A Study of Food Delivery Through Bibliometrik Visualizing

by Tri Wahjoedi

A Study of Food Delivery Through Bibliometrik Visualizing from 1962 to 2019

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Abstract. Online Food Delivery using smart phones has become a new service trend in recent years. This has been research but as yet no idea of a publication in the area of Food Delivery which shows the big picture using data from all countries. This study aims to map the publication status of the internationally published Food Delivery studies indexed by Scopus using bibliometric visualization. The bibliometric method and analyzed research data were implemented using the analytical search results service from the VOSviewer and Scopus applications. Research data of 1,345 documents published from 1962 to 2019 were obtained from the Scopus database. The results of this study indicate an increasing trend in the number of international scientific publications in the field of Food Delivery every year. Most of the countries, affiliates, and authors of Food Delivery publications are United States, Western Michigan University and Poling, A. There are three patterns of collaborative researchers in publications in the field of Food Delivery. This study confirms the classification of the convergence axis consisting of publications in the field of Food Delivery to characterize the accumulated knowledge generated from six decades of literature: Dose Response, Animal, Theoretical Study, Article, Food Delivery, Food intake which is abbreviated as the DATAFF theme. Keywords— Food Delivery, Blibliometrics, Vosviewer.

1. Introduction

We are currently in the era of the Industrial Revolution 4.0 [1]. New technological developments that have emerged in this era have greatly changed the way business is implemented[2]. The massive growth in online services has also brought changes to the lifestyle of the general public[3]. With the mobile Internet, online Food Delivery using smart phones has become a new service in recent years[4]. In the restaurant industry, due to the increasing number of cellular cellphone users and the spread of the internet wherever we are, online Food Delivery is becoming increasingly popular[5]. Now the Food Delivery service industry has emerged as a large and prospective industry [6].

Online Food Delivery is a food ordering and delivery service from various restaurants through a website or application[7]. Customers can order food from their preferred restaurant via the website or app, and the food will be delivered to their home or workplace within a short period of time, regardless of time and weather[8], [9]. In general, this Food Delivery service is convenient, practical and certainly saves time, especially for people who are resting at home or busy working[4]. But on the other hand, the

development of this business also faces many obstacles [10], for example when food orders occur in the same time period and in large quantities. Of course this will result in a large number of delivery requests but in a short duration too. Therefore, timely delivery of food can be difficult during rush hour. Therefore, many new methods are being investigated to overcome this challenge[4].

However, previous research related to Food Delivery is generally limited in one field[11], and one country[12], [13], [14]. There is no publication on Food Delivery which shows the big picture by visualizing it from year to year with data from all countries. Also, there is no publication in the field of Food Delivery that specifically addresses the relationship between affiliation, author, citation and impact of their research. The growth in the number of academic documents related to the topic of Food Delivery that has been published and indexed by Scopus from 1962 to 2019 is 1,345 documents. Therefore, this study aims to measure the status of the research map in the field of Food Delivery published internationally.

2. Research Methods

This study has mapped the status of research in the field of Food Delivery published at the international level in the last 57 years. The research data was obtained from the Scopus database using document search services in September 2020. The study was conducted using the bibliometric method and data analysis and visualization using the search results analysis feature on Scopus and the VOSViewer application[15], [16].

This research identified keywords related to Food Delivery to identify and search for articles in the Scopus database with 1,345 documents published from 1962 to 2019 at the international level. The study limits data collection in 2019 regardless of 2020 (excluding 2020) so that the annual data obtained describes the conditions of the study for a full year from January to December. The query command to apply when mining data in Scopus is TITLE-ABS-KEY ("food delivery") AND PUBYEAR <2020. The study conducted a co-authorhip analysis with the author's analysis unit and the full count method using VOSViewer to obtain author collaboration networks. This study conducted an event analysis along with a keyword analysis and a complete calculation method using VOSViewer to obtain the keyword network.

3. Result and Discussion

This section will explain the increase in data yield by affiliation, author, country, subject area, documents per year from sources, documents per year from fields and documents cited, keyword networks, and author networks in the field of Food Delivery.

3.1. Documents based on Higher Education Affiliates from the Food Delivery Studies

The most productive research affiliates in the Food Delivery study were Western Michigan University with 40 documents, La Trobe University with 22 documents, Harvard Medical School with 21 documents, Indiana University Bloomington with 19 documents, West Virginia University with 17 documents, Johns Hopkins University with 16 documents. documents, CNRS Center National de la Recherche Scientifique with 16 documents, University of Florida with 16 documents, Utah State University with 16 documents, National Institute on Drug Abuse NIDA with 15 documents, as seen in Figure 1.
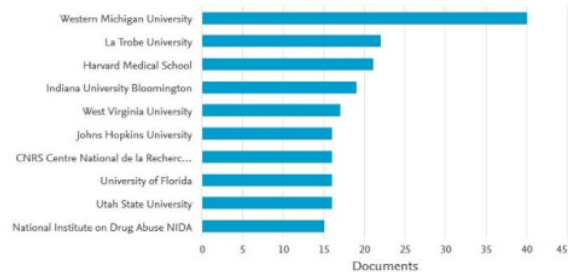
Figure 1. Documents Number based on Higher Education Affiliates from the Food Delivery Studies

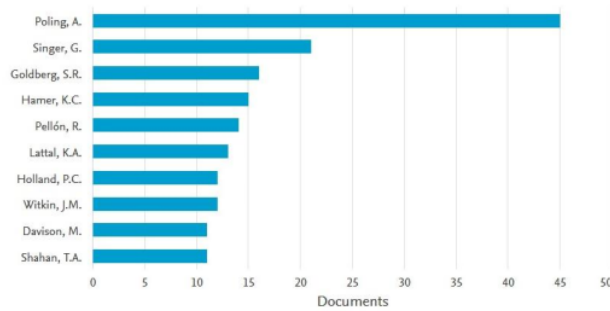*3.2. Documents based on Authors from the Food Delivery Study*

Figure 2. Documents Number based on Authors from the Food Delivery Studies

In Figure 2 it can be explained that the authors with the most publications in the field of Food Delivery are Poling, A. with 45 documents, Singer, G. with 21 documents, Goldberg, S.R. with 16 documents, Hamer, K.C. with 15 documents, Pellón, R. with 14 documents, Lattal, K.A. with 13 documents, Holland, P.C. with 12 documents, Witkin, J.M. with 12 documents, Davison, M. with 11 documents, and Shahan, T.A. with 11 documents,

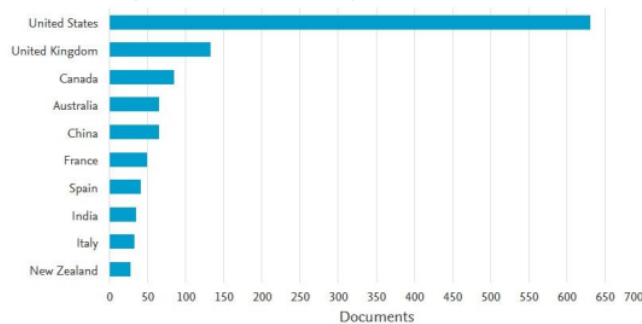*3.3. Country based documents from the Food Delivery Studies*

Figure 3. Number of Documents by Country from the Food Delivery Studies

From Figure 3 it can be explained that the countries that make the largest contribution in the publication of the field of Food Delivery are United States with 630 documents, United Kingdom with 132 documents, Canada with 84 documents, Australia with 65 documents, China with 65 documents, France with 49 documents, Spain with 41 documents, India with 34 documents, Italy with 32 documents, New Zealand with 27 documents.

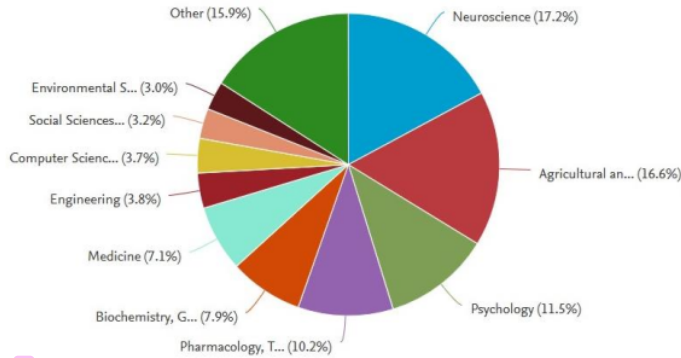*3.4 Documents based on Subject Areas from the Food Delivery Studies*

Figure 4. Number of Documents based on Subject Areas from the Food Delivery Studies

The fields of study of the most international academic publications in the field of Food Delivery are Neuroscience with 405 documents (17.2%), Agricultural and Biological Sciences with 392 documents (16.2%), Psychology with 271 documents (11.5%), Pharmacology, Toxicology and Pharmaceutics with 240 documents (10.5%), Biochemistry, Genetics and Molecular Biology with 186 documents (7.9%), Medicine with 167 documents (7.1%), Engineering with 89 documents (3.8%), Computer Science with 87 documents (3.7%), Social Sciences with 76 documents (3.2%), Environmental Science with 72 documents (3.0%), and others 15.9%.

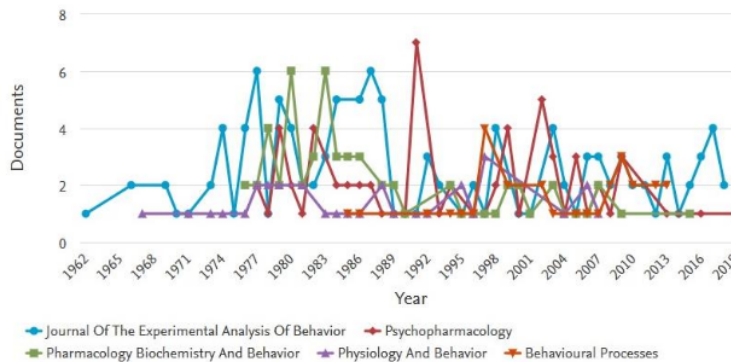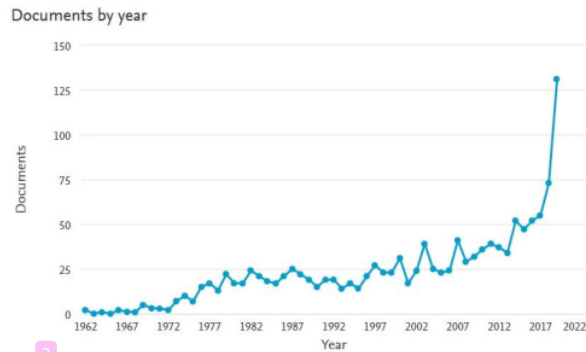*3.5 Documents per year based on sources from Food Delivery Studies*

Figure 5. Number of Documents Per Year Based on Sources from the Food Delivery Study

The number of documents per year based on sources in the field of Food Delivery is the Journal Of The Experimental Analysis Of Behavior with 118 documents, Psychopharmacology with 67 documents, Pharmacology Biochemistry and Behavior with 61 documents, Physiology and Behavior with 32 documents, Behavioral Processes with 29 documents, such as those shown in figure 5.

3.6 Annual documents from the Food Delivery Studies

Figure 6. Number of Documents Per Year from the Food Delivery Studies

From Figure 6, it can be seen that the number of publications in the field of Food Delivery has increased every year. The highest peak of international academic document publications in the field of Food Delivery occurred in 2019 with a total of 131 documents, it is possible that in 2020 there will be an increase in research on Food Delivery.

3.7 Document cited from the Food Delivery Studies

The most cited international publications in the field of Food Delivery as a form of academic impact are the works of Xu, A., Wang, Y., Keshaw, H., (...), Lam, K.S.L., Cooper, G.J.S. in 2013 entitled The fat-derived hormone adiponectin alleviates alcoholic and nonalcoholic fatty liver diseases in mice with 1,037 excerpts of documents[17].
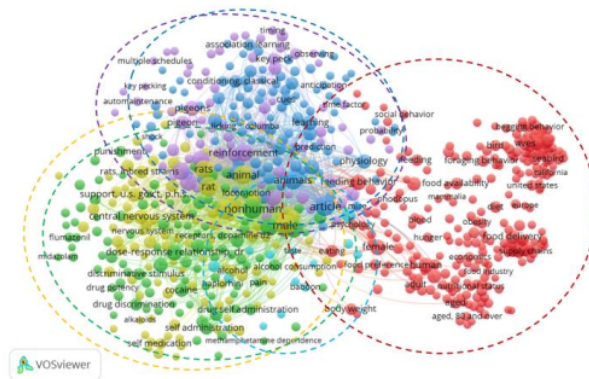
3.8 Map of Study Themes

Figure 8. Map of Study Themes

The construction on the Food Delivery keyword network for the study theme map is built with the VOSViewer application. The criterion for the minimum number of documents associated with a keyword is five repetitions. So, out of 8,297 keywords there are only 663 keywords that meet the threshold. From Figure 8. There are six groups of study themes based on research keywords related to Food Delivery, abbreviated as the DATAFF theme.

1. Dose Response (green)
2. Animal Cluster (yellow). In this cluster we can find animal themes. This cluster is related to keywords such as Animal Experiment, rat, rats, and others related to animals.
3. Theoretical Study (purple)
4. Article Cluster (dark blue)
5. Food Delivery Cluster (red). In this cluster, we can find food themes. This cluster is related to the keywords human, supply chain, foof availability, food preference, eating and others related to Food Delivery.
6. Food intake cluster (light blue)

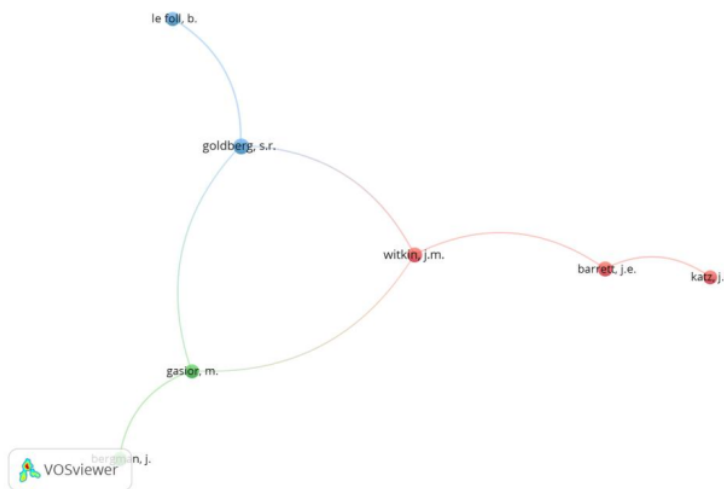*3.9 Author Collaboration Network*

Figure 9. Author Collaboration Network

The criterion for the minimum number of documents per author is five documents. Thus, out of 3,145 authors, 62 authors were found to meet the threshold. There are three groups of collaborative patterns between researchers in the field of Food Delivery as shown in Figure. 9.

There is author collaboration between Le Foll B., Goldberg S.R., such as with the publication title "Rimonabant, a CB1 antagonist, blocks nicotine-conditioned place preferences". Likewise with the author's collaboration between Bergman, j., And Gasior, m. with the publication title "Effects of cocaine under concurrent fixed ratio schedules of food and IV drug availability: a novel choice procedure in monkeys". And author collaboration between Barrett, j.e., Katz, j.l., Witkin, j.m. with the publication title "Effects of Methaqualone on Punished and Nonpunished Behavior".

4. Conclusion

The results of this study indicate the map status and research trends in the field of Food Delivery at the international level which have increased every year. United States, with 630 documents is the most productive country in publication in the field of Food Delivery. The most prolific research institutes and individual researchers in Food Delivery publications are Western Michigan University with 40 documents and Polling, A. with 45 documents. The subject areas and most sources in publications in the field of Food Delivery are Neuroscience with a proportion of 17.2%, and Journal Of The Experimental Analysis Of Behavior with 118 documents. Most citations are works by Xu, A., Wang, Y., Keshaw, H., (...), Lam, K.S.L., Cooper, G.J.S. with the title "The fat-derived hormone adiponectin alleviates alcoholic and nonalcoholic fatty liver diseases in mice" with 1,0337 cited documents. There are three patterns of collaborative researchers in publications in the field of Food Delivery.

In terms of contributing implications for knowledge, this study proposes a classification of the convergence axis consisting of publications in the field of Food Delivery to characterize the pool of knowledge generated from six decades of literature: Dose Response, Animal, Theoretical Study, Article, Food Delivery, Food intake which is abbreviated as DATAFF theme. As implications for practicality, identifying key themes in the field of Food Delivery leads to understanding the development of studies to understand general topics and contexts, as well as research gaps. With all this, new studies can be directed towards overcoming the lack of study and advancing knowledge in the field. The most researched themes also show Food Delivery's contribution to the development of the Food Delivery business.

Researchers expect future researchers to analyze contributions and explain Development Policy by measuring citations based on a combination of data obtained from Scopus & Web of Science.

References

[1] F. Huq, N. Sultana, S. Sarkar, M. A. Razzaque, and M. H. Kamal Tushar, "Optimal worker selection for maximizing quality-of-service of online food delivery system," *2019 Int. Conf. Sustain. Technol. Ind. 4.0, STI 2019*, vol. 0, pp. 1–6, 2019, doi: 10.1109/STI47673.2019.9068059.

[2] J. Hwang and J. Y. (Jacey) Choe, "Exploring perceived risk in building successful drone food delivery services," *Int. J. Contemp. Hosp. Manag.*, vol. 31, no. 8, pp. 3249–3269, 2019, doi: 10.1108/IJCHM-07-2018-0558.

[3] F. Sjahroeddin, "The Role of E-S-Qual and Food Quality on Customer Satisfaction in Online Food Delivery Service," *Ind. Res. Work. Natl. Semin.*, vol. 9, pp. 551–558, 2018.

[4] Y. Liu *et al.*, "FooDNet: Toward an Optimized Food Delivery Network Based on Spatial Crowdsourcing," *IEEE Trans. Mob. Comput.*, vol. 18, no. 6, pp. 1288–1301, 2019, doi: 10.1109/TMC.2018.2861864.

[5] M. Cho, M. A. Bonn, and J. (Justin) Li, "Differences in perceptions about food delivery apps between single-person and multi-person households," *Int. J. Hosp. Manag.*, vol. 77, no. February, pp. 108–116, 2019, doi: 10.1016/j.ijhm.2018.06.019.

[6] D. Suhartanto, G. Leo, L. Setiawati, and S. S. Purwaningsih, "Modelling customer loyalty using partial least square: An empirical evidence from online food industry," *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 830, no. 3, 2020, doi: 10.1088/1757-899X/830/3/032089.

[7] A. Ray, A. Dhir, P. K. Bala, and P. Kaur, "Why do people use food delivery apps (FDA)? A uses and gratification theory perspective," *J. Retail. Consum. Serv.*, vol. 51, no. May, pp. 221–230, 2019, doi: 10.1016/j.jretconser.2019.05.025.

[8] R. E. Chesta, L. Zamponi, and C. Caciagli, "Labour activism and social movement unionism in the gig economy. Food delivery workers' struggles in Italy," *Partecip. e Conflitto*, vol. 12, no.

3, pp. 819–844, 2019, doi: 10.1285/i20356609v12i3p819.

[9]   X. Xu and Y. Huang, "Restaurant information cues, Diners' expectations, and need for cognition: Experimental studies of online-to-offline mobile food ordering," *J. Retail. Consum. Serv.*, vol. 51, no. June, pp. 231–241, 2019, doi: 10.1016/j.jretconser.2019.06.010.

[10]   Y. Lu, Y. Wu, and Y. Zhou, "Order assignment and routing for online food delivery: Two meta-heuristic methods," *ACM Int. Conf. Proceeding Ser.*, vol. Part F127854, pp. 125–129, 2017, doi: 10.1145/3059336.3059349.

[11]   Y. C. Tan, B. F. Lew, K. L. Tan, K. V. Goh, K. L. Lee, and Z. C. Khor, "A new automated food delivery system using autonomous track guided centre-wheel drive robot," *IEEE Conf. Sustain. Util. Dev. Eng. Technol. 2010, STUDENT 2010 - Conf. Bookl.*, no. November, pp. 32–36, 2010, doi: 10.1109/STUDENT.2010.5686986.

[12]   S. Kulanthayan, L. G. See, Y. Kaviyarasu, and M. Z. Nor Afiah, "Prevalence and determinants of non-standard motorcycle safety helmets amongst food delivery workers in Selangor and Kuala Lumpur," *Injury*, vol. 43, no. 5, pp. 653–659, 2012, doi: 10.1016/j.injury.2011.06.197.

[13]   P. Sun, "Your order, their labor: An exploration of algorithms and laboring on food delivery platforms in China," *Chinese J. Commun.*, vol. 12, no. 3, pp. 308–323, 2019, doi: 10.1080/17544750.2019.1583676.

[14]   R. C. Part, "기사 (Article) 와 안내문 (Information) [," *Eletronic Libr.*, vol. 34, no. 1, pp. 1–5, 2010.

[15]   I. Setyawati, A. Purnomo, D. E. Irawan, M. Tamyiz, and D. U. Sutiksno, "A Visual Trend of Literature on Ecopreneurship Research Overviewed within the Last Two Decades," *J. Entrep. Educ.*, vol. 21, no. 4, 2018.

[16]   N. J. van Eck and L. Waltman, *VOSviewer Manual*. Leiden: Universiteit Leiden, 2019.

[17]   A. Xu, Y. Wang, H. Keshaw, L. Y. Xu, K. S. L. Lam, and G. J. S. Cooper, "The fat-derived hormone adiponectin alleviates alcoholic and nonalcoholic fatty liver diseases in mice," *J. Clin. Invest.*, vol. 112, no. 1, pp. 91–100, Jul. 2003, doi: 10.1172/JCI17797.

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