

# Sharing Scientometric Approach: Intrinsic Motivation and Knowledge

Parwita Setya Wardhani<sup>1,2</sup>, Wulandari Harjanti<sup>3</sup>, Charis Trinovianto<sup>4</sup>, Ronald Insan Gunawan<sup>5</sup>

<sup>1</sup>Lecturer at STIE Mahardhika Surabaya, Indonesia

<sup>2</sup>Student in PSDM Doctoral Program at Airlangga University Surabaya, Indonesia

<sup>3</sup>Lecturer at STIE Mahardhika Surabaya, Indonesia

<sup>4</sup>Lecturer at STIE Mahardhika Surabaya, Indonesia

<sup>5</sup>Lecturer at STIE Mahardhika Surabaya, Indonesia

## Abstract

Knowledge sharing is a key process in translating individual learning into organizational capabilities. This paper aims to review the status and visual map position of research in the internationally intrinsic motivation and knowledge sharing studies indexed Scopus that used a bibliometric positioning overview. The research was carried out using bibliometric techniques. Data analysis as well as visualization utilising VOS Viewer program and the Scopus function for analyze search results. In this review, the details collected applied to 104 documents issued from 2002 through 2019. The study revealed that City University of Hong Kong and National Central University Taiwan, Studies were the most active affiliated institutions in intrinsic motivation and knowledge sharing studies. In intrinsic motivation and knowledge sharing studies, the Business, Management and Accounting and Journal Of Knowledge Management were the most areas of study and dissemination sources. There were one worldwide group maps with collaborative researchers. In order to identify the body of knowledge created from seventeen years of publication, this study constructed a convergence axis grouping comprising of intrinsic motivation and knowledge sharing studies: Organization, Motivation, Management, Information, and Knowledge, abbreviated as the theme OMMIK.

**Keywords**— organization, knowledge, motivation

## Introduction

Today science-based economics, especially those owned by individuals, plays an important role in driving the value organization. As a result, knowledge-sharing behavior among employees, which is what allows an element of cooperation, can be very important in the organization of luck [1]. Knowledge sharing itself can be defined as activities about how to help communities of people work together, facilitate their exchange of knowledge, increase organizational learning capacity, and enhance their ability to achieve individual and organizational goals. the increase in intrinsic motivation has outweighed the willingness of employees to create a positive mood, thereby increasing increased learning and the tendency to share knowledge [2]. Knowledge sharing is a key process in translating individual learning into organizational abilities [3]. Knowledge sharing can improve absorption, performance and other abilities and a sustainable competitive advantage [4]. The intrinsic motivation factor is the main motivational factor affecting employees [5], which consists of the enjoyment of helping others and the efficacy of knowledge. On the other hand, the intention of sharing knowledge from scouts is by extrinsic (ie, reciprocal) motivational factors [6]. The tendency to believe, intrinsic motivation, and intention extrinsic motivation encourage individuals to share knowledge in the idea of ??crowdsourcing. provide insight into technological advances [7]. This is an important step in the process of knowing knowledge [8].

Knowledge management involves the process of separate but interdependent knowledge creation, knowledge storage and retrieval, knowledge transfer and knowledge application [9]. Managing knowledge

helps companies to develop skills and competencies, maintain competitive advantage, and increase value [10]. In a system between organizations that is closely knit with knowledge management, the exchange of sharing experiences and information across organizational boundaries is very important [11]. Knowledge sharing that is conducive to user innovation allows the community to work as an important source of innovation [12]. In recent years, online communities have become increasingly important for the initiation and maintenance of knowledge exchange because the Internet offers access to many individuals with somewhat diverse skills [13]. With advances in social computing and online communities, websites exist today that help people share knowledge with others from all over the world [14]. Because the internet has become an inseparable commodity in human life, organizational activities rely on web-based technology widely [15].

Considering that social learning processes are involved in maintaining sustained participation, we propose that task complexity and self-efficacy – two factors of social learning – moderate the relationship between motivation and sustained participation [16]. Research conducted by Kumar shows that the intrinsic motivation to share knowledge is significant in public sector organizations. The relationship between knowledge sharing skills and employees' innovation abilities in public sector organizations was found to be dependent on IWE [9]. In general, previous research related to intrinsic motivation and knowledge sharing was limited to examining one research topic only, such as one country [12] and one field [13]. Unfortunately, despite presenting a broad image map visualized year over year with details from several published studies at the global scale, there has not been much publication on intrinsic motivation and knowledge sharing. The strong positive relationship regarding affiliation, scholars, and the impact of scholarly studies has also not been explicitly discussed by any publication. This paper aims to review the status and visual map position of research in the internationally intrinsic motivation and knowledge sharing publication indexed Scopus that used a bibliometric perspective.. We monitor the increase in the number of intrinsic motivation and knowledge sharing related scholarly documents published as well as indexed by Scopus since 2002 through 2019.

## Literature Review

In general, motivation is a psychological state, whereas behavior represents the outcome of a state [17]. Motivation affects the nature of an individual's behavior, the strength of the behavior, and his persistence. A general conceptualization of motivation is based on its origins, and being either intrinsic or extrinsic motivation. Intrinsic motivation refers to a situation in which an activity tends to be done for its own sake, not as a means to an end [18]. It is thus linked to activities that meet basic human needs for competence, control and autonomy. It is important to differentiate motivation from actual behavior [19]. Motivation focuses attention on a specific element of the task, implying that the motivated person devotes more effort to that task.

In communication research, users' media choices and consumption have been examined in the U&G approach [20]. Its main premise is that it assumes a form of individual media use and future interactions. In recent years, researchers have applied U&G to increase user understanding of participation in virtual customer environments or user-generated media sites [21]. Following the path set by Nambisan and Baron (2007), we believe it will be useful to apply the U&G perspective as well when examining user motivation to participate in crowdsourcing ideas. While various motivational factors have been identified in different types of oral contraceptives, such as acquiring valuable knowledge [22], enjoyment of helping others [23], increasing status [19], or gaining recognition from peers [24], it is important to note that these factors these factors can be mapped into the broader categories identified in the U&G approach. The categories are based on the internal and external benefits people expect from a particular action. Cognitive / learning benefits relate to obtaining information and increasing one's learning opportunities, whereas social integration benefits relate to opportunities to strengthen relationships, for example through building community-online

relationships. The hedonic benefit relates to situations that are capable of providing an aesthetic or pleasurable experience for the user [20] [21]. Online community participation may, for example, provide opportunities for pleasant experiences by providing pleasurable or enjoyable experiences on the one hand, and by providing mentally or intellectually stimulating interactions on the other.

## Research Methods

This review mapped the status of study conducted in the last 17 years at global level on the basis of intrinsic motivation and knowledge sharing. In November 2020, this study collected data from the Scopus using document search queries. The research was carried out using bibliometric techniques. Data analysis as well as visualization using the VOSViewer program and the Scopus function to analyze search results [25][26].

This study identifies intrinsic motivation and knowledge sharing keywords to recognize and look for Scopus database publications with 104 globally published documents from 2002 through 2019. The research limited collection of data to 2019 and excluding 2020. In order to reflect the state of the study over the entire year, the annual academic data collected from January to December. System language title-abs-key (“intrinsic motivation” ) and title-abs-key (“knowledge sharing” ) and pubyear< 2020. is the query input command which is implemented while mining academic publication data on online database of Scopus.

The research applies a co-authorship analysis with authors’ analysis units and full calculation systematic techniques utilizing VOSViewer to gain the collaboration research network of the international researchers. The research conducted an in-depth co-occurrence analysis with keyword relation analysis as well as a full systematic **technique of calculation utilizing VOSViewer to generate a keyword map network.**

## Result and Discussion

Intrinsic motivation and knowledge sharing studies appear to be likely to increase and grow per year. The tallest point for international publication was 16 papers in 2019. Since 2002, publishing on intrinsic motivation and knowledge sharing has already started.

### Intrinsic Motivation and Knowledge Sharing Studies Most Common Organizational Affiliations

The leading research organizations in intrinsic motivation and knowledge sharing publication was the City University of Hong Kong and National Central University Taiwan with 4 papers, followed by Chienkuo Technology University Taiwan, University of Canterbury, Sun Yat-Sen University, and NHH Norwegian School of Economics with 3 papers.

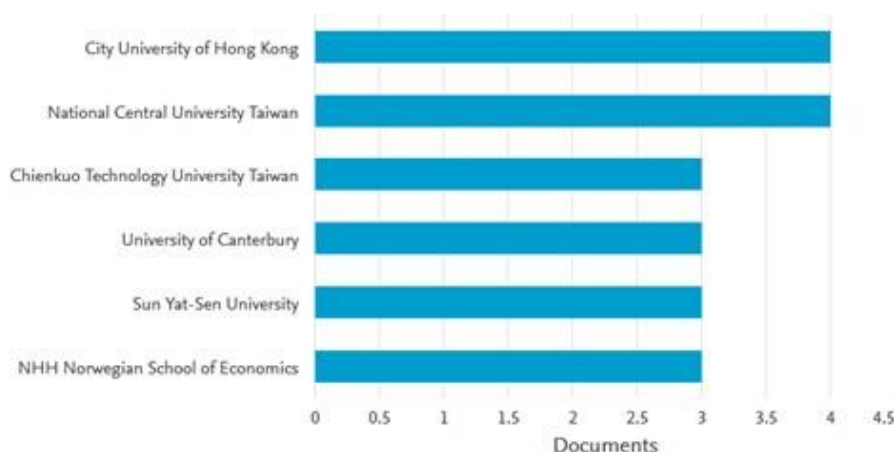
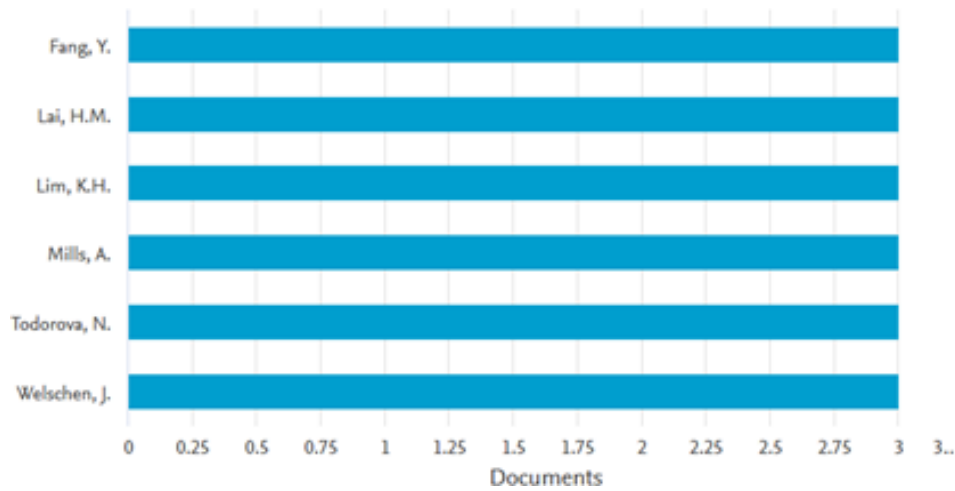


Figure 1. Organizational Affiliation Number of Annual Publication of Intrinsic Motivation and Knowledge Sharing Studies

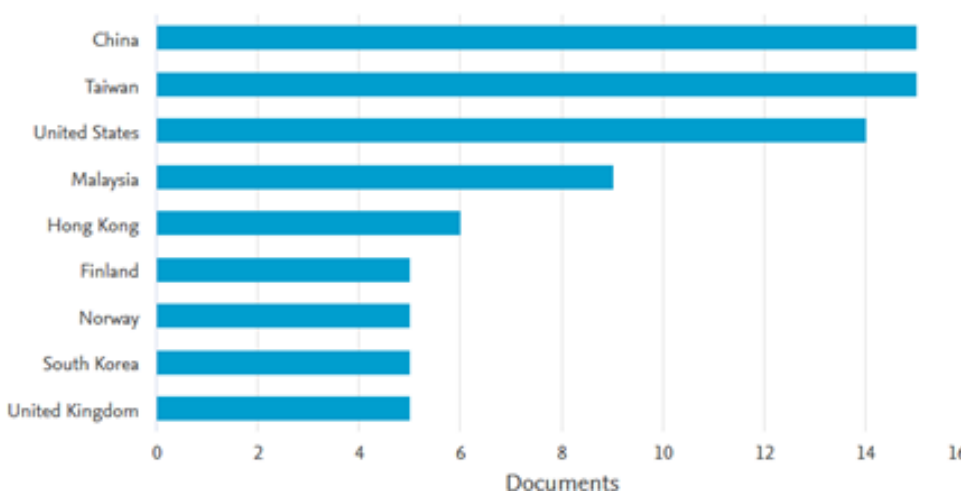
### Intrinsic Motivation and Knowledge Sharing Studies Most Individual Researcher



**Figure 2. Number of Documents by Researcher of the Intrinsic Motivation and Knowledge Sharing Studies**

Based on Figure 2 above, there is no author with the most publications in the fields of Intrinsic Motivation and Knowledge Sharing because the number of author documents is the same, namely 3 documents, by curry Fang, Y., Lai, HM, Lim, KH, Mills, A., Todorova, N., Welschen, J.

### Nation Number of Annual Publication of Intrinsic Motivation and Knowledge Sharing Studies



**Figure 3. Number of Documents by Nation from the Intrinsic Motivation and Knowledge Sharing Studies**

The nation that has the largest contribution in publishing in the fields of Intrinsic Motivation and Knowledge Sharing publications, the China and Taiwan with 15 papers. Followed by, United States with 14 documents, Malaysia with 9 documents, Hong Kong with 6 documents, Finland with 5 papers, Norway with 5 documents, South Korea with 5 documents United Kingdom with 5 papers

### The Largest Frequency of Publication of Intrinsic Motivation and Knowledge Sharing Studies by Subject Area

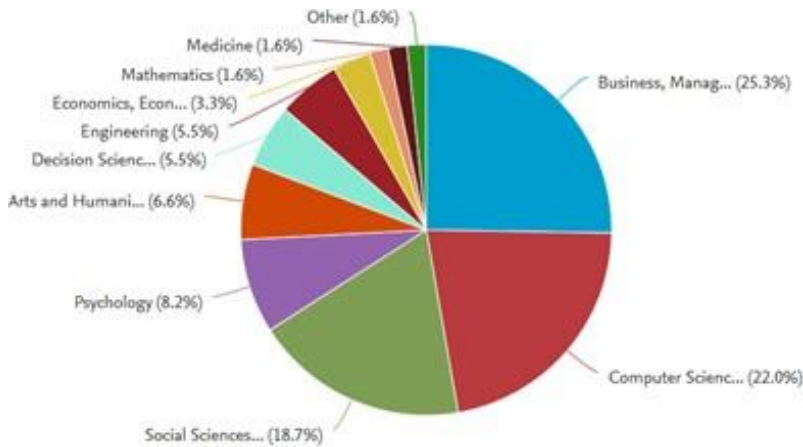


Figure 4. Most Frequent Type Document of Intrinsic Motivation and Knowledge Sharing

### Studies

With 46 papers (25.3 percent), Business, Management and Accounting in the subject area was the most frequent subject area in international publications on Intrinsic Motivation dan Knowledge Sharing, followed by Computer Science (22.0%) with 40 papers, Social Sciences (18.7%) with 34 papers, Psychology (8.2%) with 15 papers, Arts and Humanities (6.6%) with 12 papers, Decision Sciences (5.5%) with 10 papers, Engineering (5.5%) with 10 papers, Economics, Econometrics and Finance (3.3%) with 6 papers, Mathematics (1.6%) with 3 papers, and Medicine (1.6%) with 3 papers.

### Year Documents of Intrinsic Motivation and Knowledge Sharing Studies Sources

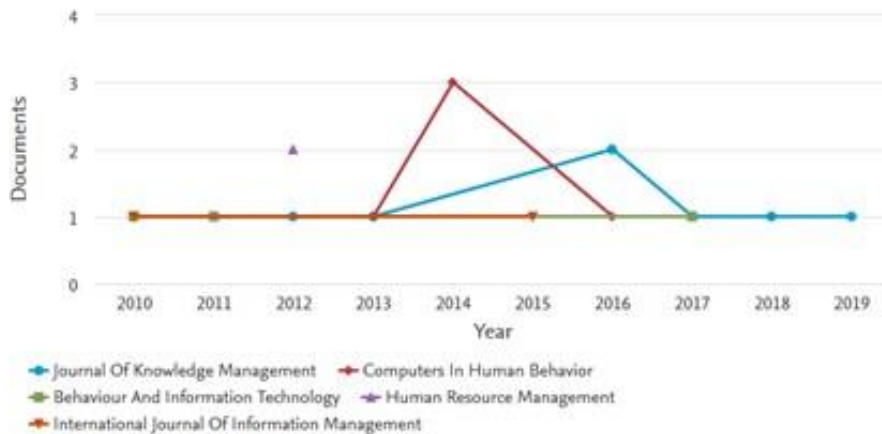
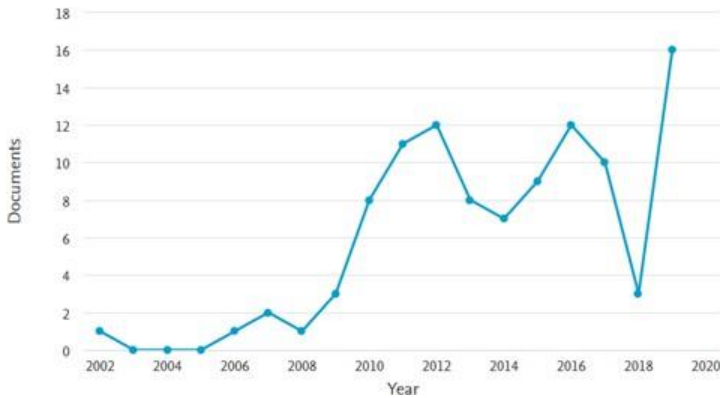


Figure 5. Number of Annual Documents Based on the Intrinsic Motivation and Knowledge Sharing Studies Sources

The leader in the annual number of sources of Intrinsic Motivation dan Knowledge Sharing Studies publications is Journal Of Knowledge Management with 9 documents, Computers In Human Behavior with 6 documents, Behavior And Information Technology with 3 documents, Human Resource Management with 2 documents, and International Journal Of Information Management with 2 documents.

### Number of Annual documents from the Intrinsic Motivation dan Knowledge Sharing Studies



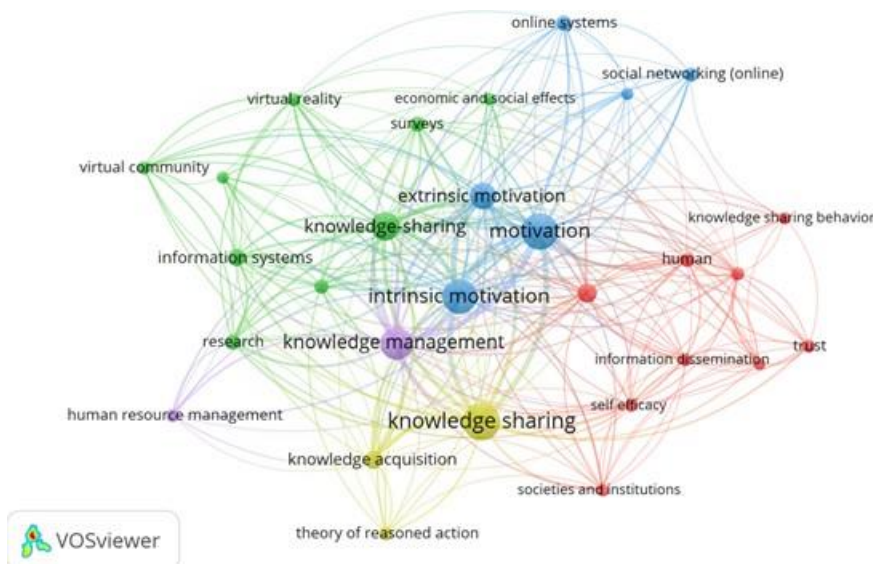
**Figure 6. Number of Documents Per Year from Intrinsic Motivation dan Knowledge Sharing Studies**

The number of academic documents published about Intrinsic Motivation dan Knowledge Sharing has been increasing every year. Research on Intrinsic Motivation dan Knowledge Sharing has been started since 2002. The highest peak of publication in 2019 there were 16 papers, in 2018 there were 3 papers, in 2017 there were 10 papers, in 2016 there were 12 papers and in 2015 there were 9 papers.

***Intrinsic Motivation dan Knowledge Sharing Studies Article Cited***

The study of Lin, H.,F., was the most widely cited publication on Intrinsic Motivation and Knowledge Sharing Studies Publication. The most number cited was in 2007 entitled “Effects of Extrinsic and Intrinsic Motivation on Employee Knowledge Sharing Intentions”, which cited 661 papers [2].

***Map of Study Themes***



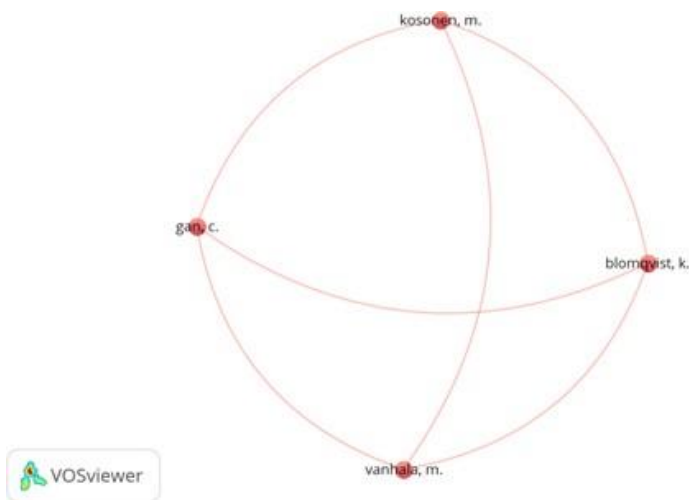
**Figure 7. Map of Study Themes**

With analysis and visualization of the VOSViewer program, construction was developed on the Intrinsic Motivation and Knowledge Sharing keyword framework for the Intrinsic Motivation and Knowledge Sharing research of publication theme map. Four repetitions were the criterion for the minimum amount of keyword-related documents. Therefore, 29 keywords among 572 keywords reached the thresholds. From Figure. 7. there were nine publication theme groups dependent on study keywords regarding the international academic publication of Intrinsic Motivation and Knowledge Sharing Publication, simplified

as well as abbreviated as OMMIK themes.

1. Organization Cluster (red), the keywords human, trust, information dissemination, and knowledge sharing behaviour dominated in this cluster. Most of these keywords have to do with organizational themes.
2. Motivation cluster (blue) is dominated by motivation, intrinsic motivation, online systems, extrinsic motivation. Most of these keywords relate to the systems theme.
3. Cluster Management (purple), we can find the keywords knowledge management and human resource management in this cluster.
4. Information cluster (green), this cluster dominated by the keywords information systems, knowledge sharing, research, virtual community, virtual reality, and economic and social effects suryes.
5. Knowledge cluster (yellow), we can find the keywords knowledge acquisition and theory of reasoned actionin this cluster.

### *Researcher Collaboration Network*



**Figure 8. Researcher Collaboration Network**

With the VOS Viewer program, construction was developed on the intrinsic motivation and knowledge sharing studies publication framework for the authorship network map. Two document was one of the requirements for the minimum collection of publications per author. Thus, out of 245researchers, 21 researchers who reached the thresholds were recognized. There is three collaborative pattern of researchers in the intrinsic motivation and knowledge sharing field as seen in Figure 8. Red cluster: Kosonen, M., Vanhala, M., Gan, C., and Blomqvist, K.

### **Conclusion**

The results of this research revealed that there is an annual trend towards a spike in the amount of international publications on “Intrinsic Motivation and Knowledge Sharing”, there were maps and visual patterns. In the publication of the intrinsic motivation and knowledge sharing Studies, City University of Hong Kong and National Central University Taiwan was the most active research institution with 4 papers. Meanwhile, there is no author with the most publications in the fields of Intrinsic Motivation and Knowledge Sharing because the number of documents by the author is equal or equal. With 15papers, the China and Taiwan was the country with the greatest contribution to publications in intrinsic motivation and knowledge sharing Studies. With 46papers (25.3 percent), the most intensively studied areas published in the intrinsic motivation and knowledge sharing Studies publication were Business, Management and Accounting. The “Journal Of Knowledge Management” with 9 documents was the majority of annual

documents by the source in the intrinsic motivation and knowledge sharing Studies publication. With 16 papers, the highest publication of worldwide scholarly publications in intrinsic motivation and knowledge sharing Studies was in 2019. The study of Lin, H.,F., was the most widely cited publication on intrinsic motivation and knowledge sharing Studies Publication. The most number cited was in 2007 entitled “Effects of Extrinsic and Intrinsic Motivation on Employee Knowledge Sharing Intentions”, which cited 661 papers. There were one researcher partnership groups linked to the publication of intrinsic motivation and knowledge sharing Studies publication.

In terms of contributing knowledge implications, this study recommends a classification of the convergence axis comprising of publication in intrinsic motivation and knowledge sharing Studies publication to classify the body of knowledge created from thirty years of academic publication: Organization, Motivation, Management, Information, and Knowledge, abbreviated as the OMMIK theme. The identification of key themes in the intrinsic motivation and knowledge sharing leads, as practical implication, contributes to an awareness of the creation of practical studies to clarify general contexts and topics, as well as research gaps. All this will lead to fresh research addressing a lack of study and specialized expertise in the disciplines. The most studied themes often reflect the ability to contribute of intrinsic motivation and knowledge sharing to management, technology, learning, and financial information.

Researchers expect future researchers to analyze contributions and explain the impact of Intrinsic Motivation and Knowledge Sharing by measuring citations based on a combination of data obtained from Scopus & Web of Science.

## Acknowledgment

We would like to thank STIE MAHARDHIKA, Airlangga University Surabaya, our friends who love literacy and want to explore knowledge and library colleagues who are very helpful.

## References

1. Jiacheng, L. Lu, and C. A. Francesco, “A cognitive model of intra-organizational knowledge-sharing motivations in the view of cross-culture,” *Int. J. Inf. Manage.*, vol. 30, no. 3, pp. 220–230, 2010, doi: 10.1016/j.ijinfomgt.2009.08.007.
2. H. F. Lin, “Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions,” *J. Inf. Sci.*, vol. 33, no. 2, pp. 135–149, 2007, doi: 10.1177/0165551506068174.
3. A. Lam and J. P. Lambermont-Ford, “Knowledge sharing in organisational contexts: A motivation-based perspective,” *J. Knowl. Manag.*, vol. 14, no. 1, pp. 51–66, 2010, doi: 10.1108/13673271011015561.
4. A. Javernick-Will, “Motivating Knowledge Sharing in Engineering and Construction Organizations: Power of Social Motivations,” *J. Manag. Eng.*, vol. 28, no. 2, pp. 193–202, 2012, doi: 10.1061/(asce)me.1943-5479.0000076.
5. S. Y. Hung, H. M. Lai, and W. W. Chang, “Knowledge-sharing motivations affecting RD employees’ acceptance of electronic knowledge repository,” *Behav. Inf. Technol.*, vol. 30, no. 2, pp. 213–230, 2011, doi: 10.1080/0144929X.2010.545146.
6. H. M. Lai and T. T. Chen, “Knowledge sharing in interest online communities: A comparison of posters and lurkers,” *Comput. Human Behav.*, vol. 35, pp. 295–306, 2014, doi: 10.1016/j.chb.2014.02.004.
7. M. Kosonen, C. Gan, M. Vanhala, and K. Blomqvist, “User motivation and knowledge sharing in idea crowdsourcing,” *Int. J. Innov. Manag.*, vol. 18, no. 5, 2014, doi: 10.1142/S1363919614500315.
8. W. W. K. Ma and A. Chan, “Knowledge sharing and social media: Altruism, perceived online attachment motivation, and perceived online relationship commitment,” *Comput. Human Behav.*, vol. 39, pp. 51–58, 2014, doi: 10.1016/j.chb.2014.06.015.



9. N. Kumar and R. C. Rose, "The impact of knowledge sharing and Islamic work ethic on innovation capability," *Cross Cult. Manag.*, vol. 19, no. 2, pp. 142–165, 2012, doi: 10.1108/13527601211219847.
10. J. Mueller, "Knowledge sharing between project teams and its cultural antecedents," *J. Knowl. Manag.*, vol. 16, no. 3, pp. 435–447, 2012, doi: 10.1108/13673271211238751.
11. T. Nesheim and L. J. Gressgård, "Knowledge sharing in a complex organization: Antecedents and safety effects," *Saf. Sci.*, vol. 62, pp. 28–36, 2014, doi: 10.1016/j.ssci.2013.07.018.
12. Y. S. Hau and Y. G. Kim, "Why would online gamers share their innovation-conducive knowledge in the online game user community? Integrating individual motivations and social capital perspectives," *Comput. Human Behav.*, vol. 27, no. 2, pp. 956–970, 2011, doi: 10.1016/j.chb.2010.11.022.
13. T. Jadin, T. Gnambs, and B. Batinic, "Personality traits and knowledge sharing in online communities," *Comput. Human Behav.*, vol. 29, no. 1, pp. 210–216, 2013, doi: 10.1016/j.chb.2012.08.007.
14. L. Zhao, B. Detlor, and C. E. Connelly, "Sharing Knowledge in Social Q&A Sites: The Unintended Consequences of Extrinsic Motivation," *J. Manag. Inf. Syst.*, vol. 33, no. 1, pp. 70–100, 2016, doi: 10.1080/07421222.2016.1172459.
15. N. S. Safa and R. Von Solms, "An information security knowledge sharing model in organizations," *Comput. Human Behav.*, vol. 57, pp. 442–451, 2016, doi: 10.1016/j.chb.2015.12.037.
16. Y. Sun, Y. Fang, and K. H. Lim, "Understanding sustained participation in transactional virtual communities," *Decis. Support Syst.*, vol. 53, no. 1, pp. 12–22, 2012, doi: 10.1016/j.dss.2011.10.006.
17. T. Mitchell and D. Daniels, "Motivation," *Handb. Psychol. Ind. Organ. Psychol.*, vol. 12, pp. 225–254, 2003.
18. E. Deci and R. Ryan, "The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behaviour," *Psychol. Inq.*, vol. 11, no. 4, pp. 227–268, 2000.
19. J. Roberts, H. IH, and S. SA, "Understanding the motivations, participation, and performance of open source software developers: A longitudinal study of the Apache projects," *Manage. Sci.*, vol. 52, no. 7, pp. 984–999, 2006.
20. E. Katz, B. JG, and G. M, "Utilization of mass communication by the individual. In *The Uses of Mass Communications: Current Perspectives on Gratifications Research*, JG Blumler and E Katz (eds)," pp. 19–32, 1974.
21. S. Nambisan and B. RA, "Interactions in virtual customer environments: Implications for product support and customer relationship management," *J. Interact. Mark.*, vol. 21, no. 2, pp. 42–62, 2007.
22. M. Wasko and F. S, "Why should I share? Examining social capital and knowledge contribution in electronic networks of practice," *MIS Q.*, vol. 29, no. 1, pp. 35–57, 2005.
23. M. Wasko and F. S, "It is what one does: Why people participate and help others in electronic communities of practice," *J. Strateg. Inf. Syst.*, vol. 9, no. 2–3, pp. 155–173, 2000.
24. L. Jeppesen and L. Frederiksen, "Why do users contribute to firm-hosted user communities? The case of computer-controlled music instruments," *Organ. Sci.*, vol. 17, no. 1, pp. 45–63, 2006.
25. A. Purnomo, A. K. Sari, E. Mufidah, N. Asitah, and A. Aziz, "Digital Business: A Scientific Publication Positioning using Scientometric Analyze," *2020 Int. Conf. Inf. Manag. Technol.*, vol. 1, pp. 588–593, 2020, doi: 10.1109/ICIMTech50083.2020.9211174.
26. A. Purnomo, T. Susanti, A. K. Sari, M. Firdaus, and R. Dewi, "A Study of Digital Entrepreneurship through Bibliometric Visualizing from 1993 to 2019," *2020 Int. Conf. Inf. Manag. Technol.*, vol. 1, pp. 911–915, 2020, doi: 10.1109/ICIMTech50083.2020.9211270.