




What did we do, who did it and did it matter? A review of fifteen volumes of the (European) Journal of Purchasing and Supply Management

¹Andreas Enzo 

¹Department of management science, Coventry University.

Corresponding author's e-mail: andreasenzo@gmail.com

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A B S T R A C T

This paper analyses the origins, contents and impact of the 351 articles published in the (European) Journal of Purchasing and Supply Management, from the start in 1994 until the end of 2009. The analysis finds that authorship of (E)JPSM articles is spread over a relatively large group of authors who increasingly co-author manuscripts, and who predominantly come from university institutions in Great Britain, the United States and the Netherlands. The analysis of the content and impact of the journal results in three important findings. First of all, the journal has been consistently following a stable strategy of focusing on the strategic aspects of Purchasing and Supply Management. Second, the journal is clearly positioned as a multi-disciplinary journal with ties not only to Operations Management but also to the Marketing discipline. Thirdly, the journal has been publishing a stable and balanced mix of (empirical) studies using predominantly small-scale and large-scale data collection methods. Arguably, this combination continues to provide a unique profile compared to other journals in the field of Purchasing and Supply Management and the article closes with some specific recommendation how to further leverage this potential.

Background

This article presents an overview of what has been published, and by whom, in the (European) Journal of Purchasing and Supply Management between its inception in 1994 and now (end of 2009). Such a review seems relevant and timely, for several reasons. First of all, the journal has been around for a little over 15 years, and is now entering a new phase again with new editors (Alessandro Ancarani and George Zsidisin) taking over. This provides a substantial basis in terms of the number of articles published, and a timely moment to reflect on the current status and achievements within the field, as exemplified by our journal. Particularly, for those scholars relatively new to the field, such an overview may be helpful to clearly and quickly get a sense of what has been in the particular domain of Purchasing and Supply Management, especially in combination with reviews conducted for similar, closely related journals (Carter and Ellram, 2003). Second, such an overview and review of past accomplishments may serve to remind us—also those that have been quite active in this field for some time already—of how it all started, what the original ambitions were, and what has been done ever since. Therefore, in the future we can possibly address some of the ingrained tendencies and biases that may have established itself.

History and background

The journal was established as the European Journal of Purchasing and Supply Management (EJPSM) in 1994, by founding Editor Richard Lamming (then at the University of Bath). The journal had four fundamental objectives: "to provide an outlet for publication of research in purchasing and supply and related fields from authors around the world; to encourage collaboration between practitioners and academics (through joint authorship for example); to appeal to a mixed readership of managers, researchers and educators; and to raise the level of conceptual debate on purchasing and supply issues by publishing the results of work that develops knowledge in the field." (Lamming, 1994, p. 4). EJPSM was positioned as the second journal focusing on purchasing and supply, besides the International Journal of Purchasing and Materials Management (now: Journal of Supply Chain Management). At the time, Richard Lamming explicitly acknowledged the multi-disciplinary nature of the field: "Purchasing has a curious pedigree in this respect. Its researchers and educators come from a wide spread of disciplines: operations management, economics, law, political science, engineering, marketing, psychology and accountancy, to name but a few. This breadth must be exploited (y)." (Lamming, 1994, p. 3).

In 2003, the journal was renamed Journal of Purchasing and Supply Management, to reflect its ongoing globalization—both in terms of contents, authorship and reviewer involvement. The journal has seen three consecutive editors since its inception: Richard Contents lists available at Science Direct journal homepage: www.elsevier.com/locate/pursup Journal of Purchasing & Supply Management 1478-4092/\$ - see front matter & 2010 Elsevier Ltd. All rights reserved. doi:10.1016/j.pursup.2010.09.003 E-mail address: fwynstra@rsm.nl Journal of Purchasing & Supply Management 16 (2010) 279–292 Lamming (University of Bath, 1994–2000), Christine Harland (University of Bath, 2001–2003) and Finn Wynstra (Erasmus University Rotterdam, 2004–2009). In 2004, the then current Editor again emphasized the multidisciplinary nature of the journal: "we firmly believe that purchasing and supply management is fruitfully seen as an 'object-centered' field of research. PSM researchers are connected through the object of their study – organizational purchasing processes and buyer– supplier relations – which can be studied through a variety of disciplines" (Wynstra and Knight, 2004, p. 227). The particular management disciplines identified as substantially contributing to the study of Purchasing and Supply Management were Strategy and Organization, Marketing, Operations Management and Operations Research (Wynstra and Knight, 2004, p. 227–228). This also implies that the journal has always been quite broadly oriented in terms of research methods: "The journal is clearly focused on the context in purchasing and supply management, and should be quite liberal with respect to the method and style of research and the level of problem addressed." (Wynstra and Knight, 2004, p. 228). The journal is widely recognized as one of the two prime journals on Purchasing and Supply Management (the other being Journal of Supply Chain Management), and currently has respectable positions in journal ranking systems such as the Journal Quality Guide of the Association of Business Schools (UK), and similar systems in Germany, Netherlands, France, Norway and Italy (see for an overview; the Harzing Journal Quality List at www.harzing.com). Complementing these predominantly European rankings, a study among primarily US academics ranked JPSM as number 8 in terms of overall journal quality, out of a total of 27 journals that publish PSM research (Zsidisin et al., 2007). In the period 1994–2009, the journal has produced fifteen volumes. No volume was published in 1995. In total, the journal has been published in 60 issues, 15 of which have been special issues related to a specific topic or to a particular conference. These 60 issues encompass 351 articles, i.e. not including editorials, book reviews and the like (calls for papers, etc.). Of these, 315 have been regular (research) articles, and the

remaining 36 articles discuss research agendas or methods ("Notes and Debates"; 23 since 2006), review practical implementation projects ("Case study", eight in the early volumes) or provide personal reflections ("Viewpoint", "Perspective" or "Report"; five in early volumes). Further details are provided in Table 1.

Table 1
Volumes, issues and articles published.

Year	Volume	Total number of articles	Number of regular research articles	Number of other articles
1994	1	24	18	6
1996	2	22	19	3
1997	3	23	20	3
1998	4	24	23	1
1999	5	19	19	0
2000	6	22	22	0
2001	7	23	23	0
2002	8	21	21	0
2003	9	24	24	0
2004	10	22	22	0
2005	11	21	21	0
2006	12	25	24	1
2007	13	32	18	14
2008	14	23	20	3
2009	15	26	21	5
Total		351	315	36

Approach

The research method underlying this paper consisted of reading, assessing and classifying each of the 351 articles in our data-set. This was done by two individual raters; the author and a research assistant; an M.Sc. student in Purchasing and Supply Management well familiar with the topic area, who had also worked as a journal assistant for over half a year. For each article we noted: year of publication, issue number, issue type (regular or special), page numbers, title, authors and their affiliation details (institute, country). We also collected, from Thomson Scientific's Web of Science database, the citations to these articles for each of the years following publication until now (end 2009). In terms of content of each of the articles, we described each article (where applicable) in terms of the country/countries and the industry or sector where its empirical study was conducted. We also classified each article, where appropriate, regarding the type of products (goods, services or combination of both) and the type of purchase (raw material, semi-manufacture, component, etc.). Most importantly, we developed extensive classification schemes to categorize the topic, research strategy, data collection and data analysis methods of each paper. We decided to split research strategy from data collection and analysis, as one overall research strategy can use several methods of data collection (i.e. case studies relying on interviews and written documents).

Particularly regarding the topic classifications, there are no detailed classification schemes available specifically for Purchasing and Supply Management research. Therefore, we developed a new classification scheme, building on basic reference models from the field such as

the purchasing process model that addresses the tactical and operational purchasing processes (Van Weele, 2005) and the MSU/Monczka model that addresses the strategic processes and the underlying enablers (Axelsson et al., 2005). Our new classification scheme consists of four main groups: strategic processes; tactical and operation processes; performance dimensions; and supporting processes (see Fig. 1). For each of the articles, we allowed a maximum of three classifications for topic, research strategy, data collection, data analysis, type of product, type of purchase, sector/industry and country. All classifications are listed in Appendix 1. As indicated, each article was classified independently by the two raters. These first independently assessed 37 articles (six issues), and the resulting classifications were then compared and discussed. Out of a total of 888 possible classification fields (eight categories, with three fields each, times 37 articles), there were 99 disagreements (11%). Each of these disagreements was then discussed. Most disagreements occurred regarding the topic classifications, which led to discussions on the distinctions between the classifications. For instance, "Evaluation" was chosen by one rater when the hypotheses developed and/or tested involved some measure of supplier or functional performance. However, this label was intended to reflect whether the topic of study was really the way in which supplier or functional performance was measured by managers—not the level of performance as measured by researchers. These discussions also led to expanding the list of classifications, such as for data analysis methods, to achieve the requisite level of variety. All disagreements were then adjudicated so no disagreements remained. Following these clarifications and adjustments, a second subset of 12 articles (two issues) were again assessed by both raters.

This resulted in significantly fewer disagreements: 5% (15/288). Again, discrepancies arose mainly regarding topic classifications, but also regarding data collection methods. This led to some further discussions and clarifications on specifically the category "Historical archive retrieval" and "Primary quantitative data". After these actions to achieve convergence on the understanding and application of the classifications, we continued to classify the remaining 302 articles. For all the 351 articles combined, this resulted in an inter-rater reliability of 93.7%. All the remaining discrepancies were manually resolved in a discussion between the two raters. The analyses in the remainder of this article will mainly rely on simple descriptive numbers regarding authorships, topics and research strategies. We will primarily consider rankings and relative importance of the content and methods of the different articles. We will do so by looking at the entire range of (fifteen) volumes published by the journal, and frequently we investigate trends over time by comparing three periods: the early period (volumes 1–5, 1994–1999), the middle period (volumes 6–10, 2000–2004) and the late period (volumes 11–15, 2005–2009) of the journal. Lastly, we take a more detailed look at those articles from the journal that have had the biggest impact—as measured by citations in journals from the Web of Science—to see what is specific about the contents and methods of these high-impact articles from (E)JPSM.

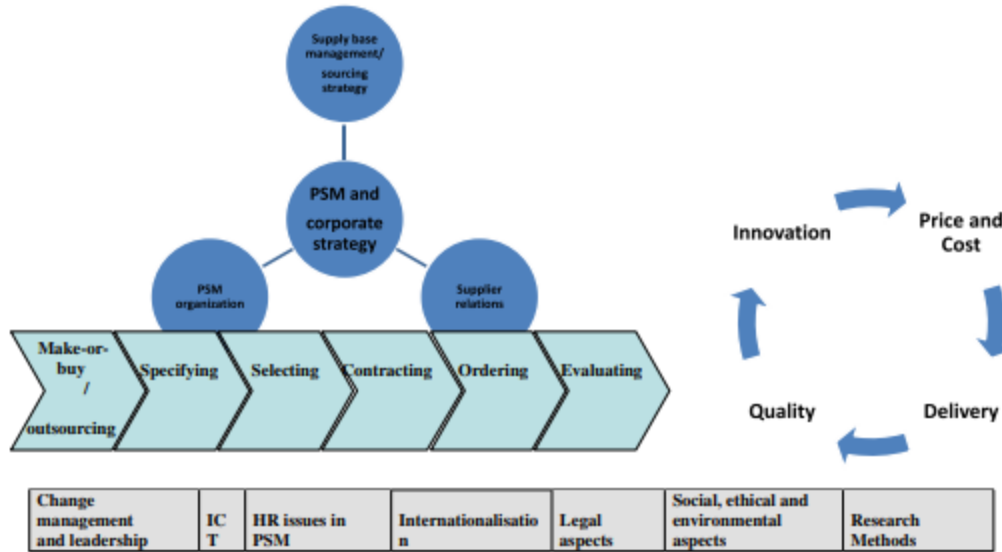


Fig. 1. Topic classification

Literature Review

For the 351 articles combined, we have identified 538 different authors. These authors together account for 736 authorships, or “author instances”. This first of all means that the average number of (single and co-) authorships per author is 1.4. This relatively low number suggests that (E)JPSM is a journal that is open to many different authors; it is not a journal that draws on a small, “inner-circle” of frequently recurring authors. The numbers also imply that the articles in the journal have an average of 2.1 authors per paper. This number has increased somewhat from the early to the late period of the journal (1.9-2.2). Interestingly, this growth appears to have come mainly from increased co-authorship within the same (university) institute; the average number of institute per paper is pretty stable (around 1.3). Also, the average number of non-university (i.e. practitioner) authors per paper has remained largely the same (0.16). For the remaining analyses, we have weighed all authorships equally (i.e. being third author and being a single author counts both as one authorship). Also, we have assigned authors to the institution (and thus also the country) to which they were affiliated at the time of publication (as indicated in the article). This means that one and the same author can be registered with publications for several institutes (and even countries).

2.1. Authorship by country Table 2 presents all countries that account for authorship of at least one journal article in the entire range of 15 volumes (based on affiliation, not nationality). In total, there are authors from 29 different countries. Table 3 presents the list of the 10 countries that have produced the most authorships in (E)JPSM (including all single or co-authored papers). Clearly, Great Britain stands out as the most productive country by far. This is partly related to the origins of the journal; for the first 10 years of its existence, the journal was managed out of the University of Bath. Also, the International Purchasing and Supply Education & Research Association and its predecessor (PSERG), which the journal has Change management and leadership IC T HR issues in PSM Internationalisation Legal aspects Social, ethical and environmental aspects Research Methods Make-orbuy / outsourcing Specifying Selecting Contracting Ordering Evaluating Fig. 1. Topic classification Table 2 Countries with journal authorship (alphabetical order). Australia Greece Norway Belgium Hong Kong Portugal Canada Hungary Singapore China India South Korea Colombia Ireland Spain Denmark Italy Sweden Finland Kenya Switzerland France Netherlands Turkey Germany New Zealand United States Great Britain Northern Ireland a For our analyses,

we distinguish between Great Britain and Northern Ireland, which both belong to the United Kingdom. F. Wynstra / Journal of Purchasing & Supply Management 16 (2010) 279–292 281 always been strongly affiliated with, were established in Great Britain. After Great Britain, the top five of countries consists of the Netherlands, United States of America, Sweden and Italy. These five countries account for just over 75% of all author instances, and the top 10 (out of 29 countries in total) accounts for around 86%. As a robustness check, we also calculated the distribution of first authorships. This results in a nearly identical top 10 of most productive countries; four countries move up or down only one position within the list. Following this first overall analysis, we can now take a closer look at developments over time. Table 4 presents the top 10 contributing countries for each of the three different periods. The first thing to note is that, over time, this top 10 is relatively stable. In the second period, there are only two newcomers (Norway and Finland in, Northern Ireland and Australia out).

In the third period, there is only one newcomer (China in, Denmark out). Great Britain retains its pole position in all three periods, while the US and Sweden constantly remain in the top five. Netherlands and Finland are clearly 'rising stars', while Italy and Canada are losing ground. The second thing to note is that while the overall absolute dominance of GB is declining over time, the top 10 countries just about maintain their relative share of total authorship across all three periods (92%-88%).

2.2. Authorship by institute

After the analysis on country level, we can now continue our assessment of the origins of the articles in (E)JPSM one level deeper: at the level of contributing institutions. In total, there are 248 unique author institutions represented in our data-set. This list of institutions was compiled manually based on the affiliation as registered for each author, and then aggregating these where institute per paper is pretty stable (around 1.3). Also, the average number of non-university (i.e. practitioner) authors per paper has remained largely the same (0.16). For the remaining analyses, we have weighed all authorships equally (i.e. being third author and being a single author counts both as one authorship). Also, we have assigned authors to the institution (and thus also the country) to which they were affiliated at the time of publication (as indicated in the article). This means that one and the same author can be registered with publications for several institutes (and even countries).

Table 2
Countries with journal authorship (alphabetical order).

Australia	Greece	Norway
Belgium	Hong Kong	Portugal
Canada	Hungary	Singapore
China	India	South Korea
Colombia	Ireland	Spain
Denmark	Italy	Sweden
Finland	Kenya	Switzerland
France	Netherlands	Turkey
Germany	New Zealand	United States
Great Britain ^a	Northern Ireland ^a	

^a For our analyses, we distinguish between Great Britain and Northern Ireland, which both belong to the United Kingdom.

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stands out as the most productive country by far. This is partly related to the origins of the journal; for the first 10 years of its existence, the journal was managed out of the University of Bath. Also, the International Purchasing and Supply Education & Research Association and its predecessor (PSERG), which the journal has Change management and leadership IC T HR issues in PSM Internationalization n Legal aspects Social, ethical and environmental aspects Research Methods Make-or-buy / outsourcing Specifying Selecting Contracting Ordering Evaluating Fig. 1. Topic classification Table 2 Countries with journal authorship (alphabetical order). Australia Greece Norway Belgium Hong Kong Portugal Canada Hungary Singapore China India South Korea Colombia Ireland Spain Denmark Italy Sweden Finland Kenya Switzerland France Netherlands Turkey Germany New Zealand United States Great Britain Northern Ireland a For our analyses, we distinguish between Great Britain and Northern Ireland, which both belong to the United Kingdom. F. Wynstra / Journal of Purchasing & Supply Management 16 (2010) 279–292 281 always been strongly affiliated with, were established in Great Britain. After Great Britain, the top five of countries consists of the Netherlands, United States of America, Sweden and Italy. These five countries account for just over 75% of all author instances, and the top 10 (out of 29 countries in total) accounts for around 86%. As a robustness check, we also calculated the distribution of first authorships. This results in a nearly identical top 10 of most productive countries; four countries move up or down only one position within the list. Following this first overall analysis, we can now take a closer look at developments over time. Table 4 presents the top 10 contributing countries for each of the three different periods. The first thing to note is that, over time, this top 10 is relatively stable. In the second period, there are only two newcomers (Norway and Finland in, Northern Ireland and Australia out). In the third period, there is only one newcomer (China in, Denmark out). Great Britain retains its pole position in all three periods, while the US and Sweden constantly remain in the top five. Netherlands and Finland are clearly 'rising stars', while Italy and Canada are losing ground. The second thing to note is that while the overall absolute dominance of GB is declining over time, the top 10 countries just about maintain their relative share of total authorship across all three periods (92%-88%).

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After the analysis on country level, we can now continue our assessment of the origins of the articles in (E)JPSM one level deeper: at the level of contributing institutions. In total, there are 248 unique author institutions represented in our data-set. This list of institutions was compiled manually based on the affiliation as registered for each author, and then aggregating these where appropriate (departments and schools within the same university were aggregated; different country branches of (consultancy) firms were not aggregated). Table 5 provides a list of the top 20 contributing universities (there were no other types of institutions in this top 20); together they account for 37% of the total number of authorships. University of Bath is clearly the most productive institution, with an output nearly three times as high as the number two. This list should hold few surprises; it largely features the usual suspects—institutes that are quite active in the field. For instance, seven of these institutes have hosted an IPSERA conference in the past (Bath, Eindhoven, Birmingham, Cardiff, Twente, Ulster and Western Ontario). Only two out of these 20 institutes are outside Europe. The list of institutes is vastly different from the list of most productive institutions (in the period 1965–1999) in Journal of Supply Chain Management (JSCM); only Arizona State University and University of Western Ontario feature in both (Carter and Ellram, 2003). Over time, there are some interesting shifts (see Table 6). For each of the three periods, we list those institutes with more than four authorships. Only Bath and Eindhoven manage to stay in this group of small but constant (2).

productive institutes across all three periods. The number of non-European institutes in this top group is

Table 3
Top 10 countries by authorship (all volumes).

Country	Number of authorships	Relative share (%)
1. Great Britain	253	34
2. United States	83	11
3. Netherlands	80	11
4. Sweden	54	7
5. Italy	46	6
6. Germany	40	5
7. Canada	27	4
8. Finland	26	4
9. Denmark	19	3
10. Norway	18	2
Total	646	86

Table 4
Top 10 countries by authorship over time.

Rank	Volumes 1–5		Volumes 6–10		Volumes 11–15	
	Country, #authorships		Country, #authorships		Country, #authorships	
1	Great Britain	107	Great Britain	86	Great Britain	60
2	United States	29	Netherlands	33	Netherlands	40
3	Italy	11	Sweden	21	United States	34
4	Sweden	11	United States	20	Germany	26
5	Canada	8	Italy	16	Sweden	22
6	Germany	8	Norway	10	Italy	19
7	Netherlands	7	Denmark	7	Finland	18
8	Denmark	6	Canada	6	Canada	13
9	Northern Ireland	5	Germany	6	China	7
10	Australia	3	Finland	5	Norway	6
	Total number of authorships	213	Total number of authorships	245	Total number of authorships	278

Table 5
Top 20 institutions by authorship (all volumes).

Institution	Number of authorships	Relative share (%)
1. University of Bath (GB)	52	7.1
2. Chalmers University of Technology (S)	19	2.6
3. Eindhoven University of Technology (NL)	19	2.6
4. University of Birmingham (GB)	19	2.6
5. Arizona State University (US)	16	2.2
6. Cardiff University (GB)	14	1.9
7. University of Twente (NL)	14	1.9
8. Politecnico di Milano (I)	11	1.5
9. University of Ulster (N-Irl)	11	1.5
10. Linköping University (S)	10	1.4
11. Loughborough University (GB)	10	1.4
12. Cranfield University (GB)	9	1.2
13. Staffordshire University (GB)	9	1.2
14. Stockholm School of Economics (S)	9	1.2
15. University of Groningen (NL)	9	1.2
16. University of Manchester (GB)	9	1.2
17. University of Utrecht (NL)	9	1.2
18. Open University of the Netherlands (NL)	8	1.1
20. University of Western Ontario (Can)	8	1.1
21. University of Wolverhampton (GB)	8	1.1
Total	273	37

Table 6
Top 10 institutions by authorship over time.

Rank	Volumes 1–5		Volumes 6–10		Volumes 11–15	
	Institution, #authorships		Institution, #authorships		Institution, #authorships	
1	Univ. of Birmingham	19	Univ. of Bath	19	Univ. of Bath	24
2	Univ. of Bath	9	Eindhoven Univ. of Technology	10	Chalmers Univ. of Technology	8
3	Univ. of Manchester	8	Chalmers Univ. of Technology	8	Stockholm School of Economics	7
4	Arizona State Univ.	7	Cardiff Univ.	8	Open Univ. of the Netherlands	7
5	Cardiff Univ.	6	Cranfield Univ.	7	Lappeenranta Univ. of Technology	7
6	Univ. of Glasgow	6	Loughborough Univ.	7	European Business School (EBS)	6
7	Linköping Univ.	5	Univ. of Twente	6	Eindhoven Univ. of Technology	5
8	Université du Québec à Trois-Rivières	5	Arizona State Univ.	5	Univ. of Twente	5
9	Eindhoven Univ. of Technology	4	Politecnico di Milano	5	Univ. of Groningen	5
10	Univ. of Ulster	4	Jönköping Univ.	5	Univ. of Utrecht	5
11	Staffordshire Univ.	4	Univ. of Wolverhampton	5	HEC Montréal	5
12	Univ. of Strathclyde	4	Univ. of Groningen	4	Erasmus Univ. Rotterdam	5
13	Univ. of Naples Federico II	4	Univ. of Utrecht	4	Arizona State Univ.	4
14	Univ. of Leeds	4	Hong Kong Univ.	4	Politecnico di Milano	4
15			Molde College, Norway	4	Univ. of Ulster	4
16			Tilburg Univ.	4	The Univ. of Western Ontario	4
17			Worcester Polytechnic Institute	4	Univ. of Stuttgart	4
18					Linköping Univ.	4
19					WHU—Otto Beisheim School of Management	4
20						

Table 7
Individual authorships (all volumes).

Last name	First name	Country (affil.)	Single authorships	First co-authorships	Other co-authorships	Total authorships
1. Ramsay	John	GB	5	3	1	9
2. Cox	Andrew	GB	2	4	2	8
3. Dubois	Anna	S	1	6		7
4. Harland	Christine	GB		2	4	6
5. Lamming	Richard	GB		1	5	6
6. De Boer	Luitzen	NL		5		5
7. Ellram	Lisa	US		3	2	5
8. Tazelaar	Frits	NL		2	3	5
9. Van Weele	Arjan	NL	1	1	3	5
10. Åhlström	Pär	S	1	1	2	4
11. Caldwell	Nigel	GB		2	2	4
12. Cousins	Paul	GB	2	1	1	4
13. Croom	Simon	US/GB		3	1	4
14. Dale	B.G.	GB			4	4
15. Gadde	Lars-Erik	S		2	2	4
16. Johnson	Fraser	Can		4		4
17. Kamann	Dirk-Jan	NL	1	2	1	4
18. Leenders	Michiel	Can			4	4
19. Matthysens	Paul	B		1	3	4
20. McIvor	Roman	N-Irl		1	3	4
21. Murray	Gordon	GB	3		1	4
22. Romano	Pietro	I	1		3	4
23. Snijders	Chris	NL		2	2	4
24. Wagner	Stephan	D/CH		3	1	4
25. Wynstra	Finn	NL		3	1	4
26. Zheng	Jurong	GB		3	1	4

From the first to the second period, only four institutes stay in this group of frontrunners (Bath, Eindhoven, Cardiff and Arizona State). From the second to the third period, eight institutes retain their position in this group (Bath, Chalmers, Eindhoven, Twente, Groningen, Utrecht, Arizona State and Milan). Apparently, most of the dynamics at the level of institutes have occurred between the first and second period. 2.3. Authorship by individual On the third and final level of analysis of article origins, we consider individual authors. Table 7 presents the list of the 26 most productive authors. These have a minimum of four authorships (the next group with three authorships consists of 19 persons), and together account for 17% of total authorship (124/736). Four out of these 26 highly productive authors are female, three of which are in the top seven. Of these 26, 10 come (partly) from GB institutions, six from the Netherlands and three from

Sweden. Noteably, only one of these 26 most productive authors is from a country that is not in the top 10 of most productive countries (Matthyssens, Belgium). Conversely, three productive countries have no individual authors in this top 26 (Finland, Denmark and Norway). This pattern suggests that there is a strong correlation between author productivity and country productivity. Similarly, there appears to be a strong relation between author productivity and institution productivity. Of the 26 highly productive authors, only five come from institutes outside the top 20 (Croom, Matthyssens, Murray, Romano and Wagner). Conversely, only six of these 20 most productive institutions have no individuals in the top 26 list (Cardiff, Milano, Linkoping, Cranfield, Open University NL and Wolverhampton). One reason may be that it is quite hard to be a highly productive author in relative (geographical) isolation. Note that the overwhelming majority of highly productive authors is so by virtue of collaboration—typically with authors from the same country and often even from the same institution. Comparing this list with the JSCM list of most productive authors, there is again very little overlap: only three people are on both lists (Ellram, Dale and Johnson).

Finally, we take a closer look how individual authorship has developed over time (Table 8). Clearly, at the level of individual authors there is more dynamism than at the level of institutions. In the second period, only four of the 20 most productive authors are the same as in the previous period, and in the third period, only five are the same as in the period before. Even if we expand the lists to all authors with at least two publications for each period (see footnotes in Table 8), only five (out of 27) remain the same going in the second period, and nine (out of 32) in the third period. Only one author manages to stay within the top 20 in all three periods; the overall number one, John Ramsay. In conclusion, one can state that authorship of (E)JPSM articles is spread over a relatively large group of authors, who increasingly co-author manuscripts. The rankings of most productive countries and institutes are pretty stable over time, particularly after the initial five volumes. At the level of individuals, there is considerably more dynamism in the list of most prolific authors, also in more recent years.

This suggests that the institutional 'landscape' has been more or less defined, against the background of which different individual authors become more or less active over time. One has to bear in mind, however, that the number of authorships we are considering at this more fine-grained level is rather small, meaning that there can easily be large fluctuations. Finally, (E)JPSM and JSCM have very little overlap in terms of the most prolific institutes and individual authors.

Materials and Methods

Having considered the origins of the 351 journal articles, we now turn to an assessment of their content. Also here we will be looking at the overall set of articles first, and then take a closer look at each of the consecutive five-volume periods. Given space limitations, however, we will not present all the detailed data for the individual periods: these data are available from the author upon request.

Topic

As outlined earlier, we developed a topic list with 21 different topics, in four main groups: strategic processes; tactical and operation processes; performance dimensions; and supporting processes (see Fig. 1). We have included research methods as a topic in the group of supporting processes (at least in the graphical presentation in Fig. 1), although it is more of a separate topic. Each article could be labelled with a maximum of three topic classifications. For instance, an article on electronic reverse auctions and their effects on supplier relations would be labelled "ICT" and "Supplier relations". This resulted in a total of 659 labels for the 351 articles, or 1.9

labels per article. Fig. 2 presents the top 5 research topics across all 351 articles. Supplier relations is clearly the most popular topic, representing 25% of all labels

This includes all articles dealing with the analysis of a single or several supplier relations, for instance in terms of communication patterns, the development of trust, or supplier development efforts. Of the remaining four labels in the top 5, three also deal with the strategic aspects of PSM: supply base management, PSM and corporate strategy and PSM organization. The first deals with sourcing strategies at the level of a product (family), such as exemplified by the Kraljic portfolio (Kraljic, 1983). PSM and corporate strategy encompasses studies on the relation between corporate and purchasing strategy, and the development of the purchasing function at large. PSM organization focuses on structural organizational issues, such as centralization–decentralization and cross-functional teams. Finally, Information and Communication Technology (ICT) is the fifth most popular topic, including studies on electronic reverse auctions, EDI, electronic catalogues, and RFID. The remaining 45%, “Rest”, includes all other 16 topic labels. Over time, this top 5 is pretty stable. Supplier relations is always number one; PSM Organization, PSM and corporate strategy, and Supply base management are interchanging positions 2 through 4 over time. Position 5 is taken by a different topic each period: first Contracting, then ICT and recently Internationalization. Apart from the relative position of these top 5 topics, the topics become more diversified over time; the share of “Rest” is increasing substantially (38%-52%). In conclusion, we can clearly establish that (E)JPSM is truly and constantly has been focusing on the more strategic aspects of Purchasing and Supply Management. Fifty percent of all labels, deals with one of the four strategic topics of PSM. In fact, 265 articles (75%) deal with one or several of these four strategic topics.

Table 8
Top 20 authors by authorship over time.

Rank	Volumes 1–5			Volumes 6–10			Volumes 11–15		
	Author, #authorships ^a			Author, #authorships ^b			Author, #authorships ^c		
1	Cox	Andrew	8	de Boer	Luitzen	4	Åhlström	Pär	4
2	Lamming	Richard.	4	Buvik	Arnt	3	Dubois	Anna	4
3	Ramsay	John	4	Dubois	Anna	3	Harland	Christine	3
4	Dale	B.G.	3	Romano	Pietro	3	Kamann	Dirk-Jan	3
5	Erridge	Andrew	3	Wynstra	Finn	3	Knight	Louise	3
6	Hines	Peter	3	Andersen	Poul Houman	2	Matthyssens	Paul	3
7	Smeltzer	Larry R.	3	Axelsson	Björn	2	Ramsay	John	3
8	Brandes	Henrik	2	Barker	R.	2	Tazelaar	Frits	3
9	Burgess	T.F.	2	Caldwell	Nigel	2	Wagner	Stephan	3
10	Carr	Amelia	2	Cousins	Paul	2	Walker	Helen	3
11	Cousins	Paul	2	Croom	Simon	2	Zheng	Jurong	3
12	Ellram	Lisa	2	Ellram	Lisa	2	Ancarani	Alessandro	2
13	Esposito	Emilio	2	Gadde	Lars-Erik	2	Araujo	Luis	2
14	Furlong	Paul	2	Harland	Christine	2	Batenburg	Ronald	2
15	Gadde	Lars-Erik	2	Holt	Gary	2	Caldwell	Nigel	2
16	Gules	H.K.	2	Hong-Minh	S.M.	2	Caniëls	Marjolein.	2
17	Kamauff	John	2	Mclvor	Ronan	2	Choi	Thomas	2
18	Murray	Gordon	2	Morlacchi	Piera	2	Croom	Simon	2
19	New	Steve	2	Naim	M.M.	2	Essig	Michael	2
20	Parker	David	2	Pedersen	Ann-Charlott	2	Gelderman	Cees	2

^a Alphabetical order; there are 3 more authors with two publications.

^b Alphabetical order; there are 8 more authors with two publications

^c Alphabetical order; there are 19 more authors with two publications.



Fig. 2. Topic top 5 (all volumes)

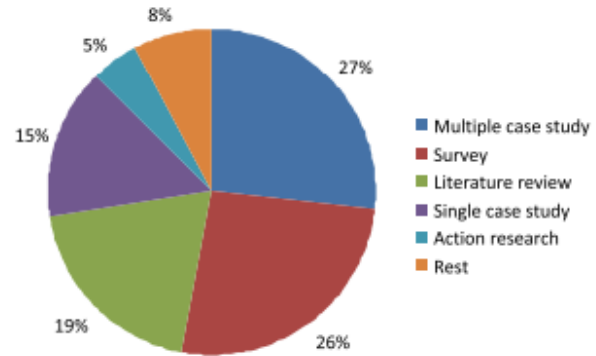


Fig. 3. Research strategy top 5 (all volumes)

Research strategy

We have chosen to distinguish 10 major types of research strategy: 1) Literature review; 2) Meta-study; 3) Single case study; 4) Multiple case study; 5) Survey; 6) Expert interviews/Focus group; 7) Field experiment; 8) Laboratory experiment; 9) Action research; and 10) Quantitative Modelling. Most of these research strategies are self-evident, but some may require further demarcation. A literature review does not include any original empirical research but typically results in a conceptual model, or a research agenda, while a meta-study systematically and statistically analyses existing empirical research. Field experiments are different from laboratory experiments in the sense that the research participants are subject to the experiments (often vignette based) in their regular working environment. Again, we allowed for a maximum of three labels for each article for research strategy, but the intention of defining overall research strategies (as opposed to directly classifying articles on the basis of data collection methods) was to have more clear-cut groups of articles. Indeed, we used 381 labels in total (1.1 per article). Fig. 3 presents the overall top 5 research strategies. Multiple case studies and surveys are the most popular research strategies by far, accounting for more than half of the publications and their underlying studies.

Experiments and meta-study are virtually non-existent within the journal. The top 5 is also pretty stable over time; multiple case study, survey and literature review account for around 70% in each of the three periods. It should be noted, however, that on average category nr. 5, Action research, is of the same size as Quantitative Modelling (included in "Rest"); in the last period, Quantitative Modelling is even slightly more popular. In JSCM, surveys are by far the most common means for data collection (60%), but note that this observation concerns a less recent timeframe (Carter and Ellram, 2003). Still, the distinction between (E)JPSM and JSCM to some extent reflects the respective, traditional regional research traditions: Europe focusing more on "small-n" research and North America focusing more on "large-n" research. This stability within the journal is somewhat unexpected, as conventional wisdom has it that the PSM field at large has moved from predominantly conceptual and exploratory research to explanatory research. This image is challenged by our data; surveys were even the most popular approach in the first period of the journal and case studies remain quite popular. Also, literature reviews are still quite popular. Before we draw any firm conclusions, however, let us consider the data collection and analysis methods as changes there may complement and clarify these first observations.

Data collection

We distinguish 10 main data collection methods:

1) Primary quantitative data; 2) Secondary quantitative data; 3) Historical archive retrieval; 4) Participant observation; 5) Outsider observation; 6) Interviews; 7) Mail questionnaire; 8) Electronic questionnaire; 9) Telephone questionnaire; and 10) Face-to-face questionnaire.

The distinction between primary and secondary quantitative data is that primary data are directly collected from or at the object of study; secondary data typically are (semi-)publicly available. Historical archive retrieval includes all written, non-quantitative documentation collected directly from or at the research object. Participant observation is different from outsider observation in that the researcher actively participates in the process under study, for instance as a manager or consultant. Again, we allowed for a maximum of three labels for each article for data collection, and we expected to assign more labels to each article for data collection methods than for overall research strategy. Indeed, we used 497 labels in total (1.4 per article). Fig. 4 presents the top 5 of data collection methods. Interviews are the most popular data collection method by far, followed by mail questionnaires and archive retrieval.

The top three of data collection methods is pretty stable over time; only "Historical archive retrieval" has grown substantially, becoming the second most popular in the latest journal period. Interestingly, we can observe that there is growing attention to (method) triangulation: the average number of data collection methods reported per article has grown from 1.3 to 1.5. In total, about one in three articles uses more than one data collection method. Also, there appears to be an overall drive to better specify the research methods applied (the share of "Not specified" is decreasing over time).

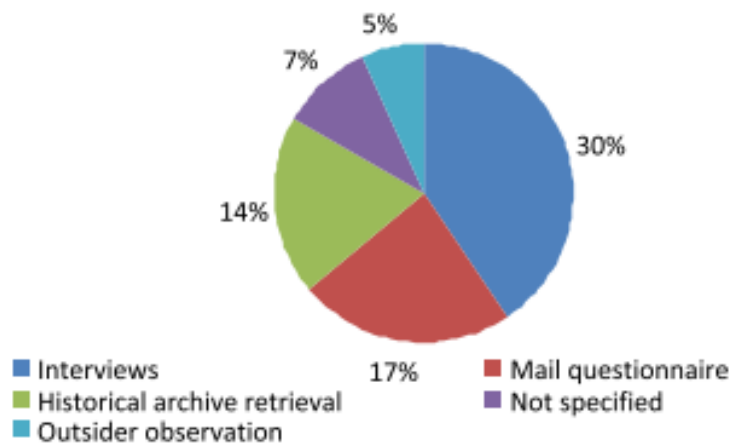


Fig. 4. Data collection top 5 (all volumes)

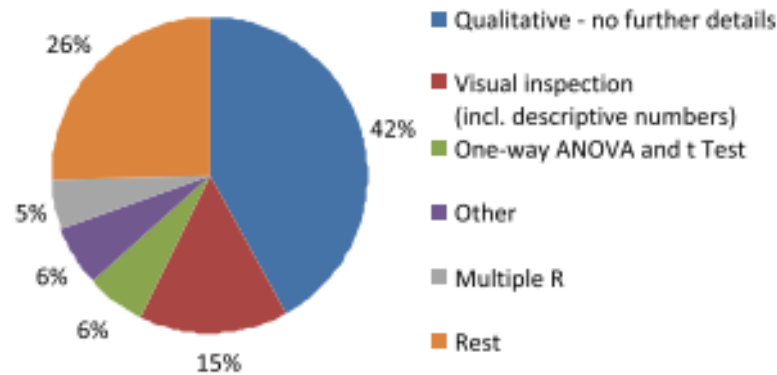


Fig. 5. Data analysis top 5 (all volumes)

Data analysis

We distinguish in total 34 data analysis methods, ranging from “Qualitative analysis (no details)”, used primarily in case research, to statistical techniques such as “Structural equation modelling” and quantitative methods such as “Data Envelopment Analysis”. The full list is provided in Appendix 1. Again, we allowed for a maximum of three labels for each article for data analysis methods. We used 387 labels in total (1.1 per article), and this number is pretty stable across the three periods. Fig. 5 presents the top 5 of data analysis methods. Across the entire set of volumes, we clearly see that qualitative analysis is most dominant; as could be expected given the popularity, within the journal, of case research as an overall research strategy. Visual inspection is the second most popular analysis technique, which ranges from pattern matching of (typically quantitative) case study data, to non-statistical analysis (or, rather, description) of quantitative data, usually from survey studies. Note the category “Other”, which includes all encountered data analysis techniques (mainly statistical ones) not listed separately in our original classification, such as for instance cluster analysis. The category “Rest” encompasses all non-top 5 methods but which were listed in original classification, including statistical and analytical techniques such as SEM and DEA. If we look at the most recent five year period, we observe that statistical analyses, in particular multiple regression analyses, have become more prevalent. Earlier we noted that surveys as a research strategy has remained pretty stable over time, so this implies that in earlier times, the analysis of the data of these surveys was primarily descriptive. So, complementing our earlier observations, we can now establish that while case studies and survey research have seen rather constant popularity, the extent to which data (mainly from surveys) are actually used to test for theoretical relations is growing. These observations fit with a review of publications in the Journal of Supply Chain Management, even though that review covered a longer period, 1965–1999 (Carter and Ellram, 2003). The share of studies testing theories, as compared to ‘just’ building theories, seems to be growing in the entire field of PSM research.

Type of product and purchase

In order to assess in what type of purchasing contexts the various studies were set, we first classified articles as dealing with physical goods, services or a combination of both. This was done not only for empirical studies, but also for articles following a literature review or quantitative modelling approach, to the extent that such a context was specified in the article. As was expected, most articles focus on the context of procurement of physical goods (about 25%), followed by a combination of goods and services (12%). Interestingly, however, the share of studies in a service procurement context has grown from 1% to 7% over the three consecutive

periods. Subsequently, we analyzed the type of purchase items the individual articles dealt with—again not just the empirical studies, but also conceptual and modelling approaches. Here we used the bill-of-material hierarchy, and distinguished between: raw material; semi-manufacture; single component; sub-assembly; final product (for resale); capital equipment; maintenance, repair and operating (MRO) supplies; and non-product related/ indirect materials/services.

In the overwhelming majority of cases (nearly 70%), the type of purchase was not specified and could not be unequivocally derived by the raters. Of the remainder, about half of the articles dealt with purchasing components or sub-assemblies, followed by final products (e.g. in a retail context), capital equipment and indirect materials/services. Raw materials, semi-manufactures and MRO items were hardly studied. This distribution is quite stable across the three periods. These two analyses confirm the impression that most studies of PSM have dealt and still deal with the purchasing and supply of physical goods used in assembling a final product.

Sector and country of data collection

Finally, we consider the sectorial context of the articles and the country/ies where data collection took place. While the raters only registered a country if actual data collection took place, industry or sector were also recorded for non-empirical studies where appropriate (e.g. a literature review on purchasing in the retail sector). Non-empirical studies are typically not restrained, a priori, to a particular country or region. The sector context is often not specified (21%), but manufacturing is the most popular sector (13%) followed by a combination of sectors (12%), construction and automotive (both 7%). Of the remaining sectors (40%), mechanical engineering, electronics, ICT, health providers, local government and the public sector in general stand out.

Over time, there have been some minor shifts in this distribution. The public sector was relatively popular in the first period (5%), and the construction sector in the middle period (13%), but both have left the top 5 in the most recent period. Again, these numbers confirm the image of PSM studies focusing on manufacturing (and particularly assembly) industries. Even if we were to aggregate all public, non-profit sectors, it would still only account for some 10% of total publications. Considering the country of data collection, the top four consists of GB (21%), US (9%), Netherlands (6%) and Germany (4%). As could be expected, this pattern closely matches the list of most productive countries in terms of authorship. This also applies to the distributions for each of the three time-periods. So, in conclusion, one can state that the journal has consistently been focusing on the strategic aspects of Purchasing and Supply Management, using a relatively stable mix of 'small-n' and 'large-n' studies, largely conducted in the context of procurement of physical goods within manufacturing sectors applying assembly processes. However, over time, data collection and data analysis methods have become increasingly heterogeneous and sophisticated.

Impact: Did it matter?

After this review of the origins and contents of the overall set of journal articles, the remainder of our analysis will now focus on the impact that the journal and its articles have had. While being fully aware of all the limitations, we try to assess this impact by investigating the citations that (E)JPSM articles have attracted from other journals in the field of business administration and management research. 4.1. Overall citations to (E)JPSM articles First, we counted all citations to articles published in (E)JPSM by journals from the well-known Social Sciences Citation Index (SSCI), a subset of journals in the Web of Science, of publishers Thomson Scientific. Citations were counted in the years 1995– 2009. These citations were counted manually, taking (the title and author details of) each (E)JPSM article one by one, and identifying

citations in the SSCI database. Doing this for each single article results in the most reliable number of citations, as performing a search for citations to (E)JPSM articles in general may miss out on citations that misspell or misidentify the cited journal. It also provides a more detailed overview of exactly which articles get cited, when and by whom. Fig. 6 provides an overview of the development of these citations over time. Overall, we see a steep increase in the annual number of citations to articles published in (E)JPSM. The small dip (15) in 2009 is due to missing data; when we counted these citations (in February 2010), not all 2009 citing articles were registered yet in SSCI. Based on these figures, one could calculate the so-called JCR Impact Factor; cites in any given year to manuscripts published in a specific journal in the previous two years, divided by the number of articles published in that journal in those two years.

To compare the resulting number to impact factors of journals that are in SSCI, it should be multiplied by 1.25 to account for the typical 20% share of self-citations (i.e. the current (E)JSPM to (E)JPSM citations would then also count towards the Impact Factor). Thomson Scientific, however, currently does not allow third parties to publish these factors. An alternative journal metric that is recently attracting attention is the so-called "Source Normalized Impact per Paper" (SNIP). This SNIP factor measures a journal's contextual citation impact, taking into account characteristics of its subject field, especially the frequency at which authors cite other papers in their reference lists, and the extent to which a database used for the assessment covers the field's literature.

It further develops the notion of a field's 'citation potential' defined as the average length of reference lists in a field in determining the probability of being cited. In doing so, SNIP fulfils the need in fair performance assessments to correct for differences between subject fields (Moed, 2009). SNIP is defined as the ratio of a journal's raw impact per paper (RIP) and the relative database citation potential (RDCP) in the subject field covered by the journal. RIP is defined as the number of citations in year of analysis to a journal's papers published in three preceding years, divided by the number of a journal's papers in these three years. RDCP is defined as the database citation potential of a journal's subject field divided by that for the median journal in the database.

This database citation potential is calculated as the mean number of 1–3 year old references per paper citing the journal and published in journals processed for the database (e.g., cited references contained in a 2007 paper, and themselves published during 2004–2006 in database journals). Table 9 provides an overview of SNIP factors for a selection of journals that all tend to regularly publish on Purchasing and Supply Management. In the decade under consideration, 1999–2008, (E)JPSM clearly demonstrates an increasing SNIP (with an incidental jump in 2006); from 0.8 to 1.4. However, its relative position within this list has deteriorated from number 3 in 1999 to number 8. Note, however, that all other journals are listed in SSCI. In recent years, with the increased attention to journal metrics, this has undoubtedly had a positive impact on their absolute number of citations and thus also their SNIP. Therefore, the absolute number and the trend in (E)JPSM's SNIP factor should be evaluated quite positively.

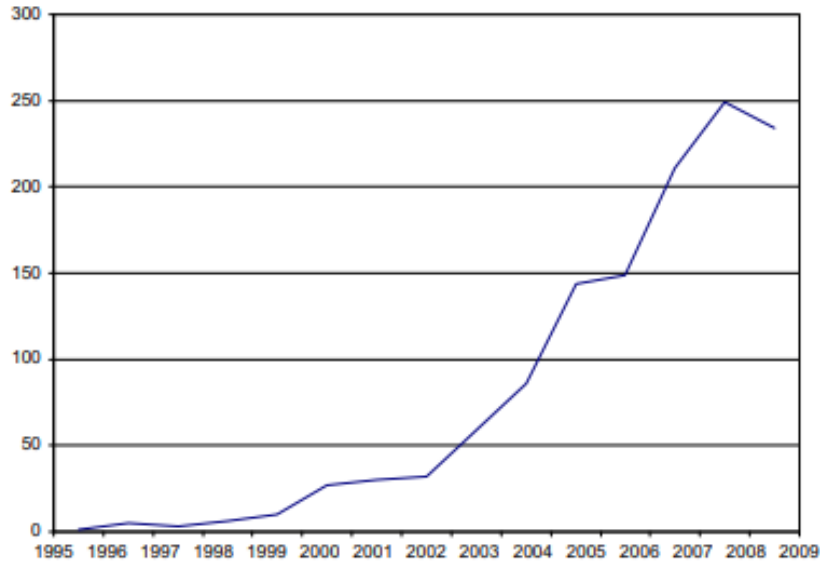


Fig. 6. Citations to (E)JPSM articles in Web of Science Journals (SSCI) (n=1247)

Impact on whom?: citations by discipline and journal

For the next step in the analysis, we wanted to investigate what the impact of (E)JPSM publications has been on different management disciplines. As suggested in the introduction, the major disciplines that have strong relations with the field of Purchasing and Supply Management are Strategy and Organization, Marketing, Operations Management and Operations Research (Wynstra and Knight, 2004; Mol and Wynstra, 2006). Based on a delphi study, Mol and Wynstra (2006) identify a total of 46 international academic journals that publish regularly about Purchasing and Supply Management, and assign these to one of the aforementioned management disciplines. We consider this set of journals (minus (E)JPSM) for counting citations to the journal, using again SSCI for registering these citations. Of the 45 journals, seven are not included in SSCI. The remaining 38 journals are evenly distributed across the four disciplines: 9 journals in Strategy and Organization; 10 journals in Marketing; 9 journals in Operations Management (OM); and 10 journals in Operations Research (OR). The pattern of citations across these four disciplines, as it has developed over the past 15 years, is presented in Table 10. First of all, it should be noted that of these 38 journals, 13 (more than one-third) have no citations at all to (E)JPSM: five Strategy and Organization journals; five Marketing journals; two OM journals; and one OR journal. These are typically the top journals (Academic of Management Journal, Organization Science; Journal of Marketing, Manufacturing and Service Operations Management and Operations Research, to name a few). This lack of citations can largely be explained by the fact that these top journals publish relatively few studies on Purchasing and Supply Management (typically in the range of 2–5% of total publications, in the period 1999–2003) (Mol and Wynstra, 2006). Hence, because of their content, they are less likely to cite any journal focusing on PSM. The numbers in Table 10 clearly show that Operations Management journals contribute the most to (E)JPSM citations; their relative share is three times as high as the number two, Marketing. This is explained by the fact that these Operations Management journals do tend to frequently publish PSM research (a total of 358 publications, in the 1999–2003 period), considerably more than Marketing journals (188) (Mol and Wynstra, 2006). Still, assuming that our data for the 1999–2003 period can largely be extrapolated to the entire 1995–2009 period, the numbers suggest that a PSM article in an OM journal is more likely to cite (E)JPSM articles than a PSM

article in a Marketing journal. This could be due, for instance, to authors more frequently publishing in a combination of (E)JPSM and OM journals, and providing more cross-citations (including to their own work). It is interesting to note, however, that the share of citations coming from Marketing journals is increasing strongly over time, nearly tripling from the first to the last time period. This may be a sign that the Marketing discipline, who has more or less given birth to the field of PSM as a research field in the mid-1960s (Wynstra, 2006), is rediscovering the subject of Purchasing and Supply Management.

Finally, observe that the relative share of citations coming from journals belonging to other disciplines is increasing over time and now almost equals 50%. To identify which journals in this category—and the four main disciplines—are primarily responsible for (E)JPSM citations, we now turn to an analysis of citations by journal. Table 11 presents an overview of the 10 journals that account for most of the citations to (E)JPSM articles. Seven of these are either OM journals (5) or Marketing journals (2). Interestingly, there are also three Information Systems/Technology journals in the list (Expert Systems with Applications; Industrial Management and Data Systems; Computers and Industrial Engineering), contributing in part to the large share of citations coming from the 'non-core' disciplines. Note again that we only list SSCI journals here; there are probably journals outside the scope of SSCI that also frequently cite (E)JPSM. Over time, there is quite some dynamism in this list. In the second period, six journals in the list are new compared to the first period, and in the last period there are again four new entrants. In total, only four journals stay within this top 10 across all three periods. Note, again, that in the first period, there were absolutely speaking so few citations, that small changes could lead to major shifts. The recent two periods show indeed some more stability, when three journals maintain top three positions (SCM-IJ, IJOPM and IJPE).

In conclusion, we can state that not only the absolute number of citations to the journal has been increasing rapidly, but also the number of citations per article published in (E)JPSM, as indicated by the increasing SNIP factor. Both trends are strongly related to the development of PSM research in general. Mol and Wynstra (2006) calculated that between 1999 and 2004 the annual number of articles on PSM published in the journals mentioned earlier had grown by some 50%. In other words, the chances of (E)JPSM articles being cited have increased substantially. We have also demonstrated that the journal's publications have had a primary impact on studies published in OM journals, but that the impact on the Marketing domain is increasing. Also, there are specific journals outside the four main disciplines—particularly in Information Systems/Technology—that also account for a relatively large share of citations.

Table 9
Source Normalized Impact per Paper (SNIP) for selected journals, 1999–2008.

Source title	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Industrial Marketing Management	0.751	0.932	0.910	1.156	1.417	1.190	1.748	2.327	1.994	2.153
International Journal of Operations and Production Management	0.597	0.444	0.360	1.191	1.289	1.746	1.823	1.790	2.094	2.261
International Journal of Production Economics	0.238	0.267	0.759	0.775	1.033	1.783	1.860	2.775	2.538	3.363
International Journal of Production Research	0.672	0.495	1.028	1.144	0.728	1.777	1.769	1.837	1.633	1.844
Journal of Business and Industrial Marketing	0.393	0.482	0.394	0.285	0.660	0.616	0.985	1.600	1.155	0.823
Journal of Business Research	0.974	0.638	0.744	0.722	1.003	1.115	1.677	1.881	1.836	1.941
Journal of Operations Management	1.316	1.166	1.255	3.179	3.059	3.599	3.327	3.993	3.539	3.179
Journal of Purchasing and Supply Management	0.773	0.655	0.788	0.876	1.369	1.370	1.305	2.028	1.079	1.379
Journal of Supply Chain Management								0.780	0.918	1.187
Supply Chain Management—An International Journal	0.539	0.663	0.952	1.123	1.535	1.128	0.383	1.609	1.360	1.740

Table 10
Citations to (E)JPSM articles, by discipline (1995–2009).

Citing period discipline (#journals)	Total period	1995–1999	2000–2004	2005–2009
Marketing (10)	10%	4%	6%	11%
Operations Management (9)	35%	56%	46%	32%
Operations Research (10)	7%	0%	5%	8%
Strategy and Organization (9)	1%	4%	1%	0%
Other	47%	36%	41%	48%
Total number of citations	1247	25	234	988

Table 11
Top 10 journals providing most citations to (E)JPSM (1995–2009) (n=1247).

International Journal of Operations and Production Management	11%
Supply Chain Management—An International Journal	10%
International Journal of Production Economics	7%
Industrial Marketing Management	4%
International Journal of Production Research	4%
Journal of Business and Industrial Marketing	4%
Expert Systems with Applications	3%
Industrial Management and Data Systems	3%
Production Planning and Control	2%
Computers and Industrial Engineering	2%

Impact by what?: highly cited journal publications

Finally, we consider which individual articles have received most citations. Of the total collection of 351 articles, 42 articles (12%) have 10 or more citations, for a total of 703 citations (56%). In total 130 articles (37%) were never cited. The average year of publication of the highly cited articles is 2000, which seems to support the notion that older articles have had more time to receive more citations. (Indeed, the average year of publication of all (E)JPSM articles is 2002). To ensure that we are not excluding articles that receive citations per year, but have had less time to build a substantial absolute number of citations, we also considered yearly average citations. The numbers suggest that the set of 42 articles is pretty complete; outside the initial set of 42 articles, only eight had a yearly average of 1 citation or more. We then reviewed this set of 42 articles, and analysed whether there were any substantial differences between these

articles and (E)JPSM articles at large. Appendix 2 provides the bibliographical details of the 42 articles, and the total number of citations.

In terms of authorship, the first thing to note is that GB, the US, Netherlands, Italy and Sweden are strongly represented among these top 42 articles. This is in line with these countries' overall dominance in terms of journal article authorship, except that GB and the US are even more strongly represented in this subset. Apparently, articles by authors from these countries have an above average chance of attracting citations. In terms of individuals, 20 of the top 42 cited articles are written by one or two authors from the top 26 most prolific (E)JPSM authors. Clearly, prolific authors have a higher chance of being cited more frequently per paper than less prolific authors: their share in the authorship of this top 42 (24/85; 28%) is substantially higher than in the authorship of all articles (124/736; 17%). In terms of topic, there are some small yet noticeable differences. In fact, we see for these highly cited articles nearly the same top three as for the journal at large:

1) Supplier relations; 2) PSM strategy and corporate strategy; 3) Supply base management.

The notable difference, however, is that PSM organization is a much less prevalent topic among these highly cited articles than among all journal publications. One possible explanation for this may be the journal is primarily seen as a relatively unique and sound source for studies on supplier relations and supply management, and PSM strategy. Authors publishing in other journals, and looking for good references on organizational aspects (teams, centralization, etc.), will rather be looking to general organizational behavior journals for inspiration. The second noticeable difference between this top 42 and the set of all (E)JPSM articles is that the topic "Selection" (of suppliers) is quite prevalent. In fact, the topic surfaces six times in these 42 articles, compared to 29 times in the full set of 351 articles (i.e. in 15% versus 8% of the articles). Moreover, the three articles that have "Selection" as their first, main topic are among the top 10 within this list of 42 highly cited articles. Obviously, the topic of supplier selection draws many citations. One possible explanation for this may be that these articles tend to get cited in the Operations Research domain, and in this domain there are numerous journals with many articles published per year, so the citations coming from those journals tend to grow quite quickly. In terms of research strategy, there is one major difference between the highly cited articles and all (E)JPSM articles.

Literature review studies are much more heavily represented in our set of highly cited articles. This suggests that these reviews, as is typical for literature reviews in general, attract more citations. Also, we find that surveys have a slightly higher chance to attract citations, compared to single case studies and multiple case studies, but the difference is not very substantial. As for data collection methods, there is only a slight difference in that highly cited articles apply historical archive retrieval (document analysis) less frequently than the journal articles in general. This is probably due to the fact that this method has become popular mainly in more recent times, while the highly cited articles are somewhat older on average. As for data analysis methods, there are no differences to speak of, apart from the fact that studies using one-way ANOVA and t-tests seem to be cited more frequently. This fits with the observation that surveys in general have a slightly higher chance of being cited. There are no salient differences between the highly cited articles and all journal articles on the remaining content aspects Table 11 Top 10 journals providing most citations to (E)JPSM (1995–2009) (n¼1247). International Journal of Operations and Production Management 11% Supply Chain Management—An International Journal 10% International Journal of Production Economics 7% Industrial Marketing Management 4% International Journal of Production Research 4% Journal of Business and

Industrial Marketing 4% Expert Systems with Applications 3% Industrial Management and Data Systems 3% Production Planning and Control 2% Computers and Industrial Engineering 2% F. Wynstra / Journal of Purchasing & Supply Management 16 (2010) 279–292 289 (type of product; type of purchase; industry/sector setting; country of data collection). In sum, highly cited articles in the journal are topic-wise very much in line with the overall journal, besides focusing a little more on supplier selection. Not surprisingly, these articles relatively often rely on a literature review and to some extent on an empirical survey study. The highly cited articles are frequently authored by productive authors (at least as far as (E)JPSM is concerned), many of which are from Great Britain and the United States.

Conclusion

This paper has analyzed the origins, contents and impact of the 351 articles published in the (European) Journal of Purchasing and Supply Management, from the start in 1994 until the end of 2009. We find that authorship of (E)JPSM articles is spread over a relatively large group of authors who increasingly co-author manuscripts, and who predominantly come from university institutions in Great Britain, the United States and the Netherlands. The journal has consistently been focusing on the strategic aspects of Purchasing and Supply Management, in particular on topics such as: Supplier relations; sourcing strategy; PSM and corporate strategy; and PSM organization. Research has been conducted using a relatively stable mix of 'small-n' and 'large-n' studies, largely in the context of manufacturing sectors applying assembly processes. Over time, data collection and data analysis methods have become increasingly heterogeneous and advanced. The impact that (E)JPSM publications have is rapidly growing over time; not only the absolute number of citations to the journal has been increasingly rapidly, but also the number of citations per article, as indicated by the increasing SNIP factor.

The journal's publications have had a primary impact on studies published in OM journals, but the impact on the Marketing domain increasing. Also, there are specific journals outside the four main disciplines—particularly in Information Systems/Technology—that also account for a relatively large share of citations. Individual highly cited articles in the journal are topic-wise very much in line with the overall journal, besides focusing a little more on supplier selection. Not surprisingly, these articles relatively often rely on a literature review, and to some extent on an empirical survey study. The highly cited articles are frequently authored by productive authors, many from Great Britain and the United States. These findings result in three important observations regarding the positioning of the journal. First of all, the journal has consistently followed a strategy of focusing on the strategic aspects of Purchasing and Supply Management. Second, the journal is clearly a multidisciplinary journal with ties not only to Operations Management but also to Marketing discipline. Thirdly, the journal publishes research using a stable and balanced mix of small-scale and largescale data collection methods. Arguably, this combination continues to provide a distinguishing profile compared to other journals in the field of Purchasing and Supply Management. However, the analysis of articles published so far also results in some recommendations in order to further leverage this profile. First, I would seek to further enhance the collaboration and exchange of ideas with scholarly communities that study similar, strategic topics within PSM. The Industrial Marketing and Purchasing Group, with its emphasis on inter-organizational (buyer–supplier) relations, is clearly an important community in this respect, and although there are already many ties with this community, they could be further strengthened. Other communities could be found, for instance, within the business-tobusiness marketing groups in larger marketing groups, such as the European Marketing Academy (EMAC) and its North-American counterpart, AMA. Second, I would recommend continuing to focus on publishing case research. (E)JPSM clearly has always been offering more room for such typically

more qualitative, more exploratory work than related journals such as JSCM. As such, the journal can continue to build a profile around it and have a substantial impact on other research as well: more than one-third of the 42 highly cited papers are based on case research. Third, I would advise to keep trying to expand the author base. As we have seen, the list of contributing institutions and contributions has become quite stable in recent years. This stability may inadvertently lead to some amount of 'groupthink' and less influx of new ideas and approaches. Fortunately, there is considerable dynamism at the level of individual authors, but still it is good to try and seek some degree of constant renewal also at the level of contributing institutions and countries. Therefore it is good that after Great Britain and the Netherlands, journal editorship is now moving to Italy and the US—even though this is just a minor piece of the puzzle. The increasing journal productivity of China is also a good sign, and hopefully we can welcome an increasing amount of contributions from countries such as India, Iran and Japan as well in the near future. Also in Southern and Eastern Europe (France, Portugal, Spain, Poland, Hungary, Russia, to name a few), authorship could be further developed. This analysis of 15 volumes of (E)JPSM has surely demonstrated the enormous richness of the domain of Purchasing and Supply Management. We have covered a lot of ground, but a lot still remains to be done. With a thorough understanding of past achievements, but also of the associated limitations, we can all continue to work on that all-important, original objective of the journal: "to raise the level of conceptual debate on purchasing and supply issues, by publishing the results of work that develops knowledge in the field" (Lamming, 1994).

Table A1
Classification schemes.

Topic	Data analysis	Type of purchase
PSM strategy and corporate strategy	Qualitative—no further details	Raw material
Supply base mgt/sourcing strategy	Visual inspection (incl.descriptives)	Semi-manufacture
Supplier relations	Software-aided text analysis	Single component
PSM organization	Bivariate R/correlation	Sub-assembly
Make-or-buy/outsourcing	Multiple R	Final product (for resale)
Specification	Sequential R	Capital equipment
Selection	Canonical R	Maintenance, repair and operating supplies
Contracting	Multway Frequency Analysis	Non-product related/indirect materials/services
Ordering	One-way ANOVA and t-test	Not specified
Evaluation	One-way ANCOVA	Not applicable
Pricing and costing	Factorial ANOVA	
Quality	Factorial ANCOVA	Industry and sector
Innovation	Hotelling's T2	Agriculture and aquaculture
Delivery	One-way ANOVA and t-test	Mining
Change management and leadership	One-way ANCOVA	Oil and chemicals industry
ICT	One-way MANOVA	Steel industry
HR issues in PSM	One-way MANCOVA	Mechanical engineering industry
Internationalisation	Factorial MANOVA	Construction industry
Legal aspects	Factorial MANCOVA	Shipyards/off-shore construction
Social, ethical and environm. aspects	One-way discriminant function	Automotive industry
Research methods	Seq. one-way discriminant function	Electronics industry
	Multway Frequency Analysis (Logit)	Aviation and aerospace industry
Research strategy	Logistic Regression	Pharmaceutical industry
Literature review	Sequential Logistic Regression	Medical (excl. pharmaceuticals)
Meta-study	Factorial Discriminant Function	Food and beverages sector (incl. dairy)
Single case study	Sequential Discriminant Function	Home and personal care
Multiple case study	Principal components analysis	Clothing, apparel and sporting goods
Survey	Factor analysis	Luxury goods
Expert interviews/Focus group	Structural equation modelling	Furniture and home furnishings
Field experiment	Survival/Failure analysis	Information and communication technology sector
Laboratory experiment	Time-series analysis	Transportation and logistics providers
Action research	Linear programming	Travel and hospitality sector
Quantitative Modelling	Dynamic programming	Culture and entertainment industry
	Simulation	Other consumer services
Data collection	Queuing theory	Health sector, incl. hospitals
Primary quantitative data	Data Envelopment Analysis (DEA)	Education
Secondary quantitative data	Other	Defense sector
Historical archive retrieval	Not specified	General engineering and maintenance
Participant observation	Not applicable	Facility services (cleaning, security, etc.)
Outsider observation		Professional services (e.g. consulting, legal, accountancy)
Interviews	Type of product	Retail, trade, wholesalers
Mail questionnaire	Physical good	Utilities (production, network provision and distribution of electricity, gas, water)
		Local and regional government
Electronic questionnaire	Service	National government
Telephone questionnaire	Combination good/service	Trans-national government
Face-to-face questionnaire	Not specified	Non-governmental organizations
Not specified	Not applicable	Manufacturing—not specified
Not applicable		Services—not specified
		Public sector—not specified
		Various
		Not specified
		Not applicable

Table A2
(E)JPSM articles cited 10 or more times in SSCI Journals (1995–2009).

Rank	Year	Vol.	Iss.	Title	Author(s)	Total citations
1	2001	7	2	A review of methods supporting supplier selection	De Boer et al.	54
2	2000	6	1	Supply chain management: an analytical framework for critical literature review	Croom et al.	42
3	2001	7	1	A framework of supply chain management literature	Tan	37
4	1998	4	2–3	Outranking methods in support of supplier selection	De Boer et al.	28
5	2001	7	1	Environmental purchasing: a framework for theory development	Zsidisin and Siferd	24
6	1997	3	1	Critical elements of supplier development: the buying-firm perspective	Krause and Ellram	23
7	2003	9	4	Supplier selection using a multi-criteria decision aid method	Dulmin and Mininno	22
8	1997	3	4	An empirically based operational definition of strategic purchasing	Carr and Smeltzer	21
9	1999	5	3–4	Supply base rationalisation: myth or reality?	Cousins	20
10	2002	8	2	A conceptual model for managing long-term inter-organizational relationships	Cousins	20
11	2000	6	1	New dimensions of outsourcing: a combination of transaction cost economics and....	Arnold	19
12	1994	1	3	Applying multi-attribute analysis to contractor selection decisions	Holt et al.	18
13	2002	8	1	A conceptual model for assessing the impact of electronic procurement	De Boer et al.	18
14	1994	1	1	The changing role of purchasing: reconsidering three strategic issues	Gadde and Håkansson	17
15	2003	9	3	Co-ordination and integration mechanisms to manage logistics processes across supply networks	Romano	17
16	2000	6	2	Developing strategic partnerships in the supply chain: a practitioner perspective	Christopher and Jüttner	16
17	2002	8	2	Exploring business-to-business market sites	Barratt and Rosdahl	16
18	1999	5	1	Rework: a symptom of a dysfunctional supply-chain	Love et al.	15
19	2003	9	1	Strategic supply and the management of inter- and intra-organizational relationships	Cousins and Spekman	15
20	2003	9	2	Risk in supply networks	Harland et al.	15
21	1994	1	4	Supplier relations in the UK car industry: good news–bad news	Sako et al.	14
22	2000	6	1	Managing supplier involvement in new product development: a portfolio approach	Wynstra and Ten Pterick	14
23	1997	3	2	Designing 'green' vendor rating systems for the assessment of a supplier's environm. performance	Noci	13
24	1999	5	3–4	Impacts of supplier–buyer relationships on modularization in new product development	Hsuan	13
25	2000	6	3–4	A survey of supply chain collaboration and management in the UK construction industry	Akintoye et al.	13
26	1996	2	4	Beyond vendor assessment: relationship assessment programmes	Lamming et al.	12
27	1996	2	4	Supply network strategies the case of health supplies	Harland	12
28	1999	5	2	Towards more effective sourcing and supplier management	Spekman et al.	12
29	1998	4	2–3	Success and failure in implementing supply chain partnering: an empirical study	Boddy et al.	11
30	2000	6	3–4	Supply strategy and network effects—purchasing behaviour in the construction industry	Dubois and Gadde	11
31	2003	9	5–6	Online reverse auctions and their role in buyer–supplier relationships	Smart and Harrison	11
32	1996	2	1	Relational competence and strategic procurement management	Cox	10
33	1997	3	2	Managing supply in the firm of the future	Cox and Lamming	10
34	1997	3	3	'Fit for purpose' contractual relations: determining a theoretical framework for construction proj.	Cox and Thompson	10
35	1998	4	2–3	Business process innovation in the supply chain—a case study of implementing VMI	Holmström	10
36	2000	6	1	Cooperation versus competition: do buyers and suppliers really see eye-to-eye?	Forker and Stannack	10
37	2000	6	3–4	The four roles of supply chain management in construction	Vrijhoef and Koskela	10
38	2001	7	1	The dyadic capabilities concept: examining the processes of key supplier involvement in....	Croom	10
39	2002	8	2	The determinants of service quality: issues for purchasing	Stanley and Wisner	10
40	2002	8	3	Purchasing in small firms	Quayle	10
41	2003	9	5–6	A grounded definition of supply risk	Zsidisin	10
42	2004	10	1	Setting the stage for successful electronic reverse auctions	Wagner and Schwab	10

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