

A Bibliometric Analysis on Online Shopping

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Abstract: Online Shopping is increasingly becoming popular across the globe. This is relatively a new area of research, which gained significant growth and attention in last decade. This study conducts a bibliometric analysis of the “Online Shopping” research area by collecting research papers and data from Web of Science (WOS) for the period of 2000 to 2014. A total of 772 papers with 7,313 citations from WOS were found. Based on these papers and citations, it evaluates the research performance of journals, authors, and papers related to “Online Shopping” research area on the three evaluation criteria of productivity, sustainability, and impact. It was found from the analyses that Journal of Business Research, Marketing Science, Information & Management, and Psychology & Marketing are the top journals from all the three evaluation criteria of productivity, sustainability, and impact. However, research publications on Online Shopping or e-Commerce are fragmented and depending on the content and author’s preference, researches get published in various journals, sometimes related to Technology, Marketing, Operations, or Management area. Benbasat, Izak was the top author from productivity and sustainability perspective. He wrote 10 papers in 7 different years in the period 2000 to 2014. However, the highest cited paper had 995 citations, written by Gefen, D et al in 2003.

Key words: Bibliometric analysis, e-commerce, e-business, online shopping.

1. Introduction

With the technological development in internet technologies and increased ease in using them, the scope of internet is constantly increasing. It has already acquired a significant share of commerce i.e. buy and sell transactions for various products and services. Although there is an increase in the number of researches in this area but still being a multi-disciplinary area, its exact positioning is often not very clear. Sometimes, online shopping is considered a part of Commerce area, sometimes a part of Marketing area and sometimes a part of Technology, Operations, or Management area. Because of this challenge, researches on online shopping area appears in multiple journals and publications depending on the research perspective and depending on the expertise and choice of the researcher. Considering Online Shopping and e-Business are relatively new areas of research and are multi-disciplinary in nature it is difficult to guess which journals are the best to refer for the research in this area. For the young researchers it may pose a challenge and hence this paper is written to summarize the active journals and researchers in this subject area.

In this paper, bibliographic analysis of journal articles from year 2000 to 2014 is conducted.

2. Method

Web of Science (WOS), which is one of the major bibliography databases is selected for collecting the

journal articles. On 1st Jan 2015, “Online Shopping” was used as the keyword to retrieve all the published articles, and their citations in the following filtered areas.

- A. Business
- B. Computer Science Information Systems
- C. Management
- D. Information Science Library Science

In total, 772 research papers/articles were retrieved.

3. Results

There were 1,789 authors, who published their studies in 163 journals. Number of articles published each year is found to be increasing from year 2000 and the peak was in year 2011 when 115 articles were published. There is a downward trend in the number of articles published each year thereafter. In 2014, 68 articles were published.

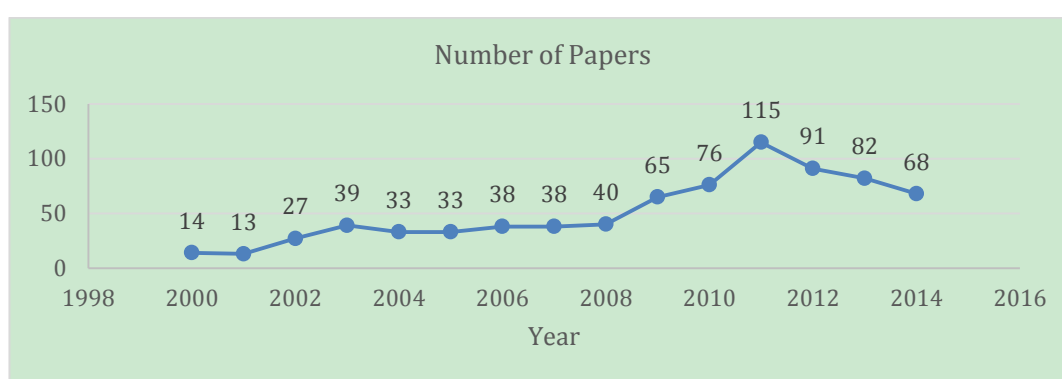


Fig. 1. Number of research papers.

Further analysis of the dataset was conducted based on three criteria i.e. productivity, sustainability and impact.

3.1. Productivity

Productivity indicates number of papers published in a journal during a defined period or the number of papers published by an author in a defined period. As shown in Table 1, Journal of Business Research, Electronic Commerce Research and Applications, and Internet Research are the top 3 journals in terms of number of studies published during the period in this area, constituting around 15% of total 772 research papers.

Table 1. Productivity of Journals

Journals	Number of Papers	% of Total
JOURNAL OF BUSINESS RESEARCH	52	6.74%
ELECTRONIC COMMERCE RESEARCH AND APPLICATIONS	34	4.40%
INTERNET RESEARCH	29	3.76%
JOURNAL OF ELECTRONIC COMMERCE RESEARCH	27	3.50%
DECISION SUPPORT SYSTEMS	26	3.37%
ONLINE INFORMATION REVIEW	23	2.98%
INFORMATION & MANAGEMENT	22	2.85%
MARKETING SCIENCE	21	2.72%
PSYCHOLOGY & MARKETING	21	2.72%
EUROPEAN JOURNAL OF MARKETING	20	2.59%

As shown in Table 2, Benbasat, Izak is the most productive researcher. He published total 10 papers followed by Punj Girish, Forsythe Sandra, Beatty Sharon E, Damhorst Mary Lynn, who published 4 papers

each during the period.

Table 2. Productivity of Authors

Authors	Number of Papers	% of Total
Benbasat, Izak	10	1.30%
Punj, Girish	4	0.52%
Forsythe, Sandra	4	0.52%
Beatty, Sharon E.	4	0.52%
Damhorst, Mary Lynn	4	0.52%

3.2. Sustainability

Sustainability indicates the number of years when any paper on Online Shopping research area was published during the selected period from year 2000 to 2014. As shown in Table 3, Journal of Business Research remains the top journal which contained the Online Shopping related research paper for 14 years followed by Marketing Science, Information & Management and Journal of Retailing with 11 years each.

Table 3. Sustainability of Journals

Journals	Number of Years
JOURNAL OF BUSINESS RESEARCH	14
MARKETING SCIENCE	11
INFORMATION & MANAGEMENT	11
JOURNAL OF RETAILING	11
DECISION SUPPORT SYSTEMS	10
JOURNAL OF COMPUTER INFORMATION SYSTEMS	10
ELECTRONIC COMMERCE RESEARCH AND APPLICATIONS	9
INTERNATIONAL JOURNAL OF ELECTRONIC COMMERCE	9
SERVICE INDUSTRIES JOURNAL	9
PSYCHOLOGY & MARKETING	9
ONLINE INFORMATION REVIEW	9

Top journals from both the perspective of productivity and sustainability are Journal of Business Research, Marketing Science, Information & Management, Decision Support Systems, Electronic Commerce Research and Applications, Psychology & Marketing, and Online Information Review. These journals secured position both in the list of top 10 journals from productivity perspective and also in the list of top 11 journals from sustainability perspective. For creating the list of top sustainability journals, 11 journals were included so as to keep the uniformity in judgment in including all the journals with 9 years of publication.

Journals which exist in the list of top 10 journals from productivity perspective, but not in top 11 journals from sustainability perspective are Internet Research, Journal of Electronic Commerce Research, and European Journal of Marketing. On the other hand, the journals which exist in the list of top 11 journals from sustainability perspective, but not in top 10 journals from productivity perspective are Journal of Retailing, Journal of Computer Information Systems, International Journal of Electronic Commerce, and Service Industries Journal.

Table 4 shows the sustainability of authors. All the authors listed in Table 4, except Haubl, G published their research papers after year 2006. Haubl, G is the earliest researcher, who published his research papers but only till year 2003.

Table 4. Sustainability of Authors

Authors	Number of Years
Benbasat, Izak	7

Damhorst, Mary Lynn	4
Roman, Sergio	3
Wan, Yun	3
Chiu, Chao-Min	3
Hansen, Torben	3
Punj, Girish	3
Breugelmans, Els	3
Al-Natour, Sameh	3
Haubl, G	3
Forsythe, Sandra	3
Bell, David R.	3
Sia, Choon Ling	3
Cebollada, Javier	3
Beatty, Sharon E.	3
Kim, Minjeong	3
Campo, Katia	3
Verhoef, Peter C.	3
Cenfetelli, Ronald T.	3
Lee, Matthew K. O.	3
Teo, Hock-Hai	3

3.3. Impact

Impact is another indicator to analyze the academic contribution of various journals, authors and articles. Table 5 summarizes the highest cited journals. Marketing Science tops the list with total 1,583 citations followed by Information Systems Research, Journal of Retailing, Journal of Business Research and MIS Quarterly, each having more than 1,000 citations.

Table 5. Top 10 Journals with Highest Citations

Journal	Citation #
MARKETING SCIENCE	1,583
INFORMATION SYSTEMS RESEARCH	1,555
JOURNAL OF RETAILING	1,285
JOURNAL OF BUSINESS RESEARCH	1,266
MIS QUARTERLY	1,116
INFORMATION & MANAGEMENT	690
JOURNAL OF SERVICE RESEARCH	545
PSYCHOLOGY & MARKETING	428
JOURNAL OF MANAGEMENT INFORMATION SYSTEMS	375
MANAGEMENT SCIENCE	347

Table 6 shows the top journals with highest number of citations per paper in a journal. Journal of Service Research tops the list with average 273 citations per paper followed by California Management Review and MIS Quarterly each having more than average 100 citations per paper.

Table 6. Top Journals with Highest Number of Citations per Paper

Journal	Number of Citations per paper
JOURNAL OF SERVICE RESEARCH	273

CALIFORNIA MANAGEMENT REVIEW	182
MIS QUARTERLY	159
INFORMATION SYSTEMS RESEARCH	91
ORGANIZATION SCIENCE	90
JOURNAL OF STRATEGIC INFORMATION SYSTEMS	85
MARKETING SCIENCE	75
JOURNAL OF RETAILING	68
MANAGEMENT SCIENCE	58
JOURNAL OF MARKETING	48
INTERNATIONAL JOURNAL OF SERVICE INDUSTRY MANAGEMENT	48

Table 7. Papers with More than 200 Citations

Year	Authors	Title	Citation #
2003	Gefen, D; Karahanna, E; Straub, DW	Trust and TAM in online shopping: An integrated model	995
2000	Novak, TP; Hoffman, DL; Yung, YF	Measuring the customer experience in online environments: A structural modeling approach	584
2002	Koufaris, M	Applying the technology acceptance model and flow theory to online consumer behavior	540
2005	Parasuraman, A; Zeithaml, VA; Malhotra, A	E-S-QUAL - A multiple-item scale for assessing electronic service quality	433
2002	McKinney, V; Yoon, K; Zahedi, F	The measurement of web-customer satisfaction: An expectation and disconfirmation approach	408
2001	Childers, TL; Carr, CL; Peck, J; Carson, S	Hedonic and utilitarian motivations for online retail shopping behavior	387
2000	Haubl, G; Trifts, V	Consumer decision making in online shopping environments: The effects of interactive decision aids	329
2003	Wolfenbarger, M; Gilly, MC	eTailQ: dimensionalizing, measuring and predicting etail quality	327
2002	Devaraj, S; Fan, M; Kohli, R	Antecedents of B2C channel satisfaction and preference: Validating e-commerce metrics	280
2000	Lynch, JG; Ariely, D	Wine online: Search costs affect competition on price, quality, and distribution	263

Table 7 shows the list of research papers, which had more than 200 citations. “Trust and TAM in Online Shopping: An integrated model” published in year 2003 had highest 995 citations [1]. Only other two papers, which had more than 500 citations are “Measuring the customer experience in online environments: A structural modeling approach” [2], and “Applying the technology acceptance model and flow theory to online consumer behavior” [3]. Two out of the top 3 research papers are related to technology acceptance model.

“E-S-QUAL - A multiple-item scale for assessing electronic service quality” is the only paper published after year 2003, which had more than 200 citations. This paper conceptualizes, constructs, refines and tests a multiple-item scale E-S-QUAL for measuring the service quality delivered by web sites on which customers shop online [4]. Research paper titled “The measurement of web-customer satisfaction: An expectation and disconfirmation approach” had 408 citations, and this paper was written to develop theoretically justifiable constructs for measuring web customer satisfaction during the phase in which customers search for information regarding their intended purchases [5].

Next highest cited paper was “Hedonic and utilitarian motivations for online retail shopping behavior”,

which supports the differential importance of immersive, hedonic aspects of the new media as well as the more traditional utilitarian motivations [6]. Research paper “Consumer decision making in online shopping environments: The effects of interactive decision aids” had 329 citations and this paper investigates the nature of the effects that interactive decision aids may have on consumer decision making in online shopping environments [7].

Another highly cited paper related to quality in online retail is “eTailQ: dimensionalizing, measuring and predictingetail quality”. This paper had 327 citations and focusses on establishing the dimensions ofetail experience and develops a scale for the measurement ofetail quality [8].

“Antecedents of B2C channel satisfaction and preference: Validating e-commerce metrics” [9] and “Wine online: Search costs affect competition on price, quality, and distribution” [10] were the only other two papers, which had more than 200 citations. In total, only 10 research papers could get more than 200 citations.

There was no research paper published after 2005, which could get 200 citations. This may reflect that research papers written in the recent time are not very impactful, but partially this may be due to the reason that the research papers written after 2005 has not got the enough time to have many citations. Still, since year 2005, 9 years have passed, which is considerably a long time to have further researches and citations.

However to arrive at any conclusion, further analysis may be needed in coming years to track how the impact of the research papers increases over the years. Also, the sensitivity analysis of the time on the research paper impact will help in segregating the effect of time on the research impact and enabling the forecast of the research impact over the time.

4. Conclusion

From the various analyses it could be concluded that the number of research papers published every year has increased significantly in last decade but the impact of the research papers measured by the number of citations was relatively more for the research papers published between years 2000 to 2003. Partially this may be due to the reason that during the early years of this century, internet businesses were witnessing growth and foundation theories of e-Business and e-Commerce were being set-up during this period. But, it is possible to argue that comparatively a longer period of time has passed for the papers written between year 2000 to 2003, which naturally is resulting in higher number of citations for these papers and hence the higher impact.

Benbasat, Izak was the top author from productivity and sustainability perspective. He wrote 10 papers in 7 different years in the period 2000 to 2014. However, Gefen, D. *et al.* wrote the paper which had 995 citations, which is the highest number of citations for any paper written on the subject area.

With online shopping becoming increasingly popular it is expected that more impactful papers and active work will continue in near future also. However, it could be noticed that there is no single prominent journal for the subject area. Research publications on Online Shopping or e-Commerce are fragmented and depending on the content and author’s preference, researchers publish their papers in various journals, sometimes related to Technology, Marketing, Operations, or Management area. Still, Journal of Business Research, Marketing Science, Information & Management, and Psychology & Marketing are the top journals from all the three evaluation criteria of productivity, sustainability, and impact on the subject area.

5. Limitations

This study is conducted based on the search results on WOS by inputting search keywords of “Online Shopping”. It is possible that research work may have got published on the related content by using some

other synonyms/key-words. Also, there is a possibility of error if the researcher may have changed the names used in publication over the time. Also, the effect of time elapsed, needs to be segregated from the impact of research papers so as to make comparisons of the impact of papers published across different time periods.

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