

The Diffusion of Innovations Elements in Library Science Journals

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Abstract. This study aims to determine the diffusion of innovation in the publication of library science journals. This research uses qualitative methods, and data collection is carried out by unstructured observation, in-depth interviews, and document studies. The results of this study explain that, the implementation of innovation diffusion is supported by the presence of important elements that have a significant influence in order to convince the audience to use or apply distributed innovations. These elements are communication channels, social systems, time, and innovation. The four elements can explore the effectiveness of electronic journals in realizing diffusion or spreading innovations through published scientific articles. Publication templates also provide improvements related to the quality of innovation creation written by innovators from the results of previous research, thus ensuring that users or adopters receive new ideas through the implementation of diffusion of innovations that have been implemented.

1 Introduction

Diffusion of innovation is the process of spreading the uptake of new ideas through communication by utilizing the media, which occurs within a certain period of time. The diffusion process of innovation is also interpreted as a change that occurs in the structure and functioning of the social system [1]. The interrelationship between the diffusion of innovations and the publication of scientific articles, refers to the process of scientific communication through the media that records the various results of previously researched knowledge [2]. The publication of scientific articles today, has undergone a concrete revolution, in order to influence the mindset for the audience. The transition of print media to the order of electronic media, making the publication of scientific articles ultimately dependent on the website [3].

One of the studies in the field of library science is about information. It becomes very interesting to dig further related to the diffusion of innovations that occur in library science journals that have open journal systems. OJS (Open Journal System) electronic journal, which allows audiences to read, download, copy, distribute, print, search, and share the the full text of all published scientific content in that journal [4]. What makes this research important leads to the availability of various scientific articles published by library science journals in supporting the innovation diffusion process by analyzing aspects of the

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implementing elements of innovation diffusion. The discussion studied in this study makes it different from other similar studies which have only focused on the level of adoption of scientific innovations.

2 Research Methods

The selection of qualitative methods [5,6] in this study emphasizes the elements of innovation adoption from scientific articles published in library science journals, so as to be able to describe and explain the elements of diffusion of innovation. Purposive sampling is used by researchers as technique to determine and select informants. The informant criteria that have been set by the researcher, focus on the editor in chief. As for other criteria set by the researcher, referring to user informants that are unlimited and can only be explained qualitatively, then other criteria set are peoples who having read, or downloaded, and or cited scientific articles in library science journals. The data collection methods used in this study were observation, interviews, and document studies. The interview method acts as a primary data source, while the observation method and document study act as a secondary data source.

3 Result and Discussion

The publication of scientific articles, is the last stage carried out in the research process. The activity of publishing scientific articles, becomes the main criterion in assessing the consistency of a researcher and becomes a top priority in the academic field [7]. Publications are an integral part of the research process, which is packaged modernly in the form of scientific articles. In seeking to increase the publication of scientific articles, electronic-based publications are considered as a solution that can motivate researchers to disseminate their research results in a more specific and structured manner. In the context of the publication of scientific articles, electronic journals offer a great flexibility facility that can archive various scientific content as a source of life from different disciplines allowing others to gain an understanding of the published content [8].

Innovation diffusion modeling has attracted the academic field since it was first discussed in 1962, based on the theory proposed by Rogers [9], innovation diffusion is an attempt to identify what factors can affect the speed of adoption of an innovation. The adoption rate of innovation in the diffusion process is dominated by ideas in the field of technology as instruments that can minimize uncertainty in the development of knowledge. Innovation diffusion has a role to play in managing innovation and offering a subjective approach to prospective adopters [10]. Innovation management or the process of offering these findings can occur due to an understanding of the concept of diffusion of innovation described earlier.

The theory of diffusion was for the first time put forward by Warner [11], which explained the pattern related to the rate of adoption of innovations in the population. In the concept of diffusion, innovation is an attribute that acts as an agent of change on a large scale with the existence of communication processes, and influences that occur. The communication process that is able to influence the audience in real terms on the implementation of the diffusion of innovation, requires four elements so that the innovation adopted can provide benefits to prospective adopters [12]. The four elements that have been include innovation, communication channels, time, and social systems [13]. According to Sturm [14], the adoption process will be passed by prospective adopters as a framework for the situation that describes how prospective adopters use information products from published scientific articles.

Scientific articles published by library science journals, is guided by the ethics of publications reviewed by the editorial board responsible for the peer-review process to develop a coherent knowledge network. Another responsibility of peer-reviewers as reviewers is to advise and help authors to improve the quality of their scientific articles through editorial communication involving reviewers and editorial boards. Reviewers will objectively and relevantly assess the article, to ensure that the published scientific articles have novelty in order to meet the implementing elements of the diffusion of innovation.

Conceptually, the diffusion element of innovation is the essence or part of the distribution of new ideas and scientific innovations that refer to the process of adopting innovations from scientific articles, so that library science journals has an important role to carry out the diffusion of innovation and disseminate it to users as adopters through publication activities with a focus on discussions related to library science, and information science. Each analysis of the implementing elements of innovation diffusion has a relationship that collaborates with each other to build the quality or role of a medium, especially electronic journals through published scientific articles.

3.1 Role as Element of Communication Channels and Social Systems in the Diffusion of Innovation

Library science journals as a communication channel that realizes the spread of new ideas is also related to the existence of a social system. In the context of the implementing elements of the diffusion of social system innovation is an interaction that is established through the role of media or communication channels. Users library science journals or in this study referred to as adopters, indirectly having interaction relationships that lead to one-way communication. The interaction is part of the elements of the social system that are established through the publication of scientific articles as a form of problem-solving process in order to achieve common goals.

Understanding of interactions or social systems can be viewed from user views data library science journals which leverages every article that has been published to form an adopter mindset. This interaction is evidenced by the existence of written data that states user views data as adopters who adopt innovations from scientific articles published by library science journals on the results of interviews with editors in chief and website observations along with scientific articles published in library science journals, researchers analyze that currently the publication of scientific articles carried out by library science journals is an act that realizes the diffusion or spread of new ideas and scientific innovations.

In this study, library science journals analyzed as an electronic journal that has succeeded in becoming a digital-based communication channel that connects adopters with innovators. The combination of each element of communication channels and social systems in library science journals become a liaison between writers or innovators and users of their research results who are called adopters. Adopters get a solution to the theoretical needs of each article written.

3.2 The Novelty of Scientific Articles as Source Element of Scientific Innovation and Time in the Diffusion of Innovation

The novelty of scientific articles published by library science journals following up on other implementing elements of innovation diffusion, namely the innovation element and the time element required to be able to review the use or adoption of innovations from each of the scientific articles that have been published. According to interview with editor in chief obtained information, authors or researchers as innovators who submit articles from their research are required to include a description of the data set which is used as an analysis guide, thus the process of assessing the quality of research results can be carried out openly and transparently for the author and the editorial board.

The results of research that have been confirmed credibility by the editorial board certainly provide new ideas and scientific innovations in each of its findings. The novelty is the result of research reviewed through various activities and complex processes in the field of library Science and information Science, so as to be able to contribute to adopters who have responsibility in these fields.

Data that can be used as a reference by researchers in conducting analysis, which is related to the time needed by each scientific article so that it can be cited or adopted by adopters. This analysis refers to the time element related to the duration it takes to form the adopter's mindset in carrying out the action of adopting innovation. Based on the data views that have been described by researchers in the analysis of elements of communication channels and social systems, it is stated that the significance of the usability data has not been able to have a positive impact on the level of citation of scientific articles published by library science journals.

According to the editor in chief, generally the citation process can only be seen when the article has been published for more than a year, therefore until now the editorial board is working to improve the indexation. The effort requires help from the university journal center where the journal is housed as a party that has a focus of tasks related to accreditation and indexation of electronic journals published by various faculties at the University.

Average journals currently indexed in six indexing institutions including SINTA, Google Scholar, Dimensions, GARUDA, Crossref, and BASE. The selection of this indexing agency is certainly inseparable from the responsibility of an editor in chief who monitors the policy of rules related to proxy management. The management of proxies is one of the actions that support the diffusion process of innovation with the spread of new knowledge, so that adopters can adopt innovations from scientific articles published.

The process of adopting innovations carried out by adopters indicates an interaction between adopters and innovators who have written various innovations or scientific discoveries. Library science journal has fulfilled the four implementing elements of the diffusion of innovation through the publication of scientific articles that occur in the electronic journal. The four elements include communication channels, social systems, innovations, and time. The results of the analysis and conclusions described by the researchers are in line with the opinions expressed by Young in Manzo et al., [15] that electronic media is actually a media that is able to spread scientific innovation massively for the entire community.

4 Conclusion

This study discusses the elements implementing the diffusion of innovation in the publication of scientific articles in library science journals. Based on the results of the research findings, it can be concluded that the implementation of diffusion of innovation is supported by the presence of important elements that have a significant influence in order to convince the audience to use or apply the distributed innovation. These elements are communication channels, social systems, time, and innovation. The four elements can explore the effectiveness of electronic journals in realizing diffusion or spreading innovations through published scientific articles. Publication format on journal also provide improvements related to the quality of innovation creation written by innovators from the results of previous research, so as to ensure that users or adopters accept new ideas through the implementation of diffusion of innovations that have been implemented.

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