

Thirty Years of the Journal of Business & Industrial Marketing: A Bibliometric Analysis

Abstract

Purpose

In commemoration of the 30th anniversary of the Journal of Business & Industrial Marketing this study presents an overview of the journal through a bibliometric analysis of scientific content during the period of 1986-2015. The analysis is concentrated on the most cited papers and authors, the H-index, most cited authors, publications per year, among others.

Design/methodology/approach

The article begins with a qualitative introduction referring to the emergence of the magazine, its origins, editorial and positioning followed by bibliometric quantitative analyses. The study also investigates the distribution of annual publications, citations and keywords as well as authorship and institutions.

Findings

Research findings reveal that the journal covers a wide variety of topics with business-to-business marketing, relationship marketing, buyer-seller relationships, innovation, and industrial marketing as the most representative. The international scope of the journal is also highlighted with authorship from countries distributed all over the world. A significant portion of the contributions to the journal comes from top tier universities hosted in the United States and Europe.

Research limitations/implications

The analyses are limited to data derived from the Scopus database. Therefore, the study excludes publications not contained in Scopus and may underestimate the full impact of JBIM to the marketing field.

Practical implications

After observing the different perspectives of the journal's production, it allows to give an objective view of the evolution that the Journal of Business & Industrial Marketing has had in the last 30 years.

Social implications –

Originality/value

It is part of the trend that several journals (Journal of Marketing, Journal of Public Policy & Marketing, Journal of Marketing Research, and Journal of Business Research) made special sections to show progress and contribution of these journals to scientific research.

Keywords: Journal of Business & Industrial Marketing, bibliometrics, science mapping, business marketing.

INTRODUCTION

In celebration of the 30th anniversary of the Journal of Business & Industrial Marketing (JBIM), this manuscript uses bibliometric analyses to examine the theoretical and practical contributions of the outlet to business-to-business and industrial marketing. This evaluation gains importance as JBIM is one of the few journals dedicated to examining topics pertaining business-to-business (B-to-B) as opposed to business-to-consumer transactions (B-to-C).

JBIM arises with Robert Grayson (as publisher) and Peter LaPlaca (as editor) with the purpose that academics and researchers to develop and publish theoretical and practical studies to enhance our understanding of the unique aspects of business-to-business exchanges and relationships. With the exception of *Industrial Marketing Management*, traditional marketing journals were almost exclusively dedicated to examining B-to-B issues. A focus on B-to-B exchanges is of paramount importance as B-to-B transactions differ from B-to-C dealings on a variety of aspects, including: (1) type of products/services, (2) market characteristics, and (3) marketing activities (Cooke, 1986).

The first issue of JBIM was published in fall 1986. The first issue contained 11 articles with 8 studies authored by executives from major industrial companies (LaPlaca and Johnston, 2006). From its inception, JBIM has focused on both the practical implications of research without neglecting conceptual and research rigor. The online version of JBIM also appeared in 1986 bringing efficiency to the publication process while also increasing the availability and dissemination of the outlet. The second year of JBIM was marked by the continued acceptance of the magazine as a worthy goal for the publication of research. The second volume already consisted of 32 articles and two books reviews giving a firm foundation for the future for JBIM. JBIM is now widely recognized as a highly reputable journal in marketing with core contributions to managerial and application aspects of the field (Baumgartner and Pieters, 2003).

Today, JBIM is led by Professor Wesley J. Johnston, PhD., representing a journal that is not only referent in the field of B-to-B, but also at the level of marketing in general, contributing with ideas, theories, models and cases of applicable studies to the market B-to-B. JBIM's positioning is oriented to the need to improve the effectiveness of marketing and B-to-B sales (Lewin and Johnston, 1996; 1997). This positioning is attractive to specialists, academics, directors and executives belonging to B-to-B.

With regard to trends in B-to-B studies, Reid & Plank (2000) conducted a literature review of papers published in various journals specialized in industrial marketing between 1978 and 1997. From the more than two thousand articles studied, the authors found that more than 40 percent of the manuscripts address organizational buyer behavior, planning, strategy and sales management topics in the context of B-to-B marketing. Their study also shows that issues pertaining technological advances and their impact on the relationship between firms, pricing, and ethics in B-to-B relationships have been practically ingored. LaPlaca and Katrichis (2009) performed a similar review

involving 150 B-to-B manuscripts published in 31 marketing journals. Their study also confirmed that the most widely studied topics in B-to-B relate to organizational behavior of buyers, sales management, relationship perception by customers, and distribution channels. However, LaPlaca and Katrichis (2009) also show that recent papers have also studied the role of Internet and technological advances in the context of B-to-B. Researchers have recognized the role of the internet, e-commerce, and technological development as enablers of a significant expansion of trade among firms (Grewal et al. 2001; Fill and Fill, 2005; Garcia and Calantore, 2002; Grewal and Lilien, 2012). According to Grewal et al. (2001), the main determinants of e-business participation are firm capacity and organizational motivation. Garcia and Calantore (2002) also suggest that there is a close relationship between marketing and technological advances in both a macro-level and a micro-level. In recent years, manuscripts have also focused on perceived customer value. Lapierre (2000), one of the most cited papers in B-to-B presents a study of perceived value by consumers in the context of relations between organizations. Callarisa et al. (2011) show that the value perceived by firms in a context of industrial cluster is conditioned by rational or functional aspects of character and, on the other hand, is affected by emotional aspects and social nature. Regarding to bibliometric studies applied to Marketing, studies have focused on journal rankings (Theoharakis and Hirst, 2002; Hult and Ferrell, 2012), content analyses of an area (Svensson and Wood, 2008; Nakata and Huang, 2005; Ramirez, David and Brusco, 2013) and in-depth studies of a particular journal (Malhotra, Wu and Whitelock, 2013; Biemans, Griffin and Moenaert, 2007; Hults and Ferrell, 2012; Sprott and Miyazaki, 2002; Hofman and Holbrook, 1993). In recent years, bibliometric studies have been used to show the progress of a particular journal and its contribution to research (e.g., Merigó et al. 2015).

In celebration of the 30th anniversary of JBIM and honoring its stature as one of the leading journals dedicated to B-to-B and industrial marketing we conduct a bibliometric study that brings answers to the following research questions: 1) What are the main topics published in the journal? 2) Which are the most impactful papers of the journal?, 3) Which journals are citing JBIM manuscripts?, 4) Who are the most prolific authors of the journal and what is their university affiliation?, and 5) What is the percentage of industrial marketing research published in JBIM? The main objective of this article is to reveal the contribution that JBIM has to scientific research and its most influential thematic work in B-to-B since its beginning in 1986 until 2015.

This work justifies its interest and importance to the area of marketing and specifically to the field of industrial marketing from several perspectives. First, for readers it is helpful to have an overview of the types of publications, journal style and topics of interest for review. Second, for current and potential authors, it can serve as a guide orientating in relation to content, topics of interest, sources or character review and in general, providing them with information that may help them in their intention to publish their research in this journal. Thirdly, for the entire scientific community (publishers, academics, authors, and readers) this study represents a useful tool to show the

progress and evolution that JBIM has experienced during its 29 years of publication contribution, showing historical trends that could signal new opportunities and relevant challenges to support or re-direct the strategic decisions by journal editors.

METHODOLOGY

A bibliometric study was performed with all publications of JBIM from 1986 to 2015 between November and December 2015. The bibliometrics is based on the results obtained from the Scopus database, which is the largest base of abstracts and bibliographic references of peer-reviewed scientific literature, with more than 18,000 titles from 5,000 publishers allowing international multidisciplinary integration and is updated daily. It also contains essential tools that will enable a more complete view of the settings such as the author profile and citation tracker. Finally, the index contains the tool "H"; all these tools will be applied when presenting the results of this study. However, the data for the period from 1986 to 1994 were obtained considering two sources: the number of publications in the webpage of JBIM and Scopus database, while from 1995 to 2015 only the database was used since it incorporates all publications for that period of time. Thus, it was done with 1,086 published studies, between 214 from 1984 to 1994 and and 872 publications from 1995-2015. It is important to consider that this number may shift over time due to the dynamics of the database, incorporating new recurrent publications (as does the number of citations of each article).

For achieving some datas, we proceeded to filter the total database to encompass all articles published by the magazine JBIM. It is important to consider all possible "names" that are given to the magazine. After for this investigation we used the following filters corresponding to "Source Title": "Journal of business and industrial marketing", "The journal of business and industrial marketing", "Journal industrial marketing business", and "Journal business and industrial marketing"

The results of the study were presented like rankings in format tables and / or graphics mainly determined by the number of publications or citations that they have, trying to cover both "productivity" and "impact" that the studies have respectively. In addition, the H index was incorporated, which generally captures very accurately the way these two elements, in a single measure, through the integration of number of published papers and citations in this index. (Hirsch, 2005). Finally, other indicators that can contribute to the analysis such as the ratio (citations / articles) as an indicator of the number of citations obtained per unit of published articles (Merigó, Gil-Lafuente, and Yager, 2015) and other productivity ratios and citations.

Furthermore, the VOS viewer software is also used to visualize the results graphically. The VOS viewer (Van Eck and Waltman, 2010) is a software designed by a research group of Leiden University that collects information from

databases such as Web of Science or Scopus and generates graphs representing bibliographic connection results. Generally, it is usually considered that there are two types of connections: bibliographic coupling and co-citation. Bibliographic coupling is defined as a situation in which two documents cite a third document (Martyn, 1964). Co-citation is defined as the stage on which two papers are cited by a third document (Small, 1973).

RESULTS

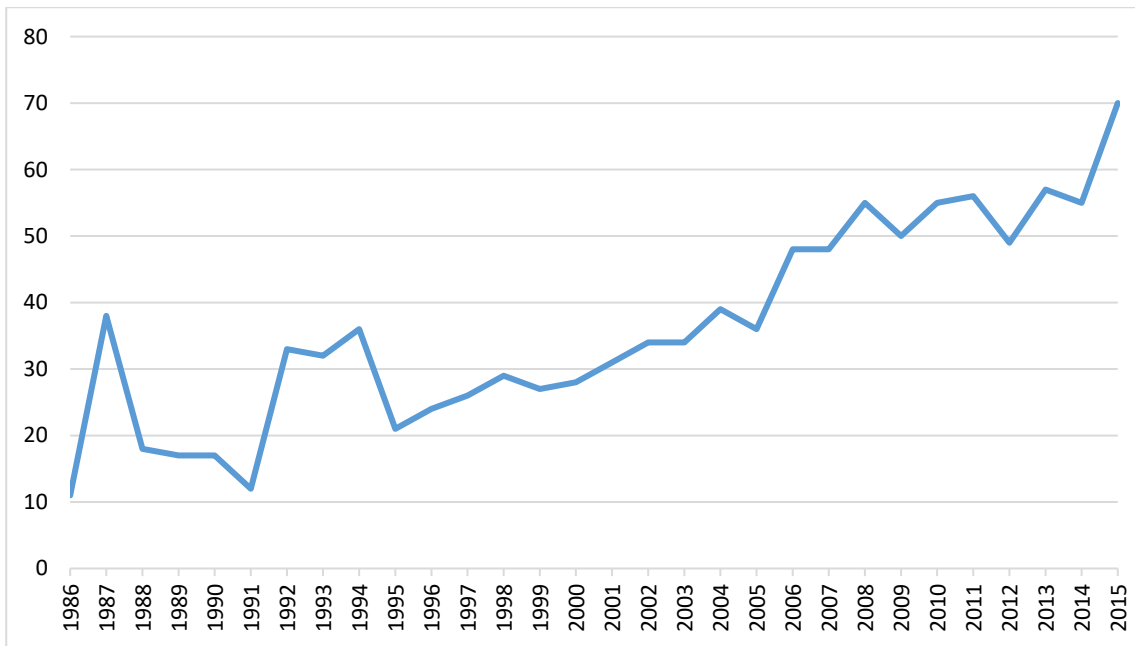
This section presents the results for the JBIM focused on exploring its performance, evolution and trends over the last 30 years. The results are derived from bibliometric analysis obtained from the Scopus database in conjunction with the official information published by the magazine. To date 1,086 studies found that will form the basis of this analysis is presented. In addition, it limited the analyzing to the document types "Articles" and "Reviews" obtaining 798 publications and 74 respectively. Editorial notes and comments were removed from the analyses because they are not subject to the peer review process. Moreover, they have a combined total of 13,182 citations, making an average of 12.14 citations per paper. Its H index is the same as 50, which means that there are 50 studies that have received at least 50 citations.

Publication and citation evolution

The distribution of publications during the period 1986-2015 is shown in Figure 1. In the first year of the magazine (1986), 11 were published, achieving 32 publications, and increasing by more than 300% in the year 1987. However, Figure 1 shows that after the year 1987 to 1991, productivity decreases, being the 1991 the lowest number of publications published (only 12 items). And in 1992, growth picked up with 26 citations. From 1992 to 2015 a sustained growth can be observed in the rates with some exceptions where it decreased 1993, 2009, 2012 and 2014. On average until 2005 it shows that the number of publications is less than 40 per year. From 2006 onwards this barrier was overcome, obtaining an average of 54 articles in the last ten years each year. One can see that JBIM is attracting the scientific community posting higher productivity in the year 2015 with a total of 70 items.

To explain this growth there are two main factors that are distinguished: 1) the increasing subscription rate of the magazine which has obtained a general increase of researchers worldwide; 2) the development of computer technology and the Internet that allows one to instantly obtain a greater volume of information related to this subject of industrial marketing and all global issues.

Figure 1 Distribution of documents by year (1986-2015)



Source: Own elaboration based on Scopus data.

To explain this growth there are two main factors that are distinguished: 1) the increasing subscription rate of the magazine which has obtained a general increase of researchers worldwide; 2) the development of computer technology and the Internet that allows one to instantly obtain a greater volume of information related to this subject of industrial marketing and all global issues.

Table I presents the structure of the citations from the magazine and its evolution through the years. For this analysis one must consider quantity of years it has been published, influences in the number of citations from a text, so it is understandable that the gradual decline in the number of total citations reached by year is considered. The first half (1986-2000) represents nearly 40% of all citations peaking in 2002 (1,156 citations) and from 2005 to date are 6 years with over 500 citations each. The data shows that during the period analyzed there are 12 articles with more than 100 citations, 48 with more than 50 citations, 190 with more than 20 citations, 410 with more than 10 citations, 605 with more than 5 citations and 912 with the least one citation which implies that 85.42% of the articles are cited.

Table I Distribution of citations by year (1986-2015)

Year	≥100	≥50	≥20	≥10	≥5	≥1	Total Papers	Total citations
1986	0	0	0	1	1	8	11	26
1987	0	0	1	3	5	23	38	133
1988	0	0	0	2	3	12	18	64
1989	0	0	0	0	0	11	17	34
1990	0	0	1	3	4	15	17	79
1991	0	0	1	1	3	6	12	57
1992	0	0	0	5	12	27	33	159

1993	0	0	0	6	13	29	32	162
1994	0	2	6	12	17	28	36	432
1995	0	2	4	8	11	19	21	322
1996	1	2	6	17	21	24	24	550
1997	0	3	7	14	21	25	26	493
1998	3	6	13	20	26	29	29	346
1999	1	1	11	21	24	27	27	604
2000	1	5	14	20	23	27	28	828
2001	1	5	14	22	25	30	31	851
2002	1	7	16	25	29	34	34	1156
2003	2	5	13	21	29	33	34	934
2004	2	4	14	24	32	37	39	1007
2005	0	1	12	24	34	36	36	612
2006	0	1	14	31	40	47	48	781
2007	0	1	16	31	43	47	48	760
2008	0	1	12	32	40	55	55	791
2009	0	1	7	22	41	50	50	610
2010	0	1	5	18	39	53	55	516
2011	0	0	2	18	35	53	56	415
2012	0	0	1	8	19	44	49	236
2013	0	0	0	0	13	49	57	169
2014	0	0	0	1	2	25	55	44
2015	0	0	0	0	0	9	70	11
Total	12	48	190	410	605	912	1086	13182
Porcentaje	1,17%	4,70%	18,49%	39,43%	58,41%	85,42%	100,00%	

Source: Own elaboration based on Scopus data.

Abbreviations: ≥ 100 , ≥ 50 , ≥ 20 , ≥ 10 , ≥ 5 , ≥ 1 = number of articles with equal or more than 100, 50, 20, 10, 5 and 1 citation.

In detail, the magazine has 13,182 citations, which gives it a ratio of approximately 12 citations per study conducted, and more than 80% of these studies have been cited at least once since its publication. In its first year it reaches the 26 citations, exponentially increasing that amount for the following year, where it reaches 100 citations (133 in total). In 1989 was the year with least number of citations published (34 citations, excluding the last year analyzed (2015)) with an average of two citations per published study. 1994 was the first time a study was cited more than 100 times, which tripled in 1998 being the year with the highest number of studies cited more than 100 times (3). To date, there have been 8 years that it has published a study with at least 100 citations and every year at least one of its publications has been cited, being 1991 the year with the least percentage of published articles published at least 1 time (50%). Finally, one should consider that the decline in recent years is affected by lower temporary exhibition that the study has had.

Most cited papers and keywords

The distribution of the most cited articles by year in JBIM is shown in Table II. The first 30 studies are done according to their ranking, total number of citations, study title, author, year of publication and finally a ratio (total citations / year). There are 12 studies that have been cited at least 100 times and three of them were published in 1998. As expected, the most cited articles are from more distant years due to citation window, ie, an item needs 3 to 7 years to reach the greatest number of citations (Wang, 2013).

Table II Ranking of most cited papers by year

R	TC	Title	Author	Year	TC/ YEAR
1	302	Customer perceived value A substitute for satisfaction in business markets?	Eggert, A., Ulaga, W.	2002	23,23
2	211	Customer-perceived value in industrial contexts	Lapierre, J.	2000	14,07
3	203	The relationship marketing process: Communication, interaction, dialogue, value	Grönroos, C.	2004	18,45
4	194	Interaction, relationships and networks in business markets: An evolving perspective	Turnbull, P., Ford, D., Cunningham, M.	1996	10,21
5	183	Tacit knowledge transfer and firm innovation capability	Tamer Cavusgil, S., Calantone, R.J., Zhao, Y.	2003	15,25
6	164	Product services: From a service supporting the product to a service supporting the client	Mathieu, V.	2001	11,71
7	148	Cooperation and competition in relationships between competitors in business networks	Bengtsson, M., Kock, S.	1999	9,25
8	147	Marketing service relationships: The role of commitment	Wetzels, M., De Ruyter, K.	1998	8,65
9	127	Case study research methods for theory building	Woodside, A.G., Wilson, E.J.	2003	10,58
10	127	Marketing services: The case of a missing product	Grönroos, C.	1998	7,47
11	105	Customer service in business-to-business markets: An agenda for research	Parasuraman, A.	1998	6,18
12	101	Return on relationships (ROR): The value of relationship marketing and CRM in business-to-business contexts	Gummesson, E.	2004	9,18
13	99	A stakeholder theory approach to designing environmental marketing strategy	Polonsky, M.J.	1995	4,95
14	91	Users' adoption of e-banking services: The Malaysian perspective	Poon, W.-C.	2008	13,00
15	91	All research is interpretive!	Gummesson, E.	2003	7,58
16	86	Toward a transcending conceptualization of relationship: A service-dominant logic perspective	Vargo, S.L.	2009	14,33
17	84	The explanatory foundations of relationship marketing theory	Hunt, S.D., Arnett, D.B., Madhavaram, S.	2006	9,33
18	83	Organizational buying behavior: Past performance and future expectations	Sheth, J.N.	1996	4,37

19	82	Behavioral implications of the transition process from products to services	Gebauer, H., Friedli, T.	2005	8,20
20	82	The impact of information technology deployment on trust, commitment and value creation in business relationships	Ryssel, R., Ritter, T., Gemünden, H.G.	2004	7,45
21	81	Dialogue and its role in the development of relationship specific knowledge	Ballantyne, D.	2004	7,36
22	78	Organizational culture and job satisfaction	Lund, D.B.	2003	6,50
23	77	What makes firms more innovative? A look at organizational and environmental factors	Özsomer, A., Calantone, R.J., Di Benedetto, A.	1997	4,28
24	76	Creating competitive advantage in industrial services	Matthyssens, P., Vandenbempt, K.	1998	4,47
25	73	Managing the paradox of inter-firm learning: The role of governance mechanisms	Mohr, J.J., Sengupta, S.	2002	5,62
26	70	Purchasing business services	Fitzsimmons, J.A., Noh, J., Thies, E.	1998	4,12
27	69	Measuring network competence: Some international evidence	Ritter, T., Wilkinson, I.F., Johnston, W.J.	2002	5,31
28	65	Market-based success, organizational routines, and unlearning	Sinkula, J.M.	2002	5,00
29	61	International Technology Adoption: Behavior Structure, Demand Certainty and Culture	Phillips, L.A., Calantone, R., Lee, M.-T.	1994	2,90
30	63	Relationships among TPL providers and members of supply chains - A strategic perspective	Bask, A.H.	2001	4,50

Source: Own elaboration based on Scopus data.

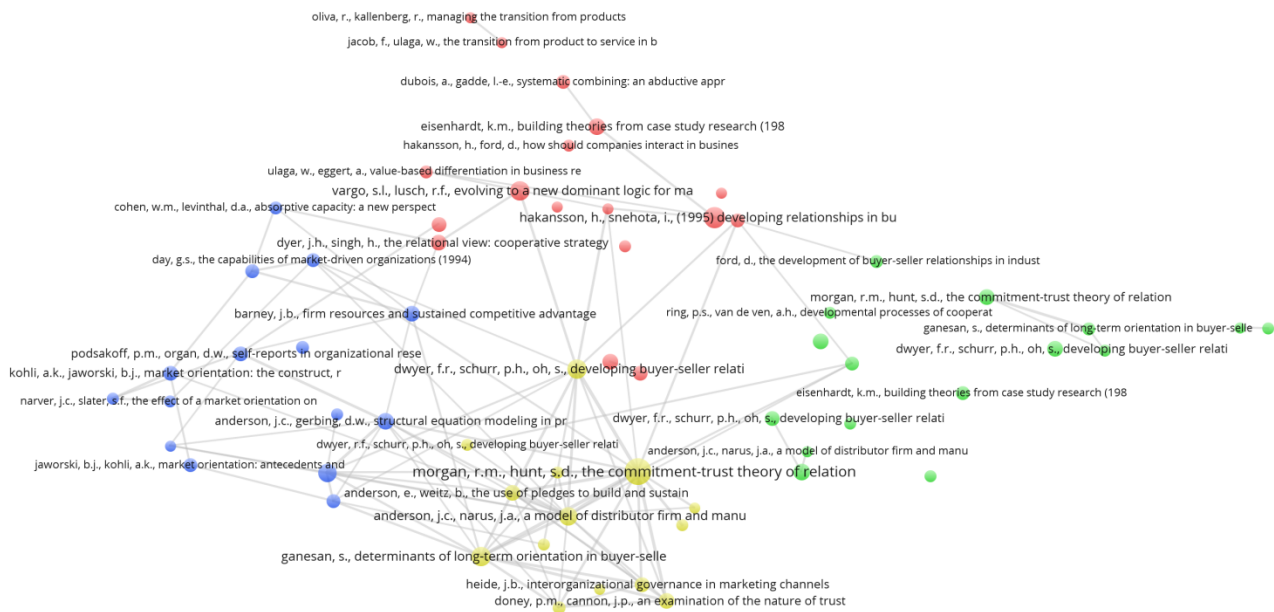
Abbreviations: R = Rank; TC = Total citations; TC/Year = Cites per year.

The study with the most citations (302) of JBIM is "Customer perceived value: A substitute for satisfaction in business markets?" published in 2002 and raised the perceived customer value and satisfaction as two different but complementary constructs when predicting the behavior of the clients. To reach this conclusion, it investigates whether customer value and satisfaction represent two theoretical concepts and empirically different, as well as whether the value is a better predictor than satisfaction in a context of B-TO-B marketing. It develops two alternative and empirically tested models in a cross-sectional study with purchasing managers in Germany. The ratio of number of citations per year is approximately 23 citations. "Customer-perceived value in industry contexts" follows, and because of study, delivers 13 drivers of value perceived by the customer and that act similarly in at least three sectors (Information, Communication and Entertainment, Distribution and Finance). This study has been cited 211 times and has a ratio equal to 14 citations per year. In both cases, as one can see, the issue to be addressed is the value perceived by the consumer. Within the top 3 is "The relationship marketing process: Communication, interaction, dialogue, value" which, like other studies within the table, covers the topic of Relationship Marketing and its

importance to add value. The following studies cover other issues such as innovation, organizational culture, case studies, use of e-commerce and technology.

Note that Table II presents the most cited journal articles. However, it can also be interesting to analyze which are the articles that are mostly cited in JBIM. This can be done through VOS viewer software. Figure 2 presents the articles that have been cited at least ten times with 100 of the most representative connections.

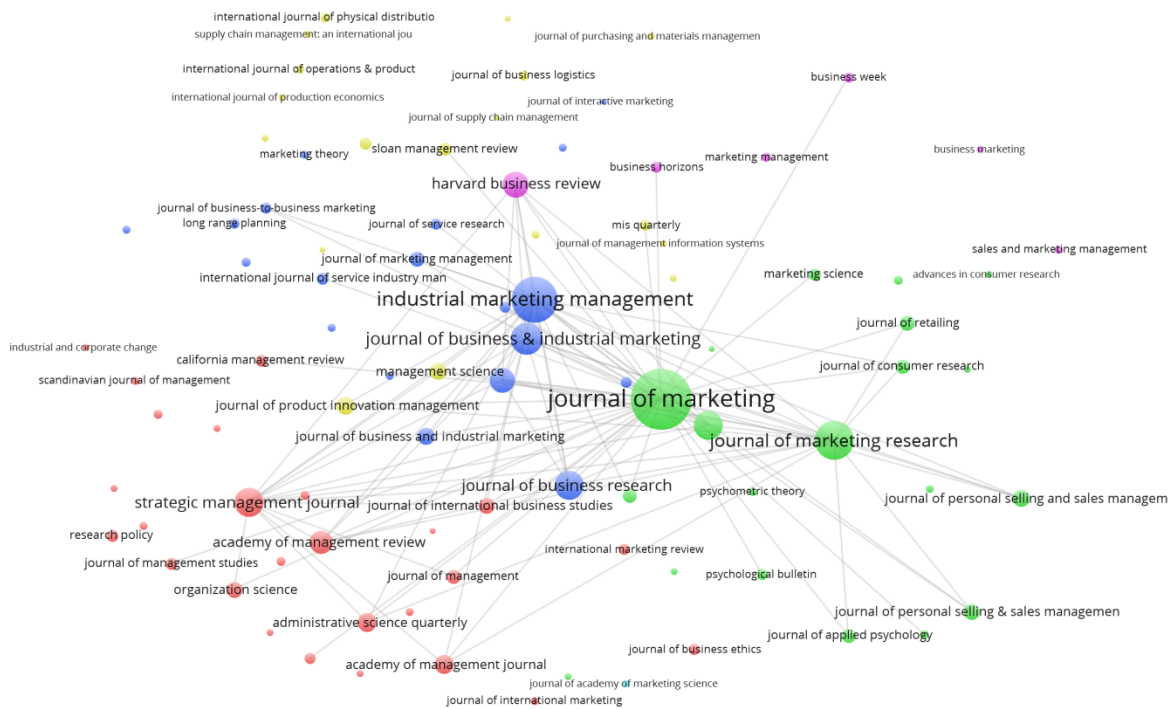
Figure 2 Co-citation analysis of the most cited articles in JBIM



Source: Own elaboration based on Scopus data.

In this context, the software also allows us to analyze what the most cited journals in JBIM are and including the co-citations between them. Figure 3 presents the journals that have received more than 50 citations in JBIM and the 100 most representative connections for co-citations between magazines.

Figure 3 Co-citation analysis of the most cited journals in JBIM



Source: Own elaboration based on Scopus data.

As shown, JBIM has a clear focus on marketing since it mostly cites marketing magazines even though it also cites management magazines in general. Journal of Marketing, Industrial Marketing Management and Journal of Marketing Research are the most cited journals in JBIM. The first and third are usually regarded as the two most influential magazines in marketing, while the second magazine shows its clear thematic connection with JBIM. JBIM and Industrial Marketing Management are the two central magazines in the area of industrial marketing.

Most representative keywords in JBIM

Table III presents the results for the 30 keywords mostly used in the search for articles published in JBIM, indicators of the total amount of articles with keywords, total citations, its h-index, the ratio (citations / papers) and finally cited thresholds. This information helps determine which the keywords are when searching articles of JBIM and it is a good proxy of the keywords for any article related to B-TO-B. Given the orientation of the magazine "Business-to-business marketing" is the most used keyword by the authors of the papers of this magazine.

15% of the articles contain the keyword "Business to Business Marketing". These items also have 2,558 citations and 25 papers are cited at least 25 times as reflected in its H index. Two works that contain this keyword have more than 200 citations, 4 have more than 100 citations, 8 more than 50 citations and 34 more than 25 citations.

Subsequently, what follows is considerably fewer publications in the articles containing the keyword "Relationship Marketing" with 89 items. However, the number of associated citations is similar to the keyword of the first position, presenting 2,385 citations and 26.8 per article. The keywords "Buyer-seller relationships", "Innovation" and "Industrial Marketing" occupy positions 3, 4 and 5th respectively, with a similar number of articles and citations containing those words. So, it is important to note that the first five keywords of JBIM mainly relate to words associated with B-TO-B marketing, which relate directly to the most cited articles and strongly mark the orientation of the journal.

Table III Most representative keywords of JBIM

R	Keywords	TP	TC	H	TC/TP	>200	>100	>50	>25
1	Business-to-business marketing	143	2558	25	17,89	2	4	8	34
2	Relationship marketing	89	2385	27	26,80	2	4	14	28
3	Buyer-seller relationships	54	874	17	16,19	0	0	4	11
4	Innovation	46	571	13	12,41	0	1	2	6
5	Industrial marketing	42	644	13	15,33	0	1	4	7
6	Channel relationships	41	624	15	15,22	0	0	2	11
7	Trust	39	645	15	16,54	0	0	2	10
8	Marketing strategy	37	420	13	11,35	0	0	0	6
9	Supply chain management	36	506	15	14,06	0	0	1	6
10	Sales force	33	178	8	5,39	0	0	0	1
11	Marketing	32	466	14	14,56	0	0	2	5
12	Purchasing	30	429	13	14,30	0	0	2	4
13	Sales management	30	303	10	10,10	0	0	1	3
14	Supplier relations	27	390	9	14,44	0	0	3	4
15	Market orientation	27	288	10	10,67	0	0	1	3
16	Customer satisfaction	24	601	13	25,04	1	1	1	3
17	Networks	24	449	9	18,71	0	1	2	5
18	China	24	256	11	10,67	0	0	1	1
19	Suppliers	21	243	9	11,57	0	0	1	3
20	USA	19	129	5	6,79	0	0	0	2
21	Networking	18	321	12	17,83	0	0	1	3
22	Sales	18	232	10	12,89	0	0	1	1
23	Customer orientation	17	277	8	16,29	0	0	1	6
24	Organizational performance	17	166	8	9,76	0	0	0	3
25	Selling	16	224	8	14,00	0	0	0	5
26	Channel relations	15	357	12	23,80	0	0	2	6
27	Case studies	15	313	7	20,87	0	1	2	3
28	Internet	15	306	9	20,40	0	0	2	4
29	Product development	15	179	10	11,93	0	0	0	1
30	Electronic commerce	14	314	10	22,43	0	0	1	5
31	Performance	14	195	7	13,93	0	0	1	3

32	Trade fairs	14	134	7	9,57	0	0	0	1
33	Buyers	14	99	6	7,07	0	0	0	1
34	Knowledge management	13	419	6	32,23	0	1	3	4
35	Customer relations	13	261	9	20,08	0	1	1	3
36	Key accounts	13	260	8	20,00	0	0	0	6
37	Competitive strategy	13	228	6	17,54	0	1	1	1
38	Decision making	13	228	7	17,54	0	0	1	3
39	Customers	13	218	6	16,77	0	0	2	3
40	India	13	74	5	5,69	0	0	0	0

Source: Own elaboration based on Scopus data.

Abbreviations available in previous Tables expect for: TP = Total publications; H = h-index; TC/TP = Cites per paper.

Next, let us map the keywords graphically through the VOS viewer. For doing so, we use co-occurrence analysis of the keywords provided by the authors at the beginning of the paper together with the abstract. Figure 4 presents the results.

Figure 4 Co-occurrence of keywords in JBIM

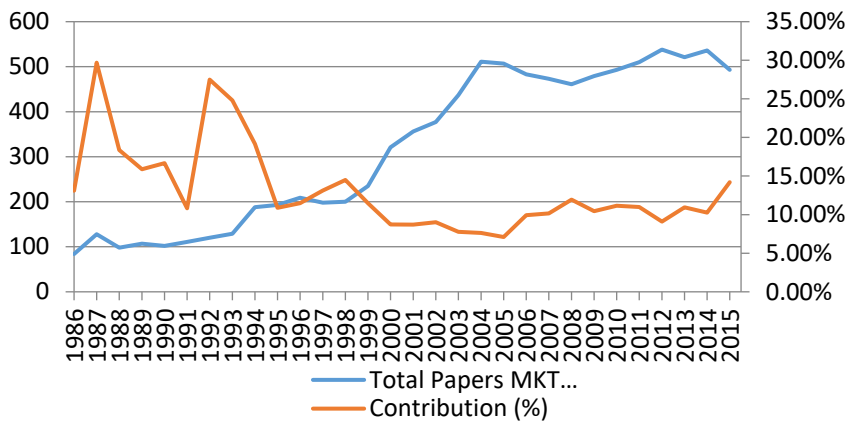
1986	84	11	-	-	13,10%
1987	128	38	52,4	245,5	29,69%
1988	98	18	-23,4	-52,6	18,37%
1989	107	17	9,2	-5,6	15,89%
1990	102	17	-4,7	0,0	16,67%
1991	111	12	8,8	-29,4	10,81%
1992	120	33	8,1	175,0	27,50%
1993	129	32	7,5	-3,0	24,81%
1994	188	36	45,7	12,5	19,15%
1995	193	21	2,7	-41,7	10,88%
1996	209	24	8,3	14,3	11,48%
1997	198	26	-5,3	8,3	13,13%
1998	200	29	1,0	11,5	14,50%
1999	235	27	17,5	-6,9	11,49%
2000	321	28	36,6	3,7	8,72%
2001	356	31	10,9	10,7	8,71%
2002	377	34	5,9	9,7	9,02%
2003	437	34	15,9	0,0	7,78%
2004	511	39	16,9	14,7	7,63%
2005	507	36	-0,8	-7,7	7,10%
2006	483	48	-4,7	33,3	9,94%
2007	473	48	-2,1	0,0	10,15%
2008	461	55	-2,5	14,6	11,93%
2009	479	50	3,9	-9,1	10,44%
2010	493	55	2,9	10,0	11,16%
2011	510	56	3,4	1,8	10,98%
2012	538	49	5,5	-12,5	9,11%
2013	521	57	-3,2	16,3	10,94%
2014	536	55	2,9	-3,5	10,26%
2015	493	70	-8,0	27,3	14,20%

Source: Own elaboration based on Scopus data.

The average growth of publications in JBIM is 15%, however, for purposes of analysis, it excludes growth between 1986 and 1987 since it is different from the the following years. Therefore, the average growth is 6.9% which is very similar to the total area (7.3%). On the other hand, the years 1997, 2006, 2008 and 2013 the growth in JBIM publications was higher than the total in the area.

The contribution in percentage of publications of JBIM in the Industrial Marketing with relations to the total industrial marketing articles published in the database and the change in the percentage contribution can be clearly seen in Figure 5.

Figure 5 Contribution of publication percentage of JBIM to the total publications on Industrial Marketing



Source: Own elaboration based on Scopus data.

As we can see, in the beginning are the years where it reaches its participation peak. In 1987 29% of total Industrial Marketing publications were made in JBIM being its greatest contribution year. Then, in 1992 it publishes 27% of total products (33) in a year where the total number of publications in relation to the area grew by 8.1%. Then, for the first half of the 2000's, the contribution decreased and remained below double digits due to the decline in the growth of publications in the magazine and the growth increased above the average of the generality of articles for that year (14, 2%). Finally, you can observe an upward trend in the influence of the magazine in recent years, reaching 14.2% at the end of this investigation.

Most productive/cited authors

The most productive and most cited authors can be seen in Table V, which presents a ranking of the 30 most influential authors for JBIM; along with their nationality, and institution where they currently work.

Table V Most productive and cited authors

R	Name	University	Country	TP*	TC	TC/TP	H
1	Calantone, Roger J.	Michigan State University	USA	11	462	42	10
2	Johnston, Wesley J.	Georgia State University	USA	27	367	13,59	12
3	Woodside, Arch G.	Boston College	USA	15	321	21,4	10
4	Gummesson, Evert	Stockholm University	SWE	5	267	53,4	4
5	Ritter, Thomas	Copenhagen Business School	DK	5	220	44	4
6	Boles, James S.	Georgia State University	USA	10	180	18	7
7	Wilkinson, Ian F.	University of Southern Denmark	DK	7	144	20,57	6
8	Barksdale, Hiram C.	Georgia State University	USA	6	139	23,17	5
9	Matthyssens, Paul	University of Antwerp	BEL	7	138	19,71	5
10	Hunt, Shelby D.	Texas Tech University at Lubbock	USA	5	130	26	3
11	Gebauer, Heiko	Swiss Federal Institute of Aquatic Science and Technology	CH	5	118	23,6	5
12	Vandenbempt, Koen	University of Antwerp	BEL	5	112	22,4	3
13	Bello, Daniel C.	Georgia State University	USA	5	110	22	4
14	Dadzie, Kofi Q.	Georgia State University	USA	6	94	15,67	6
15	Madhavaram, Sreedhar	Cleveland State University	USA	6	94	15,67	6

16	Brashear, Thomas G.	University of Massachusetts Amherst	USA	9	83	9,22	5
17	Kowalkowski, Christian	Hanken School of Economics	FIN	8	75	9,38	6
18	Svensson, Göran	Oslo School of Management	NO	5	75	15	4
19	Rich, Michael K.	Minnesota State University	USA	5	69	13,8	4
20	Kindström, Daniel	Linköping University	SWE	5	51	10,2	4
21	Naudé, Peter	University of Manchester	UK	5	50	10	4
22	Lewin, Jeffrey E.	University of North Texas	USA	5	44	8,8	4
23	Low, Brian	Western Sydney University	AUS	6	39	6,5	4
24	Chelariu, Cristian	Suffolk University	USA	5	36	7,2	3
25	Granot, Elad	Cleveland State University	USA	7	30	4,29	3

Source: Own elaboration based on Scopus data. The ranking is based on total citations but only considering authors that have at least five publications.

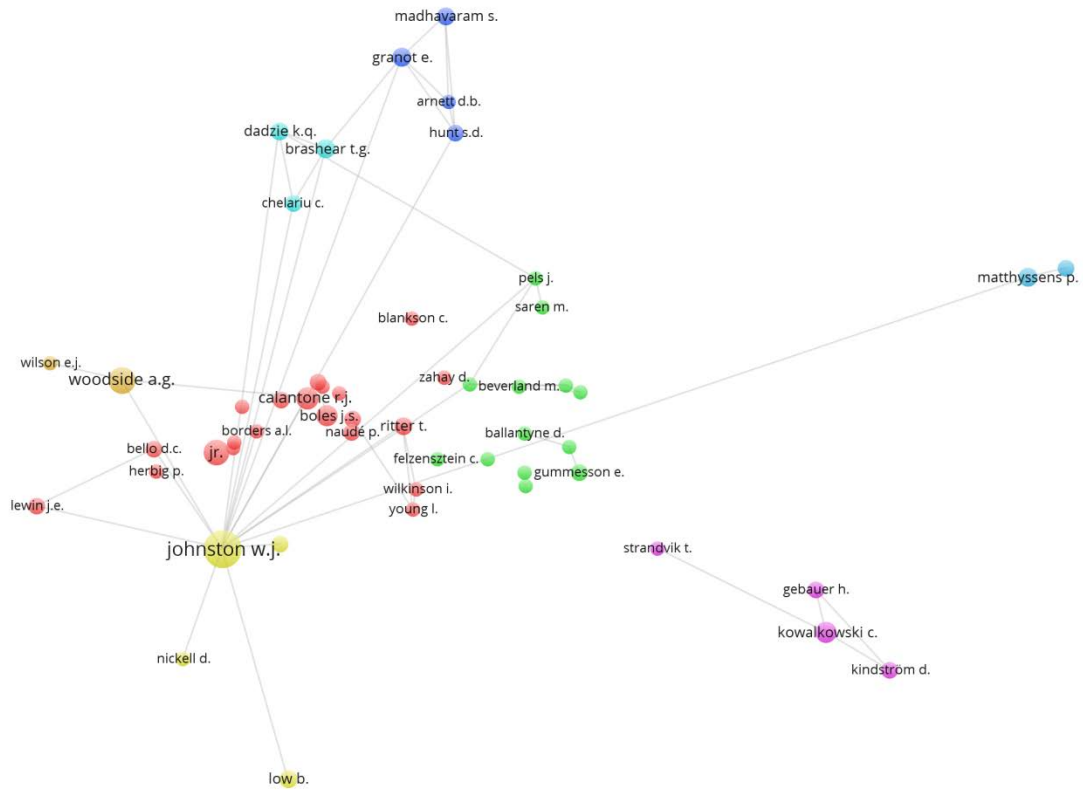
Abbreviations: TP* = Total publications. Note that it includes any type of document published in the journal including regular and special issue articles and editorial material.

The author with the most studies published in the journal is Johnston, W. J. with 27 articles published and is the researcher with second most citations (367). His H index is 12, indicating that 12 of his articles have been cited at least 12 times. Note that this result is obvious since Professor Wesley is the editor-in-chief of the journal. However, note that a huge number of publications are due to editorial material and special issues. Therefore, if excluding these documents, his productivity would be equivalent to the rest of top authors in the list. The author that follows is Woodside, A.G., also from the United States with 321 citations and an h-index of 10. That is, 10 of his articles have been cited at least 10 times.

Regarding the ratio (total citations / total studies), Calantone, Roger J. of American nationality is best positioned with an average of 42 citations per study published in the journal.

These results can also be displayed with the VOS viewer software. Figure 6 presents the authors with the greatest degree of bibliographic coupling in JBIM. The threshold established consists of 4 articles and the 50 most influential connections is presented.

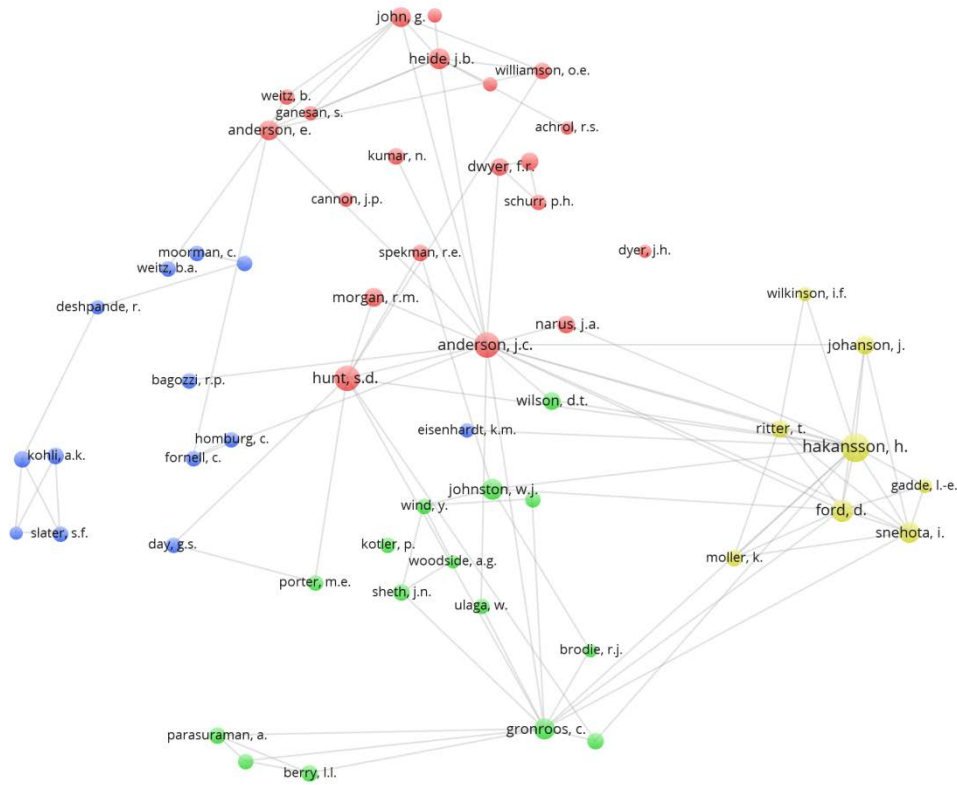
Figure 6 Bibliographic coupling of authors in JBIM



Source: Own elaboration based on Scopus data.

As for the impact, the VOS viewer allows us to visualize the co-citations between authors. Figure 7 shows the authors with the greatest number of citations and co-citations in JBIM.

Figure 7 Co-citation analysis of authors in JBIM



Source: Own elaboration based on Scopus data.

Most productive universities

Table VI presents a ranking of the most influential universities along with a number of indicators for further analysis, such as total papers (TP), Total citations (TC), the h-index, TC / TP ratio (total citations / total papers), range of citations and also two indicators of global university ranking according to the Academic Ranking of World Universities (ARWU) and Quacquarelli Symonds (QS) World University Rankings that allow us to measure the relative position in which we find the most influential institutions in JBIM.

Table VI Most productive universities

R	Institution	Country	TP	TC	H	TC/TP	>100	>50	>20	>10	ARWU*	QS
1	Georgia State University	USA	54	663	15	12,3	0	2	13	24	-	651-700
2	Michigan State University	USA	26	599	12	23,0	1	3	10	13	99	164
3	Hanken School of Economics	FIN	20	655	10	32,8	3	3	6	12	-	-
4	Aalto University	FIN	18	262	10	14,6	0	1	5	10	401-500	139
5	University of Oulu	FIN	16	155	8	9,7	0	0	2	8	301-400	301-400
6	Boston College	USA	14	295	9	21,1	1	1	5	7	401-500	282
7	Cleveland State University	USA	14	134	4	9,6	0	1	1	3	-	-
8	University of Massachusetts Amherst	USA	12	97	6	8,1	0	0	1	3	101-150	243
9	Western Sydney University	AUS	11	159	6	14,5	0	1	2	5	-	651-700
10	University of Manchester	UK	11	95	5	8,6	0	0	1	5	41	33
11	University of North Texas	USA	11	92	7	8,4	0	0	0	6	-	-

12	Linköping University	SWE	11	91	6	8,3	0	0	1	6	301-400	286
13	Lappeenranta University of Technology	FIN	11	29	2	2,6	0	0	0	2	-	-
14	Northern Illinois University	USA	10	82	6	8,2	0	0	0	5	-	-
15	University of Memphis	USA	10	60	4	6,0	0	0	1	1	-	-
16	Copenhagen Business School	DEN	9	208	6	23,1	0	2	3	4	-	-
17	Suffolk University	USA	9	202	5	22,4	1	1	2	4	-	-
18	Pennsylvania State University	USA	9	187	6	20,8	0	1	5	6	60	101
19	University of Technology Sydney	AUS	9	169	7	18,8	0	1	3	7	-	218
20	Stockholm University	SWE	8	299	6	37,4	1	3	5	6	77	182
21	Texas Tech University at Lubbock	USA	8	167	5	20,9	0	1	3	3	-	-
22	University of Auckland	NZL	8	148	5	18,5	0	0	5	5	201-300	82
23	York University	CAN	8	93	5	11,6	0	0	1	5	-	441-450
24	University of Antwerp	BEL	7	138	5	19,7	0	1	3	3	301-400	208
25	University of Otago	NZL	7	115	5	16,4	0	1	2	2	201-300	173
26	University of Texas-Pan American	USA	7	89	4	12,7	0	1	1	3	-	-
27	University of New South Wales	AUS	7	69	5	9,9	0	0	1	3	101-150	46
28	University of Toledo	USA	7	47	4	6,7	0	0	0	2	-	-
29	Stockholm School of Economics	SWE	7	39	2	5,6	0	0	1	1	-	-
30	Xavier University	USA	7	25	3	3,6	0	0	0	0	-	-
31	Missouri State University	USA	6	112	4	18,7	0	1	2	2	-	-
32	Florida State University	USA	6	89	5	14,8	0	0	2	4	201-300	401-410
33	University of Warwick	UK	6	77	5	12,8	0	0	1	3	92	48
34	University of Central Missouri	USA	6	77	4	12,8	0	0	2	4	-	-
35	University of Alabama	USA	6	77	4	12,8	0	0	1	3	201-300	-
36	Hong Kong Polytechnic University	HKG	6	65	3	10,8	0	1	1	1	301-400	116
37	Purdue University	USA	6	65	5	10,8	0	0	1	2	61	89
38	Lancaster University	UK	6	61	4	10,2	0	0	1	3	301-400	121
39	The University of Georgia	USA	6	56	3	9,3	0	0	2	2	151-200	401-410
40	Turku School of Economics	FIN	6	54	3	9,0	0	0	1	1	301-400	233

Source: Own elaboration based on Scopus data.

Within the first 10 universities, 50% are in the United States, followed by institutions in Finland (4) and Sweden (1). Further down the ranking are other institutions in Canada, New Zealand, United Kingdom and Denmark, among others. The first institution in the ranking is Georgia State University with a total of 52 studies published in JBIM, where 15 of these studies have received at least 15 citations and nearly 50% meet or exceed the 10 citations. As for the relative position of the University, Georgia State University is located within the first 700 according to QS. The following university is Michigan State University, also in the US, with a total of 26 articles published, of which 12 have been cited at least 12 times. The following one is Hanken School of Economics, Finland, with 20 papers published and a ratio of (citations / paper) much higher than the 2 previous (32, 8).

Only 6 of the universities are in the top 100 ranking according to ARWU: Michigan State University, University of Manchester, Pennsylvania State University, Stockholm University, Texas A&M University and The University of Warwick. Of these, 3 are located in the United States while only five are part of the top 100 according to QS: University of Auckland, University of New South Wales and coinciding only with University of Manchester and

University of Warwick of the United Kingdom and Purdue University in the United States. Productivity of universities for five-year periods was also analyzed, see Annex 1.

Geographic distribution of publications

This section presents the results of the most influential countries in JBIM publications, as well as the evolution in time of the first 10 countries shown. The aggregate distribution of the 40 most productive countries is shown in Table VII, indicating total publications, total citations, H-index, total citations per paper, thresholds citations for publication and indicators associated with total citations and publications for every 1 million people.

Table VII The most influential countries in JBIM

R	Country ¹	TP	TC	H	TC/TP	>200	>100	>50	>25	Population	TP/Pop	TC/Pop
1	USA	500	6195	35	12,39	0	4	20	68	321.853.000	1,55	19,25
2	UK	96	1321	19	13,76	0	1	3	13	64.596.752	1,49	20,45
3	Finland	83	1201	16	14,47	1	3	4	11	5.487.664	15,12	218,85
4	Australia	66	879	17	13,32	0	0	5	8	23.901.500	2,76	36,78
5	Sweden	47	789	47	16,79	0	2	4	8	9.804.082	4,79	80,48
6	Canada	36	526	12	14,61	1	1	1	4	35.749.600	1,01	14,71
7	Germany	30	721	12	24,03	1	1	4	7	81.083.600	0,37	8,89
8	Taiwan	29	133	29	4,59	0	0	0	1	23.461.708	1,24	5,67
9	Spain	24	189	10	7,88	0	0	0	0	46.439.864	0,52	4,07
10	New Zealand	22	306	9	13,91	0	0	1	5	4.617.340	4,76	66,27
11	Denmark	22	372	9	16,91	0	0	3	4	5.678.348	3,87	65,51
12	Norway	20	206	11	10,30	0	0	0	1	5.189.435	3,85	39,70
13	France	20	649	10	32,45	1	2	2	4	67.063.000	0,30	9,68
14	Netherlands	16	146	1	9,13	0	1	2	5	16.920.400	0,95	8,63
15	China	26	188		7,23	0	0	1		1.372.160.000	0,02	0,14
16	Greece	13	124	6	9,54	0	0	0	1	10.846.979	1,20	11,43
17	Italy	12	63	4	5,25	0	0	0	0	60.719.928	0,20	1,04
18	India	12	29	4	2,42	0	0	0	0	1.277.340.000	0,01	0,02
19	Belgium	11	182	5	16,55	0	0	7	3	11.250.659	0,98	16,18
20	South Korea	11	162	5	14,73	0	0	1	2	51.465.228	0,21	3,15
21	Switzerland	11	198	8	18,00	0	0	1	3	8.256.000	1,33	23,98
22	Brazil	9	51	5	5,67	0	0	0	0	204.921.000	0,04	0,25
23	Ireland	7	139	6	19,86	0	0	1	2	4.609.600	1,52	30,15
24	Iran	7	56	4	8,00	0	0	0	0	78.648.500	0,09	0,71
25	Singapore	6	56	4	9,33	0	0	0	0	5.469.700	1,10	10,24
26	Chile	6	37	4	6,17	0	0	0	0	18.006.407	0,33	2,05
27	Turkey	6	54	3	9,00	0	0	0	1	77.695.904	0,08	0,70
28	Russian Federation	5	8	2	1,60	0	0	0	0	146.588.880	0,03	0,05
29	Argentina	5	72	5	14,40	0	0	0	1	43.131.966	0,12	1,67
30	Portugal	4	34	1	8,50	0	0	0	1	10.374.822	0,39	3,28
31	Austria	4	65	3	16,25	0	0	0	2	8.602.112	0,47	7,56

¹ The official definitions of countries to date are considered.

32	Georgia	4	39	3	9,75	0	0	0	0	3.729.500	1,07	10,46
33	Mexico	4	46	2	11,50	0	0	0	0	121.005.815	0,03	0,38
34	United Arab Emirates	4	37	3	9,25	0	0	0	0	9.157.000	0,44	4,04
35	Ghana	3	67	3	22,33	0	0	0	1	27.043.093	0,11	2,48
36	Slovenia	3	23	2	7,67	0	0	0	0	2.068.024	1,45	11,12
37	Malaysia	3	92	2	30,67	0	0	1	1	30.709.900	0,10	3,00
38	Israel	3	27	2	9,00	0	0	0	0	8.412.000	0,36	3,21
39	Cyprus	3	39	2	13,00	0	0	0	1	858.000	3,50	45,45
40	Japan	3	42	2	14,00	0	0	0	1	126.865.000	0,02	0,33

Source: Own elaboration based in Scopus data.

As shown, in first place is the United States with 500 publications in JBIM, 6,195 citations, 35 papers that have been cited at least 35 times with an average of 12.39 citations per publication. It registers 68 publications with more than 25 citations, 20 with over 50 and 4 works with more than 100 citations in the period of study. The country also has an average of 1.5 publications and citations and 19.2 citations per million inhabitants.

Then there is the UK, Finland, Australia and Sweden. The total number of publications is considerably lower when compared with the United States; however, they present citations per papers (ratio) that are very similar. The H-index is also lower with the exception of Sweden having an index of 47 papers cited at least 47 times (unlike the H-index rate of 35 that the United States has).

For the rest of the countries that are shown in Table VII, indicators are observed, as well as total publications and citations well below the top places. It is important to note in this aspect that the most influential countries are mainly North America and Europe, being practically nonexistent or irrelevant the contributions from the rest of the world in publications of the magazine.

Concerning the evolution of the 10 most influential countries, the following Table VIII presents the total publications for the period of 1986-2015 in JBIM.

Table VIII The evolution of the countries that are the most influential in JBIM

Year	USA	UK	FIN	AUS	SWE	CAN	DEU	TWN	ESP	NZL	DEN
1986	6	0	0	0	0	0	0	0	0	0	0
1987	29	0	0	0	1	0	0	0	0	0	0
1988	14	0	0	0	0	0	0	0	0	1	0
1989	14	0	0	0	0	0	0	0	0	1	0
1990	13	0	0	0	0	0	0	0	0	0	0
1991	11	0	0	0	0	1	0	0	0	0	0
1992	18	1	0	0	0	3	0	0	0	0	0
1993	12	0	0	0	0	1	0	0	0	0	0
1994	13	1	0	1	0	1	0	0	0	0	0
1995	12	2	0	1	0	1	0	0	0	0	0
1996	13	2	0	0	0	1	0	0	0	0	0
1997	18	3	0	0	0	0	1	0	0	0	0
1998	16	3	2	2	0	2	0	0	0	0	1
1999	12	4	2	3	1	0	1	0	0	0	0
2000	20	3	0	2	0	1	2	0	0	1	0
2001	10	2	4	4	1	2	0	0	1	2	1
2002	19	4	3	4	1	1	1	0	0	0	4
2003	24	0	0	0	1	2	1	0	2	0	0
2004	20	6	1	4	4	0	3	0	1	1	1
2005	16	5	1	5	3	2	1	0	0	0	0
2006	22	7	3	6	2	0	6	0	1	1	1
2007	19	9	0	6	1	3	1	2	3	2	3
2008	27	7	5	1	0	1	1	0	2	3	1
2009	20	7	6	5	1	5	1	1	0	2	1
2010	19	12	2	3	0	1	4	4	2	1	2
2011	18	4	7	4	4	0	2	3	4	0	2
2012	15	7	8	2	5	0	5	3	0	2	1
2013	18	1	13	3	4	4	0	6	3	2	1
2014	16	4	13	4	11	4	0	3	3	1	1
2015	16	3	13	6	6	0	0	7	2	2	2

Source: Own elaboration based on Scopus data.

As expected, the United States has published more studies every year, and exceeding 85% of total publications (1997). An important aspect to note is how countries in the early years of the magazine that were not relevants, manage to significantly increase the number of publications per year. That is the case in Taiwan or Spain, countries with their first publications in JBIM in 2001 and 2007 respectively, and in recent years outnumber publications from countries such as the UK, Australia or Canada. (See Annex 2 Five-Year countries)

Citation structure of JBIM

Below, Table IX allows you to view and analyze the general construction of citations and sources that the magazine has and what the main influences are when publishing their studies. It displays the total articles that JBIM cites in other magazines, the total numbers of articles that are cited in the various countries, universities and years.

Table IX Who cites JBIM

Journal	TP	Country	TP	University	TP	Year	TP
Industrial Marketing Management	633	USA	2050	Aalto University	123	2014	1112
Journal of Business and Industrial Marketing	481	UK	1332	Hanken School of Economics	96	2013	1068
Journal of Business Research	187	Australia	775	Georgia State University	94	2012	991
European Journal of Marketing	121	Finland	590	Lappeenranta Teknillinen Yliopisto	92	2011	980
Marketing Intelligence and Planning	116	Taiwan	450	University of Manchester	91	2015	887
Journal of Personal Selling and Sales Management	82	China	420	Oulun Yliopisto	83	2010	880
Journal of Marketing Management	76	Spain	402	Cranfield University	79	2009	745
Service Industries Journal	71	Germany	399	Monash University	74	2008	592
Journal of Services Marketing	71	Sweden	392	Griffith University	74	2007	485
Journal of Purchasing and Supply Management	70	Canada	326	Michigan State University	69	2006	441
Journal of Business to Business Marketing	66	Malaysia	285	Linköpings Universitet	64	2005	282
International Journal of Production Economics	60	India	278	City University of Hong Kong	60	2004	164
Journal of the Academy of Marketing Science	56	Netherlands	255	University of New South Wales	59	2003	124
International Journal of Operations and Production Management	55	Italy	224	Hong Kong Polytechnic University	58	2002	83
Journal of Strategic Marketing	53	France	217	University of Warwick	57	2001	70
Management Decision	53	New Zealand	211	Cardiff University	55	2000	49
Supply Chain Management	51	South Korea	189	University of North Texas	52	1999	47
Journal of Service Management	50	Hong Kong	177	University of Auckland	50	1997	39
Journal of Product Innovation Management	50	Denmark	155	Loughborough University	47	1998	36
Journal of Business Ethics	49	Greece	140	Aston University	47	1996	32
International Business Review	48	Norway	140	National Cheng Kung University	47	1995	25
International Journal of Physical Distribution and Logistics Management	47	Brazil	138	Copenhagen Business School	46	1994	23
Industrial Management and Data Systems	46	Iran	131	Brunel University London	45	1993	19
International Marketing Review	45	Turkey	130	University of Technology Sydney	45	1992	17
Managing Service Quality	44	Switzerland	125	University Utara Malaysia	44	1991	9
Journal of Retailing and Consumer Services	44	Portugal	105	University of Adelaide	44	1990	5

International Journal of Production Research	43	South Africa	102	Universitat St. Gallen	44	1989	4
Journal of Marketing Theory and Practice	42	Ireland	94	Royal Melbourne Institute of Technology University	43	1988	1

Source: Own elaboration based on Scopus data.

Since it is the most cited magazine, in 633 studies, you can find the Industrial Marketing Management. After that JBIM follows, ie, the journal has been cited in 481 studies. Finally, in the top three, and with a considerably lower amount of articles that cited is the Journal of Business Research (187). It is interesting to note that the top three journals cited by JBIM coincide in the same order as B-TO-B.

As for the countries and universities, a strong influence of the United States (2.050) is observed, representing almost double the citations compared to the United Kingdom, who follows in the rankings with 1,332 publications that have been cited. Similarly in universities, where the United States is located in the top 3 with Georgia State University which also has the largest number of publications in JBIM.

CONCLUSIONS

Figure 1 shows an increasing trend in the number of publications from the creation of the magazine, which demonstrates the growing interest in this area of marketing by the academic community. The possibility to study the possible correlation between times with a slight decrease in publications during economic crisis (already international as in 1992, or locally as 1980 in the US) remains open.

It is very noteworthy that, according to Table II, among the most cited, with the exception of 2, all have ten or more years. It is also of interest, as shown in Table III, the buyer/seller relationships are of enormous interest to the authors of the journal as they are second, third and sixth among the most used keywords (Relationship Marketing, Buyer-seller relationship, Channel relationship), and in fourth place is innovation. All these elements are part of the current research trends due to the paradigm change posed by new technologies and the ease of contact and exchange of information between all stakeholders of a company.

The loss of relative importance of the journal versus the number of publications of marketing, as shown in Figure 2, with its turning point in 1999, speaks of the profound change that the new technologies have revolutionized the emergence of new journals and specialized publications and therefore the easiest way to make publications possible. However, Journal of Business & Industrial Marketing has managed to maintain their interest and level within the literature, as is shown in Table IX.

Among the most prominent authors, according to Table V (and by the number of publications and citations) we must undoubtedly mention: Wesley Johnston, Archie G. Woodside and Roger Calantone, all from American

universities, all occupying the first positions in the universities, as seen in Table VI, which contribute most to the magazine (Georgia State University and Michigan State University).

The United States has been a major player in all the scientific investigation referring to the area of business. Its importance is undoubted, and this study highlights this. Now if you look at the production of the last ten years, you can see how the geographical distribution of publications is more and more heterogeneous and highlight the presence of the Scandinavian countries (more if we take into account their population weight) This is seen not only in the distribution of the country (Table VII), but also, when we see the authors or universities that contribute most; in this line it seems that China still has a long way to go and certainly in the coming years we will see an increase in its presence.

Study Limitations

When bibliometric analyses are performed, several limitations may occur due to the specific nature of the research being considered. First, the database always delivers a unit to each magazine, author, university or country involved in the article. Nevertheless, some studies may have one author while others may have three or four. Moreover, the unit given in the first case does not have the same value as in the second. However, today Scopus is not considering this issue. This study has attempted to partially solve this limitation with the use of VOS viewer software because it allows a fractioned count according to the number of authors or institutions. A second limitation is that the value of the magazines is not the same, since to publish in a major journal is not equivalent as publishing in one with lower status. Another important limitation is that many studies can receive a better bibliometric evaluation, since the kind of research gets more citations and other related aspects. Also, remember that many important works can receive few citations since there are many people working on that topic. Finally, many important problems in the scientific research cannot be evaluated with bibliometric measurements; including involvement in international journals and conferences.

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Annex 1 5 year Universities

1986-1990					1991-1995				
R	University	TP	TC	H TC/TP	R	University	TP	TC	H TC/TP
1	Michigan State University	3	39	2 13	1	Michigan State University	8	148	5 18,5
2	Southern Methodist University	3	24	2 8	2	The California State University	3	69	2 23
3	The University of Georgia	3	5	1 1,67	3	University of North Texas	3	24	2 8
4	Syracuse University	2	41	2 20,5	4	New York University	3	10	2 3,33
5	Clemson University	2	18	2 9	5	University of Arkansas - Fayetteville	2	60	2 30
6	Case Western Reserve University	2	16	1 8	6	CalPoly	2	60	2 30
7	Bryant College	2	7	1 3,5	7	University of South Carolina	2	51	2 25,5
8	Pennsylvania State University	2	7	1 3,5	8	Georgia State University	2	32	2 16
9	University of Connecticut	2	4	1 2	9	University of Kentucky	2	27	2 13,5
10	Lehigh University	2	3	1 1,5	10	The University of Georgia	2	24	1 12
11	Northern Illinois University	2	1	1 0,5	11	Miami University	2	22	2 11
12	ARA Services	1	0	0 0	12	Santa Clara University	2	19	1 9,5
13	Diebold Inc.	1	0	0 0	13	Florida Atlantic University	2	15	2 7,5
14	Diversified Technologies Group	1	0	0 0	14	Indiana University	2	14	2 7
15	Federal Express Corporation	1	0	0 0	15	Rochester Institute of Technology	2	11	1 5,5

1996-2000					2001-2005				
R	University	TP	TC	H TC/TP	R	University	TP	TC	H TC/TP
1	Georgia State University	12	181	9 15,08	1	Georgia State University	12	268	9 22,33
2	Grand Valley State University	3	108	3 36	2	Boston College	10	275	8 27,5
3	Louisiana State University	3	98	3 32,67	3	Michigan State University	4	239	3 59,75
4	Tulane University	3	58	3 19,33	4	University of Texas-Pan American	4	77	3 19,25
5	Western Carolina University	3	47	3 15,67	5	University of Memphis	4	42	2 10,5
6	Southern Polytechnic State University	3	42	2 14	6	Hanken School of Economics	3	234	3 78
7	Western Sydney University	3	38	3 12,67	7	Aalto University	3	112	3 37,33
8	Northern Illinois University	3	36	3 12	8	University of Groningen	3	52	3 17,33
9	Hanken School of Economics	2	275	2 137,5	9	University of Central Missouri	3	48	3 16
10	University of Manchester	2	213	2 106,5	10	University of Manchester	3	28	2 9,33
11	Missouri State University	2	97	2 48,5	11	University of New Orleans	3	5	1 1,67
12	Michigan State University	2	84	2 42	12	Stockholm University	2	192	2 96
13	Pennsylvania State University	2	77	2 38,5	13	Copenhagen Business School	2	151	2 75,5
14	University of South Florida Tampa	2	57	2 28,5	14	Southern Cross University	2	103	2 51,5
15	University of Mannheim	2	36	2 18	15	Technical University of Berlin	2	96	2 48

2006-2010				
R	University	TP	TC	H TC/TP
1	Georgia State University	14	142	8 10,14
2	Aalto University	7	102	6 14,57
3	University of Technology Sydney	5	82	4 16,4
4	Michigan State University	5	71	4 14,2
5	Western Sydney University	5	46	4 9,2
6	Henley Management College	5	43	3 8,6
7	University of Auckland	4	76	3 19
8	Suffolk University	4	62	4 15,5
9	Lancaster University	4	61	4 15,25
10	University of Hull	4	54	4 13,5
11	University Torcuato Di Tella	4	45	4 11,25
12	University of Manchester	4	42	3 10,5
13	Copenhagen Business School	4	38	4 9,5
14	University of Toledo	4	26	2 6,5
15	Texas Tech University at Lubbock	3	113	3 37,67

2011-2015				
R	University	TP	TC	H TC/TP
1	Georgia State University	14	40	3 2,86
2	Hanken School of Economics	12	84	6 7
3	University of Oulu	11	58	5 5,27
4	Cleveland State University	11	34	3 3,09
5	Linkoping University	10	77	6 7,7
6	Lappeenranta University of Technology	9	17	2 1,89
7	Aalto University	8	48	4 6
8	University of Massachusetts Amherst	7	42	4 6
9	Stockholm School of Economics	6	5	1 0,83
10	Karlstad University	5	20	2 4
11	University of Jyväskylä	5	4	1 0,8
12	University of Otago	4	18	3 4,5
13	National Central University Taiwan	4	18	2 4,5
14	University of West Georgia	4	18	2 4,5
15	Michigan State University	4	17	2 4,25

Annex 2 Most influential countries by quinqueniums (1986-2015)

1986-1990					
R	Country	TP	TC	TH	TC/TP
1	USA	71	283	9	3,99
2	New Zealand	2	9	1	4,5
3	Sweden	1	51	1	51

1991-1995					
R	Country	TP	TC	TH	TC/TP
1	United States	66	586	13	8,88
2	Canada	7	7	2	1
3	Georgia	4	39	3	9,75
4	United Kingdom	4	42	3	10,5
5	Australia	2	58	2	29
6	Colombia	2	60	2	30
7	Hong Kong	2	3	1	1,5
8	Chile	1	4	1	4
9	China	1	1	1	1
10	Cyprus	1	27	1	27
11	France	1	11	1	11
12	Italy	1	0	0	0
13	Netherlands	1	11	1	11
14	Saint Kitts and Nevis	1	99	1	99
15	South Africa	1	3	1	3

1996-2000					2001-2005						
R	Country	TP	TC	TH	TC/TP	R	Country	TP	TC	TH	TC/TP
1	United States	79	1535	23	19,43	1	United States	89	2101	26	23,61
2	United Kingdom	14	463	9	33,07	2	Australia	17	396	10	23,29
3	Australia	7	84	5	12	3	United Kingdom	17	313	11	18,41
4	Canada	4	254	4	63,5	4	Sweden	10	371	8	37,1
5	Finland	4	316	4	79	5	Finland	9	437	8	48,56
6	Germany	4	94	3	23,5	6	Canada	7	128	6	18,29
7	Greece	3	32	3	10,67	7	Denmark	6	265	6	44,17
8	Netherlands	3	260	3	86,67	8	Germany	6	498	5	83
9	Austria	2	54	2	27	9	Netherlands	6	102	5	17
10	France	2	54	2	27	10	Spain	4	37	4	9,25
11	Ireland	2	59	2	29,5	11	Brazil	3	29	3	9,67
12	Norway	2	36	2	18	12	New Zealand	3	103	3	34,33
13	Singapore	2	41	2	20,5	13	Norway	3	31	3	10,33
14	South Korea	2	94	2	47	14	France	2	466	2	233
15	Sweden	2	151	2	75,5	15	Ghana	2	25	2	12,5

2006-2010						2011-2015					
R	Country	TP	TC	TH	TC/TP	R	Country	TP	TC	TH	TC/TP
1	USA	107	1478	20	13,81	1	USA	83	222	8	2,67
2	UK	42	450	14	10,71	2	Finland	54	224	10	4,15
3	Australia	21	305	12	14,52	3	Sweden	30	121	7	4,03
4	Finland	16	226	11	14,13	4	Taiwan	22	67	5	3,05
5	Germany	13	106	7	8,15	5	Australia	19	39	3	2,05
6	Canada	10	142	7	14,2	6	UK	19	53	4	2,79
7	France	9	116	7	12,89	7	Spain	12	47	5	3,92
8	New Zealand	9	156	5	17,33	8	China	11	31	4	2,82
9	Spain	8	106	7	13,25	9	India	10	14	3	1,4
10	Norway	8	115	7	14,38	10	Canada	8	15	2	1,88
11	Denmark	8	59	5	7,38	11	Norway	7	25	2	3,57
12	China	8	92	6	13,14	12	Denmark	7	31	3	4,43
13	Taiwan	7	66	5	11	13	Germany	7	26	3	3,71
14	Switzerland	6	88	5	17,6	14	Italy	7	0	0	0
15	Belgium	5	73	4	14,6	15	New Zealand	7	20	3	2,86

Fuente: Own elaboration based on data from Scopus