تحقیق"، "ضعف عناوین و تحلیل‌ها" و "نوآوری و کاربردی بودن" در مجموع ۵۷/۶۸ درصد از تغییرات کیفیت نشر مقاله‌های علمی را تبیین کردند.

[DOR: 20.1001.1.16807073.2017.19.7.10.7]