

Editorial

Open Access

Bigger, Stronger and More Open, the “Engineering, Manufacturing” Category in SCI

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Abstract

The number of journals and papers in “Engineering, Manufacturing” category is getting bigger. Bibliometrics indicators of this category reveals the positive trend of robust and open, however it lags the advance of Open Access in the whole SCI database.

Sincere congratulations to *Light: Advanced Manufacturing*, a dynamic and energetic new journal of manufacture subject, warmly welcome.

“Engineering, Manufacturing” is one of the categories in the Science Citation Index Expanded (SCI) database, which is one of the flagship indexes of Web of Science Core Collection. The description of this category is: “Engineering, Manufacturing covers resources on the conversion of raw materials into end-use products or processed materials. Topics in this category include computer-integrated manufacturing (CIM), computer-aided design (CAD), and computer-aided manufacturing (CAM); design of products, tools, and machines; quality control; scheduling; production; and inventory control.”¹ According to the data analysis from SCI and Journal Citation Reports (JCR), this category is getting bigger, stronger and more open.

First of all, the number of journals and papers in this category is getting bigger. There are 10 new entries from JCR2014 to JCR2019²: JCR2019 (1), *Integrating Materials*

and Manufacturing Innovation; JCR2018 (3), *Additive Manufacturing*; *CIRP Journal of Manufacturing Science and Technology*; *Virtual and Physical Prototyping*; JCR2017 (2), *Advances in Manufacturing*; *Journal of Manufacturing Technology Management*; JCR2016 (2), *3D Printing and Additive Manufacturing*; *Journal of Manufacturing Science and Engineering-Transactions of ASME*; JCR2015 (2), *Advances in Production Engineering & Management*; *Human Factors and Ergonomics in Manufacturing & Service Industries*. Table 1 shows the number of journals in this category. From 2014 to 2019, the number of papers in this category also increased. Table 2 shows the number of papers in this category³.

Second, this category is getting stronger, showed by bibliometrics indicators. Consider all papers within this category together as a virtual journal, named as Engineering, Manufacturing. Then calculate the Impact Factor (IF) of this virtual journal, named as Aggregate IF. Table 1 shows the Aggregate IF of this category’s annual increase. The median JIF and average JIF also increased, results from the analysis of Journal Impact Factors (JIF) of journals within this category and journals within all SCI. Also, the increasing rates of average JIF of this category are more than the rates of all SCI journals each year.

Finally, this category is more open, but it lags the

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Table 1 Number of Journals and Impact Factor of “Engineering, Manufacturing” Category

JCR Year	# Journals	# New Entries	Aggregate IF	Median JIF	Average JIF	Increasing Rate(%)	Average JIF of SCI Journals	Increasing Rate of SCI Journals
2019	50	1	3.468	2.612	3.013 8	11.42	2.868 4	4.77
2018	49	3	3.112	2.171	2.704 8	22.51	2.737 7	6.38
2017	46	2	2.710	1.969	2.207 9	8.78	2.573 6	5.81
2016	44	2	2.389	1.964	2.029 7	30.44	2.432 3	8.40
2015	42	2	1.786	1.369	1.556 0	10.84	2.243 9	1.43
2014	40	#	1.663	1.219	1.403 8	#	2.212 3	#

Resource: Journal Citation Reports² Search Date: June 29, 2020**Table 2** Numbers of Papers and Open Access Papers of “Engineering, Manufacturing” Category

Year	# papers	# OA Papers	OA%	# SCI Papers	# OA Papers in SCI	OA Papers in SCI %	# Papers from CN	Papers from CN%	# SCI Papers from CN	SCI Papers from CN%
2019	9,361	1,106	11.81	2,289,322	793,546	34.66	3,355	35.84	516,021	22.54
2018	8,402	997	11.87	2,111,083	762,777	36.13	2,948	35.09	422,403	20.01
2017	7,922	871	10.99	2,029,035	724,955	35.73	2,531	31.95	366,407	18.06
2016	6,954	816	11.73	1,969,139	688,384	34.96	2,102	30.23	330,112	16.76
2015	6,650	658	9.89	1,887,436	588,375	31.17	1,736	26.11	299,936	15.89
2014	5,869	511	8.71	1,833,984	531,578	28.98	1,335	22.75	268,190	14.62
Sum	45,158	4,959	10.98	12,119,999	4,072,040	33.60	14,007	31.02	2,203,069	18.18

Resource: Science Citation Index Expanded of Web of Science Core Collection³ Search Date: June 29, 2020

advance of Open Access (OA) in the whole SCI database. Table 2 shows the number uprising of OA papers of this category. The percentage of OA papers reveals an increasing trend, similar with this percentage of the whole SCI database. However, the percentage of this category is far less than this percentage of the whole SCI database. This indicates an opportunity, the space of golden OA journals in this category are huge.

However, China, with only one journal in this category, contributes the most papers in this category. In research of the papers' geographic distribution, China's mainland overpass the USA and ranks No.1 in 2013. And the proportions of China's mainland in this category continues rise from then on, more than the proportions of China's mainland in whole SCI database (Table 2). In sharp contrast, there is only one journal from China's mainland in this category, *Advances in Manufacturing*. This journal is young, and publishes less than 50 papers annually. China shall publish more journals in this category.

In summary, the “Engineering, Manufacturing” category is bigger, stronger and more open, there is white-space of golden OA journals in this category, China can publish more journals in this category. We expect *Light: Advanced Manufacturing* can play an important role in this category. Go for it and good luck.

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