

PANEL T04-P04 SESSION 1:

Public Procurement: Humdrum Bureaucratic Beast or Vital Instrument for Social Change

MAPPING OUT PUBLIC PROCUREMENT RESEARCH:

*A 2010-2018 Preliminary Descriptive Review of
Theoretical, Empirical and Methodological Themes in the Field*

Pierre-André Hudon

Université Laval

pierre-andre.hudon@fsa.ulaval.ca

Philippe Dumas

École nationale d'administration publique (ENAP)

philippe.dumas@enap.ca

César Garzón

École nationale d'administration publique (ENAP)

cesar.garzon@enap.ca

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1. INTRODUCTION

In the last few years, many scholars have surveyed the field of public procurement (PP) using various methods (Flynn & Davis, 2014; Koala & Steinfeld, 2018; Lange, Telgen, & Schotanus, 2014; Patrucco, Luzzini, & Ronchi, 2017). Their research provided significant insights about how PP had been studied until now. Except for Lange & al. (2014), these reviews were limited by methodological choices made consciously by the authors – specifically, the choice to analyze articles from only one journal. This paper is a descriptive review that seeks to map out the field of peer-reviewed research on PP across academic journals.

2. LITERATURE REVIEW

2.1 A Tri-Level Framework for Understanding PP

Procurement is essentially the implementation of an executive-branch decision to acquire good or services from the private sector. The British Association for Project Management defines procurement in this way:

The process by which the resources (goods and services) required by a project are acquired. It includes development of the procurement strategy, preparation of contracts, selection and acquisition of suppliers, and management of the contracts.

Procurement must therefore be understood as a process that extends beyond the contract's signature and that includes legal, administrative and political elements. It also brings together, through formal and informal links, many private and public sector actors (Roman, 2014).

When describing procurement systems, most research distinguishes between contextual elements (laws and regulation, institutions, market forces, political pressures, professionalization and ethics, etc.) and the actual process of procurement, which involves a series of steps aimed at converting executive-branch demands into acquired goods and services. Conceptually, procurement can be analyzed using this tri-level context/structure/process approach, where different contextual elements will affect the structure of the procurement framework and the way the procurement process is undertaken.

Context

For Thai (2001), the procurement environment is characterized by five elements:

1. Economic conditions where goods and services are exchanged on the private market, with the government acting as a buyer and the private sector acting as a supplier;
2. A legal environment where economic activities are subject to government regulation;
3. A political environment where governance is shared between democratic actors having different interests, influencing procurement decisions through formal and informal means;
4. A social environment where citizens and civil society institutions participate and provides oversight for

procurement decisions being made;

5. International trade agreements that constrain governments into opening up their markets.

Structure

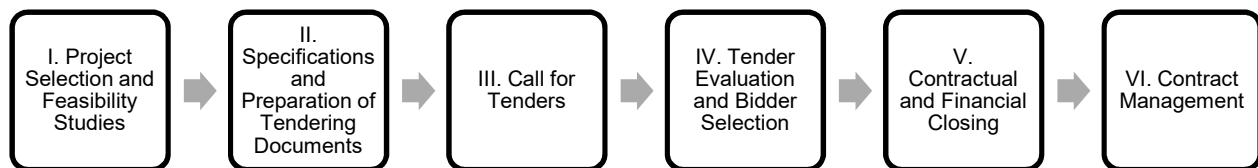
Thai (2001) also suggests that procurement systems are composed of four elements:

1. A set of procurement laws and regulations, generally aimed at ensuring due process;
2. Public procurement organizations centralizing procurement know-how and ensuring oversight of tenders;
3. A public procurement workforce, competent at undertaking procurement projects and managing contracts;
4. Processes and methods, aimed at systematizing the way procurement projects are undertaken.

Process

With regards to the procurement process, Snider and Rendon (2008) use systems theory to describe the way in which a procurement process operates. Like any general system, a procurement system relies on an input/output/feedback loop design (Easton, 1953) that aims at converting executive-branch demands for goods and services into acquired goods and services. The steps (sub-systems) involved in procurement are generally standard across jurisdictions. They are shown in figure 1.

Figure 1. The Public Procurement Process



2.2 Overview of PP Research

General overview contributions on PP field can be split in two different research phases: in the first phase, works focused on the definition of general concepts and boundaries of the field. During that phase, the objective was both practical (to clarify the proper role of PP practitioners) and scientific (to overcome the high fragmentation of PP research). The second research phase deals with works focused on evaluating the state of the literature, examining the role of theory in PP research and proving insights into the maturity of the field and future directions of research.

Thai's (2001) contribution laid out in the previous subsection is considered as a starting point. Thai's approach of PP as a "nested structure of systems within systems" (2001, p. 40) is still the predominant view of the current research in the field (see, for example, the PMBOK).

A second contribution in the first research phase was Prier & McCue's (2009) work. To address what the

authors considered the limitations of a muddled definition of PP and ill-defined boundaries, they proposed the following conceptual definition: “*PP is the designed legal authority to advise, plan, obtain, deliver, and evaluate a government’s expenditures on goods and services that are used to fulfill stated objectives, obligations, and activities in pursuant of desired policy outcomes*” (p. 329). Furthermore, Prier & McCue proposed a conceptual framework to classify PP based on important elements: 1) the legal basis for practitioners’ activities; 2) the organizational and structural boundaries of activities; and 3) the intended outcomes of the practice used in the pursuit of governmental obligations.

During the second research phase, a first contribution was Lange et al.’s (2014) work. The authors’ purpose was to conduct a systematic review of the most influential literature in a highly fragmented field of PP, because “*a clear synthesis is still lacking, which in turn inhibits the establishment of a clear body of knowledge*” (p. 1). A second contribution was Flynn & Davis’ (2014) work, who presented a systematic review to “*map and address the existing intellectual territory*” of PP research (p. 142). A third contribution by Patrucco et al. (2017) provided a structured review of research topics and identified the main gaps in the existing literature using content analysis. Table 1 presents a synthesis of the key contributions of the second research phase.

Table 1. Key Contributions of Existing Systematic Reviews

| | |
|---|---|
| Publication Status | <ul style="list-style-type: none"> The yearly number of publications has been constantly increasing since the end of 1990s, showing a higher relevance of the field; The high number of individual authors and the high number of journals in which the papers are published highlight the cross-disciplinary character of PP research. |
| Strategic Research and Methods | <ul style="list-style-type: none"> There is a relatively lack of theoretical underpinnings in PP research; but this finding should be nuanced by the fact that papers attempt to contribute to the theoretical enrichment; Empirical methodologies are predominant, particularly case studies and surveys; the highly practical nature of PP research is also revealed by the data sources (non-academic literature and survey methods are most prominent); Where a theoretical approach is used, the papers are most frequently conceptual; meta-analyses and literature studies are neglected, making it difficult to pool findings or to apply them to further analyses; Qualitative and quantitative methodologies are applied almost equally often. |
| Theories Used and Dominant Disciplines | <ul style="list-style-type: none"> Where articles were found to be theoretically grounded, the most popular theories were: theory of auctions and competitive bidding, principal-agent theory, contract theory, transaction cost economic theory and general systems theory – that is to say that economics are predominant; Apart from economics, the other disciplines on which PP research is based are: sociology, management and psychology; if economics still dominate, management theory is clearly increasing in use during the most recent years; findings showed that research in PP is theoretically eclectic and reflexive of input from across a diverse range of fields and disciplines. |
| Focus of PP Research | <ul style="list-style-type: none"> In terms of research topics, a high variability was observed; more than twenty topics have been addressed; It was shown that a large portion of articles reviewed focused on PP strategy & goals, PP processes, and PP performance; a minor portion of articles focused on PP organizational design, PP procedures and tools and PP environment; A shift towards more specific themes is observed: topics such as ethics and sustainability, social, environmental and economic impacts of PP are attracting more researchers in recent years; With regards to PP processes, the more operational activities (supplier selection and bid evaluation criteria, negotiation and awarding, and contract management activities) have been deeply debated, and more strategic activities (budget and demand management, requirement definitions, and supplier scouting and bid design) are neglected; that seems to be coherent with the traditional operational perception of PP; E-procurement has been considered a “hot” topic since the early 2000; |

| | |
|---|--|
| | <ul style="list-style-type: none"> Surprisingly, not a great deal of literature on PP organizations and structures exists; only a few address the topics of centralization and organizational design activities directly Micro-organizational topics were more common: competences, training programs, resource specialization, behaviour & trust, and knowledge management; More research on PP performance considered cost, quality and time; other related topics such innovation and sustainability were only partially studied. |
| Contextual Variables of Research | <ul style="list-style-type: none"> In general, research was very unspecific with respect to context variables; more than half of papers did not specify a jurisdictional level and a similar number were grouped into the polled categories of unspecified industries; only a third of the papers did mention of a specific type of product. Where contextual variables were specified, data showed that many aspects of PP may depend on the country, the sector or the type of public administration on which the research focuses; Consequently, many papers focused on a specific country or industry instead of adopting a comparative approach; Central governments prevailed in terms of research focus, but their proportional relevance decreased as the municipal level research increased over time; The most influential countries, both as producers and objects of research, were the USA and the UK, but their importance decreased with time as more countries, especially in Europe, have rapidly increased their research activities; Defense, construction and healthcare were the most studied industries and sectors, but important differences appear amongst reviews; Regarding regional focus, the American and British literature looked at the different levels of government level, while other literatures prefer to focus on central governments (Africa) or local institutions (Italy and Northern Europe). |
| Limitations | <ul style="list-style-type: none"> A general limitation in all these contributions is the exclusion of articles published in languages other than English, which may have yielded a language bias; Another important limitation is the exclusion of grey literature, despite its quantitative importance; Both Patrucco et al., (2017) and Flynn et al.'s (2014) recognized that "a one-journal literature review limits generalizability of the results to the whole landscape, even though the review considers the most important journal in the field" (Patrucco et al., p. 40); Literature review of papers published in other peer-reviewed academic journals may suggest other evidence; Regarding Lange et al., (2014) work, the only systematic review that considers several journals, it must be said that ten years (2001-2010) of publications from the JPP were missed because this journal was not included before 2010 in the Databases used in the review. |

2.3 Research Questions

As mentioned by Patrucco et al. (2017): *"the first suggestion should be to extend the scope of a review of this type, with scholars designing a different sample of journals and papers and then trying to compare the results with the findings provided by the present study"* (p. 40).

It is with this in mind that we undertake (another!) descriptive review of the field of PP, but on that is broader in scope and that includes articles from different journals. We start by identifying the research questions we felt need to be answered.

General Research Question

- What is the current state of peer-reviewed research on PP?

Specific Research Questions

- Which topics and themes are most/best represented in the academic literature?
- Who are the most important authors?

- What are the most important journals?
- Which disciplines and theoretical frameworks are most often used?
- Which empirical verification strategies are the most used?
- Which economic sectors and countries/regions are the most studied?
- How has the field evolved in recent years?
- What are the theoretical and empirical “holes” in the current research?

3. METHOD

In this section, we describe the method used in selecting which articles to review, in developing a code list and in coding and analyzing the data.

3.1 Article Selection

A first list of articles used was compiled by running multiple queries on ProQuest and ScienceDirect databases in the months of December 2016 and January 2017. In order to make sure the descriptive review was as up to date as possible, a second list was generated in July 2018.

For both databases, only peer-reviewed articles published in English in academic journals between 2010 and 2018 were retained.

The list of keywords used is presented in Table 1. The query was limited only to the “title” and “abstract” fields, since searching for the keywords in the articles’ bodies led to too many responses.

Table 2. List of Keywords Used

| | | |
|----------------------------|--------------------------------|----------------------------|
| • "defence procurement" | • "government purchase" | • "public purchases" |
| • "defense procurement" | • "health procurement" | • "public purchase" |
| • "education procurement" | • "infrastructure procurement" | • "electronic procurement" |
| • "government contracts" | • "municipal procurement" | • "e-procurement" |
| • "government procurement" | • "procurement theory" | • "public contracts" |
| • "government purchasing" | • "public procurement" | • "government contractors" |
| • "government purchases" | • "public purchasing" | • "public contractors" |

A third list containing all the articles from the Journal of Public Procurement (JPP) –whether or not they met the keyword criteria– was compiled, up to July 2018. This was done because we assumed all the articles published in JPP were relevant to the descriptive review.

All three lists were combined into a single population of relevant articles. The combined list was then cleaned up by removing duplicates (which were numerous, due to the overlap between databases), articles

with no authors or anonymous authors, book reviews, editorials, “in memoriam” articles and introductions to special issues.

After a coding test run, it became obvious that many articles had to be removed because they did not concern PP directly – most of them were related to other topics and only mentioned PP as a peripheral element. A first pass, performed by systematically reading the abstracts, was performed to remove off-topic articles.

Finally, during the coding phase, in which two coders looked at the actual paper contents, some articles were also removed. Both coders identified articles for removal. When differences arose, they were settled through discussion.

By doing this, a final population of 743 articles was retained.

For each article, the number of Google Scholar citations was manually added in early February 2019 in order to compute impact factors.

3.2 Code Definition

The initial list of codes was drafted using the authors’ personal knowledge about the field and following Thai’s (2001) overview of the field. The initial list was then sent to experts¹ in the field for review. Based on their responses a new code list was compiled.

A first coding dry run was performed on a small number of articles to verify if the code list was usable. This led to a streamlining of codes and categories. A second coding dry run was performed to verify if the updated list was usable. Two entire categories (1 and 2) were removed because they were deemed too general and some codes were merged or removed. Upon satisfactory results, the updated list was retained as the final code list. It is presented in Appendix 1.

3.3 Coding

Coding was done blindly by two independent coders. When differences arose, they were settled through discussion. For each category, at least one code had to be selected, although that code could be “None/Does Not Apply (DNA)”. In some categories, codes could be added manually by selecting “Other” and by writing down a new word. The coding was finished in March 2019.

¹ The authors would like to thank Khi V. Thai, Cliff McCue, Christopher Bovis, Anthony Flynn, Sue Arrowsmith, J. Gordon Murray and Alexandru V. Roman for their generous responses.

4. RESULTS

4.1 Descriptive Statistics of the Population

Table 3 presents a description of the population.

Table 3. Population Characteristics

| | |
|---|-------|
| Number of articles coded | 743 |
| Number of different journals | 331 |
| Number of different authors | 1311 |
| Total number of Google Scholar citations in the entire population | 12775 |

4.2 Descriptive Statistic by Coding Category

Appendix 2 presents the detailed data by coding category.

The first coding category looked at which phase² of the procurement cycle articles were mostly concerned with. Just under a third (29%) of articles concerned the entire cycle, and 13% studied the bidding process. It is particularly noteworthy that no article in the entire population looked specifically at needs assessment and feasibility studies, and that risks assessment, negotiation and financial closing and procurement evaluation and learning were also almost completely absent. Contract management was the focus of a mere 2% of articles. This is coherent with findings from previous reviews, where the operational aspects of procurement were more important than the strategic issues.

Topical articles – i.e. those articles that focused on a subfield of PP such as e-procurement, green procurement, etc. – were particularly numerous. We could identify a specific theme for more than half the articles. Articles on corruption and collusion in PP were the most frequent (15%), followed by green and sustainable procurement (12%) and PP innovation (9%). Within the top 50 most cited articles, 82% were topical articles. As we were coding, another category of PP emerged: social procurement, which covered issues like minority-business suppliers, women-owned businesses and socially responsible procurement.

Roughly half of the articles explicitly mentioned implications for practitioners.

The most used theoretical frameworks were management/project management/accounting³ (62%), followed by economics/finance (36%), political science/public policy (20%) and law (17%). Sociology/organizational theory as well as HR/OB/psychology was relatively absent from the population with only 8% and 3% of articles, respectively. In the top 50 most cited articles, articles vastly come from

² We define the procurement cycle as: 1) needs assessment, pre-feasibility, feasibility and technical studies, 2) risk assessment, 3) bids (selection, evaluation, solicitations methods), 4) negotiation and financial closing, 5) contract management, and 6) procurement project evaluation and learning.

³ We had initially tried to treat these categories separately, but they were too difficult to distinguish in practice during the coding.

three theoretical perspectives (management/project management/accounting, 74%; economics/finance, 36%; and political science/public policy, 22%). Previous findings had shown that managerial theory was becoming more important in procurement research.

Over a third (36% and 38%, respectively) of articles are conceptual and quantitative papers, while 20% were qualitative articles and 19% were policy and legal analyses. In the top 50 most cited articles, the proportions of conceptual, quantitative and qualitative articles were higher (42%, 46% and 34% respectively), thus suggesting the most cited articles are more “traditional” in structure. Very few papers were comparative (5% of the entire population). Past systematic reviews had indicated that comparative analyses in PP research were very rare, even going as far as suggesting that PP was a highly “contextualized” field.

Large sample analyses ($n \geq 30$) were the most common (45% of articles), followed by sporadic illustrations (28%) and case studies (19%). Virtually all articles used secondary sources and documents, while interviews and questionnaires were used by 22% and 22% of articles, respectively, thus suggesting that field work, in the social sciences sense of the term, is not very common in PP research.

Forty-two percent of articles looked at public entities (i.e. the demand side of PP), while 29% looked at the private sector (i.e. the supply side). Articles focusing on PP’s environment (policy makers, auditors, regulators, tribunals) accounted for less than 10% of articles.

Thirty-seven percent of articles had the EU or EU countries⁴ as a focus, while 17% concentrated on the USA. Sub-Saharan Africa was fairly well represented with 8% of articles, followed by the UK with 7%. The EU, the USA and the UK represented respectively 32%, 20% and 14% of the top 50 most cited articles. Seventy percent of articles focused on national governments, while articles looking at the local, regional and supranational levels accounted for 21%, 16% and 18% respectively. This suggests a gap in the empirical literature concerning non-national levels of governments, especially in highly decentralized countries.

Finally, just under 50% of articles looked at specific sectors. Within these, the sectoral focus was extremely fragmented: 10% focused on multiple (≥ 2) sectors, 8% focused on general building construction, 7% on services, 7% on transportation, 5% on military and 5% on health.

4.3 Most Important Journals

Most Frequent and Most Cited Journals

Appendix 3 and 4 present the most important journals by number of articles and number of Google Scholar citations, respectively.

⁴ In this category (11), an article looking at PP in Italy would have been coded “EU”, just like one looking at the European Union’s procurement reforms. Category 12 (jurisdiction) distinguishes between local, regional, national and supranational levels of government.

Apart from the Journal of Public Procurement (JPP), it should be noted that the journal that supplied the most article to our population was a PP publication, the Public Contract Law Journal (PCLJ) published by the American Bar Association. Except for JPP and PCLJ, virtually all other journals (with the International Journal of Procurement Management being the notable exception) are generalists journal in their own fields.

When one looks at citations, the unconsolidated nature of the field is even more apparent. Except for the JPP, the 10 most cited journals are generalist journals from the field of economics, operations management, public management or urban studies.

Most Important Articles

Appendix 5 and 6 present the top 50 most cited articles, by total number of citations (i.e. those that had 60 or more Google Scholar citations in February of 2019) and by average number of citations per year.

A few elements distinguish these top papers.

Perhaps the most significant difference between the top 50 articles and the rest is the high propensity to focus on specific topics. Indeed, only 18% of the top articles could not be classified in either of the “trending” topics we had identified (coding category 4). The most popular topics were green and sustainable procurement (26% of articles), innovation (20%), corruption and collusion (20%) and E-procurement (14%). This could also explain *why* these articles are more cited, as they tend to be published in journals in their topical field (which attract greater readership) than in PP, public administration or project management journals. Theoretical frameworks inspired from management, project management and accounting were significantly more represented in the top 50 articles.

Another important difference is that the top 50 articles tend to be more classical in their structure, either presenting conceptual frameworks or empirical verifications of theories. 42% of the top articles were conceptual, theoretical or methodological, and 82% could be classified in one of the three empirical categories (quantitative, qualitative or mixed). Conversely, very few were discussion papers, policy analyses for legal analyses. The use of interviews as a data collection method was also more frequent in the top 50 papers.

The top 50 articles were also significantly more biased toward the main actors of the principal-relationship (i.e: the public buyers and the private suppliers) as opposed to other peripheral actors such as policy makers, regulators, tribunals, etc. Geographic focus is much more Anglo-Saxon and Asian in the top 50 articles than in the entire population. 36% focused on either the USA, the UK, Canada, Australia or New Zealand compared to 27% in the original population of articles. Asia was twice as represented (20% vs. 10%). Surprisingly, none of the top 50 articles concerned military procurement, despite it being generally considered the epistemological ancestor of PP.

Representativeness of the Journal of Public Procurement

We also verified if the articles published in the Journal of Public Procurement (JPP) were representative of the research in the field as a whole. The last two double columns of the tables in Appendix 2 give interesting insights on how representative the JPP is of the whole field for the years we looked at. Globally, the JPP is very representative of the entire population of article but focused more frequently on the USA. It also included more articles studying military procurement, which is hardly surprising at it correlates with a more American focus. JPP's articles were also less cited than other journals in the field, coming in only at the 117th rank out of 331 journals in terms of average Google Scholar citations per article.

More important differences arose when one compared JPP articles to the 50 most cited articles. Almost 60% of JPP articles did not focus on a specific topic (green procurement, procurement innovation, corruption, etc.), while only 18% of the top 50 articles did not. Unsurprisingly, it could be said that JPP is a “generalist” PP journal. Also, while 82% of the top 50 articles could be classified as empirical (either, qualitative, quantitative or mixed methods), only 66% of JPP's articles could. Inversely, only 6% of the top 50 articles were discussion, policy analyses and legal analyses, while those types of papers accounted for 17% of JPP's articles. This suggests a lesser methodological concern in JPP articles than in the field's top articles. As a matter of fact, the JPP only contributed two articles to the top 50, despite being the only journal focused solely on PP.

4.4 Most Important Authors

Appendix 7 and 8 presents the top 100 most cited authors, by total number of citation (i.e. those that had 74 or more Google Scholar citations in February of 2019), and the top 41 most frequent authors, by total number articles (i.e. those that had 4 or more articles in the population).

A preliminary analysis shows the 8 of the top authors tend to cluster around three topics: innovation (Uyarra, Edler & Yeow), green procurement (Brammer & Walker), and political connections (Goldman, Rocholl & So). Further analysis, perhaps using social network analysis, could be used to identify wider networks and clusters of authors and themes.

4.5 Contingency Tables

[Forthcoming]

Cross tabulated data is available but has not be analyzed in full yet. A coding category (3 to 13) can be crossed with any other one. For example, the table below crosses theories (category 6) with types of paper (category 7).

Table 4. Types of Papers by Theoretical Framework

| n | Conceptual/ Theoretical/ Methodological | Empirical - All or mostly quantitative | Empirical - All or mostly qualitative | Empirical - Mixed methods | Comparative | Discussion/ Policy Analysis/ Legal Analysis | Exploratory | Case study | Total | # of articles per category |
|---|---|--|---------------------------------------|---------------------------|-------------|---|-------------|------------|-------|----------------------------|
| Economics/Finance | 132 | 147 | 23 | 15 | 10 | 24 | 5 | 14 | 370 | 265 |
| Management/Project Management/ Accounting | 173 | 173 | 129 | 50 | 29 | 44 | 28 | 41 | 667 | 462 |
| Sociology/Organization Theory | 29 | 24 | 19 | 7 | 2 | 3 | 5 | 5 | 94 | 58 |
| Political Science/Public Policy | 38 | 36 | 43 | 11 | 11 | 36 | 9 | 16 | 200 | 152 |
| Law | 14 | 10 | 13 | 1 | 9 | 94 | 1 | 10 | 152 | 127 |
| HR/ Organizational Behaviour/ Psychology | 4 | 11 | 5 | 3 | 1 | 2 | 1 | 0 | 27 | 21 |
| Atheoretical | 3 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 10 | 8 |
| % | Conceptual/ Theoretical/ Methodological | Empirical - All or mostly quantitative | Empirical - All or mostly qualitative | Empirical - Mixed methods | Comparative | Discussion/ Policy Analysis/ Legal Analysis | Exploratory | Case study | | |
| Economics/Finance | 50% | 55% | 9% | 6% | 4% | 9% | 2% | 5% | | |
| Management/Project Management/ Accounting | 37% | 37% | 28% | 11% | 6% | 10% | 6% | 9% | | |
| Sociology/Organization Theory | 50% | 41% | 33% | 12% | 3% | 5% | 9% | 9% | | |
| Political Science/Public Policy | 25% | 24% | 28% | 7% | 7% | 24% | 6% | 11% | | |
| Law | 11% | 8% | 10% | 1% | 7% | 74% | 1% | 8% | | |
| HR/ Organizational Behaviour/ Psychology | 19% | 52% | 24% | 14% | 5% | 10% | 5% | 0% | | |
| Atheoretical | 38% | 13% | 25% | 13% | 13% | 13% | 0% | 13% | | |

5. DISCUSSION AND CONCLUSION

5.1 Contribution

Globally, our preliminary results paint a lukewarm portrait of PP research. What we observe is a highly fragmented field that, perhaps, has not fully matured yet.

As specific research objects, some admittedly important themes – such as feasibility studies, risk assessments, contract negotiations, contract management, *post hoc* evaluations and HR – are almost ignored by the academic literature, despite being extensively studied in the grey literature. Furthermore, the most cited work concerning PP concerns very specific subtopics of procurement research that, epistemologically, could feel equally at home in other fields such as environmental studies, innovation or criminology. This research is also published in journals that have very little to do with PP. For the moment, the field of PP thus looks, at best, like a subfield of public administration, operations research or project management and, at worst, like an empirical object in contract theory or public policy.

We believe this is linked to the fact that there is not dominant journal that serves as a vector of development around which the research community could cluster. Such a journal would be able to take on a more systematic approach to the analysis of PP, studying it horizontally (at each step of the procurement cycle) and vertically (focusing not only on the buyer-supplier relationship, but also on procurement policy, governance and institutions). Thai's (2001) introductory article in the JPP beautifully laid out a plan for such a systematic analysis. Nevertheless, despite its 19 years of existence and its wide and representative coverage of the main theoretical and empirical themes, the JPP simply does not manage to fulfill this role; it would need to attract more top-quality research in order to do so.

PP research could also benefit from a shift towards new analytical methods such as comparative analysis (inspired from the field of political science), program/policy/project evaluation, and institutional analysis.

Finally, we hope that this paper constitutes a call to action for public procurement researchers to structure the field in such a way that it becomes a *bona fide* discipline within public administration research. This

requires leadership from one or more journal or conferences to push for a systematic research agenda, as well as the use of various theoretical perspectives and analytical methods

5.2 Limitations

We are aware of some limitations to our analysis, which need to be considered when interpreting the results.

The first one is that coding, in and of itself, can be problematic: a very deliberate choice was made to code only articles that talk mainly or significantly about the coding elements. Articles that mentioned some categories tangentially were not coded as such. This probably contributed to our assessment that some topics were “ignored” by the literature, despite being mentioned in articles that used a higher level of analysis.

Two other deliberate methodological choices also constitute limitations. First, the fact that we only looked at articles published in English certainly influenced the geographic focus we observed but may also have skewed the results towards some theoretical frameworks and methodologies. Second, because we willingly overlooked the grey literature, some quasi-academic work, which could have covered some of gaps we identified, may have been ignored. In fact, we cannot but wonder if academic research in PP does not trail behind institutional research produced by organizations such of the OECD and the World Bank.

Finally, we realized too late in the coding phase that code 9a “Secondary Sources/Documents” was ambiguous, as it could combine many different categories such as other scientific papers, quantitative databases, policy and legal documents, grey literature, methods manuals, etc. Separating those secondary sources into more relevant subtypes could have produced greater insight on the types of analyses that were performed.

5.3 Further Work

We are aware that the results presented in the paper are preliminary and are too partial to be published yet. Further work will therefore concentrate on producing and analyzing contingency tables that cross the various variables, and on refining the conclusions.

We also hope that the considerable amount of work invested in coding 743 articles will serve as a basis for other, more focused, lower-level analyses. Social network analyses could be used to potentially identify clusters of authors and research themes. Furthermore, our database of articles could be the starting point of more specific systematic reviews of innovative procurement subtopics such as corruption in public procurement, green and sustainable procurement or social procurement.

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APPENDIX 1. CODE LIST

| Category | Code # | Codes |
|-----------------------------------|--------|--|
| 3. PROCUREMENT CYCLE PHASE | 3a | Entire Cycle |
| | 3b | Needs Assessment, Pre-Feasibility, Feasibility and Technical Studies |
| | 3c | Risk Assessment |
| | 3d | Bids (Selection, Evaluation, Solicitations Methods) |
| | 3f | Negotiation and Financial Closing |
| | 3g | Contract Management |
| | 3h | Procurement Project Evaluation and Learning |
| | 3y | Other: _____ |
| | 3z | None/Does Not Apply (DNA) |
| 4. TRENDS/TOPICS | 4a | E-Procurement |
| | 4b | PPP |
| | 4c | Corruption and Collusion |
| | 4d | Green and Sustainable Procurement |
| | 4e | Small and Medium Enterprises |
| | 4f | Innovation |
| | 4g | Procurement Reforms |
| | 4y | Other: _____ |
| | 4z | None/DNA |
| 5. IMPLICATIONS FOR PRACTITIONERS | 5b | Implications are mentioned (YES/NO) |
| 6. THEORY | 6a | Economics/Finance |
| | 6b | Management/Project Management/ Accounting |
| | 6c | Sociology/Organization Theory |
| | 6d | Political Science/Public Policy |
| | 6e | Law |
| | 6f | HR/ Organizational Behaviour/ Psychology |
| | 6x | Specific theory if explicit in abstract: _____ |
| | 6y | Other: _____ |
| | 6z | Atheoretical |
| 7. TYPE OF PAPER | 7a | Conceptual/ Theoretical/Methodological |
| | 7b | Empirical - All or Mostly Quantitative |
| | 7c | Empirical - All or Mostly Qualitative |
| | 7d | Empirical - Mixed Methods |
| | 7e | Comparative |
| | 7f | Discussion/Policy Analysis/Legal Analysis |
| | 7g | Exploratory |
| | 7h | Case Study |
| | 7y | Other: _____ |

| | | |
|---------------------------|--------------|--|
| 8. SAMPLE | 8a | Large Sample Analysis (n>=30) |
| | 8b | Small Sample Analysis (n<30) |
| | 8c | Case studies |
| | 8d | Descriptive/Sporadic Illustrations |
| | 8x | If 8c = yes, specify how many: _____ |
| | 8y | Other: _____ |
| | 8z | None/DNA |
| 9. DATA COLLECTION METHOD | 9a | Secondary Sources/Documents |
| | 9b | Observation/Unstructured Fieldwork |
| | 9c | Interviews |
| | 9d | Questionnaires |
| | 9y | Other : _____ |
| | 9z | None/DNA |
| 10. ACTORS | 10a | Public Buyers/Other Public Sector Employees and Bodies |
| | 10b | Suppliers/Private sector |
| | 10c | Policy makers/Legislators/Elected representatives |
| | 10d | Auditors/Regulators |
| | 10e | Tribunals/Quasi-Legal entities |
| | 10y | Other: _____ |
| | 10z | None/DNA |
| 11. GEOGRAPHIC FOCUS | 11a | USA |
| | 11b | Canada |
| | 11c | UK |
| | 11d | EU |
| | 11e | Non-EU European Countries (except UK) |
| | 11f | Russia |
| | 11g | Brazil |
| | 11h | Latin America |
| | 11i | Middle East & North Africa |
| | 11j | Sub-Saharan Africa (except South Africa) |
| | 11k | South Africa |
| | 11l | Central Asia |
| | 11m | East Asia/South East Asia (except China) |
| | 11n | China |
| | 11o | South Asia (India/Pakistan/Bangladesh/Nepal/Bhutan/Maldives) |
| | 11p | Australia/New Zealand |
| | 11q | All |
| 11y | Other: _____ | |
| 11z | None/DNA | |
| 12. JURISDICTION | 12a | Supranational |
| | 12b | National Government |

| | | |
|------------|-----|---|
| | 12c | State/Provincial/Regional Government |
| | 12d | Local/Municipal Government |
| | 12y | Other: _____ |
| | 12z | None/DNA |
| 13. SECTOR | 13a | General Supplies/Commodities |
| | 13b | General Building Construction (Offices, Etc.) |
| | 13c | Energy |
| | 13d | Utilities |
| | 13e | Health |
| | 13f | Services |
| | 13g | Education |
| | 13h | Sports |
| | 13i | Military |
| | 13j | Transportation |
| | 13k | Multiple |
| | 13y | Other: _____ |
| | 13z | None/DNA/Not Specified |

APPENDIX 2. DETAILED DATA BY CODING CATEGORY

NOTE

The following pages describe the article population by coding category:

- The **first column** presents the data for the entire population of 743 articles;
- The **second column** presents the data for the 315 articles that come from journals that have contributed more than 5 articles to the population;
- The **third column** presents the data for the top 50 most cited articles in the population (those that had 60 or more Google Scholar citations in February of 2019);
- The **fourth column** presents the data for all 138 articles that were published in the Journal of Public Procurement;
- The **fifth column** presents data for all other articles (the 605 articles that were published in different journals than the Journal of Public Procurement).

For each category and each column, the **percentages may add up to more than 100%** because more than one code could be used per article in a single category.

| | ALL ARTICLES | | ONLY JOURNALS WITH 5 OR MORE ARTICLES | | TOP 50 MOST CITED ARTICLES (GS >= 60) | | ONLY JPP | | EVERYTHING EXCEPT JPP | |
|--|--------------|-------------|---------------------------------------|-------------|---------------------------------------|-------------|------------|-------------|-----------------------|-------------|
| | n | % | n | % | n | % | n | % | n | % |
| 3. PROCUREMENT CYCLE PHASE | | | | | | | | | | |
| Entire Cycle | 212 | 29% | 95 | 30% | 18 | 36% | 42 | 30% | 170 | 28% |
| Needs Assessment, Pre-Feasibility, Feasibility and Technical Studies | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Risk Assessment | 6 | 1% | 4 | 1% | 0 | 0% | 2 | 1% | 4 | 1% |
| Bids (Selection, Evaluation, Solicitations Methods) | 99 | 13% | 43 | 14% | 8 | 16% | 20 | 14% | 79 | 13% |
| Negotiation and Financial Closing | 1 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 1 | 0% |
| Contract Management | 18 | 2% | 9 | 3% | 1 | 2% | 6 | 4% | 12 | 2% |
| Procurement Project Evaluation and Learning | 1 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 1 | 0% |
| None/DNA | 408 | 55% | 164 | 52% | 24 | 48% | 68 | 49% | 340 | 56% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |
| 4. TRENDS | | | | | | | | | | |
| E-Procurement | 59 | 8% | 20 | 6% | 7 | 14% | 10 | 7% | 49 | 8% |
| PPP | 44 | 6% | 23 | 7% | 3 | 6% | 7 | 5% | 37 | 6% |
| Corruption and Collusion | 110 | 15% | 30 | 10% | 10 | 20% | 11 | 8% | 99 | 16% |
| Green and Sustainable Procurement | 89 | 12% | 40 | 13% | 13 | 26% | 9 | 7% | 80 | 13% |
| Small and Medium Enterprises | 58 | 8% | 27 | 9% | 4 | 8% | 9 | 7% | 49 | 8% |
| Innovation | 67 | 9% | 35 | 11% | 10 | 20% | 8 | 6% | 59 | 10% |
| Procurement Reforms | 33 | 4% | 15 | 5% | 0 | 0% | 9 | 7% | 24 | 4% |
| None/DNA | 339 | 46% | 151 | 48% | 9 | 18% | 82 | 59% | 257 | 42% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |
| 5. IMPLICATIONS FOR PRACTITIONERS | | | | | | | | | | |
| Implications for practitioners are mentioned | 367 | 49% | 157 | 50% | 30 | 60% | 62 | 45% | 305 | 50% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |
| 6. THEORY | | | | | | | | | | |
| Economics/Finance | 265 | 36% | 86 | 27% | 18 | 36% | 48 | 35% | 217 | 36% |
| Management/Project Management/ Accounting | 462 | 62% | 206 | 65% | 37 | 74% | 95 | 69% | 367 | 61% |
| Sociology/Organization Theory | 58 | 8% | 32 | 10% | 3 | 6% | 8 | 6% | 50 | 8% |
| Political Science/Public Policy | 152 | 20% | 52 | 17% | 11 | 22% | 25 | 18% | 127 | 21% |
| Law | 127 | 17% | 59 | 19% | 2 | 4% | 16 | 12% | 111 | 18% |
| HR/ Organizational Behaviour/ Psychology | 21 | 3% | 10 | 3% | 1 | 2% | 6 | 4% | 15 | 2% |
| Atheoretical | 8 | 1% | 3 | 1% | 1 | 2% | 0 | 0% | 8 | 1% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |

| | ALL ARTICLES | | ONLY JOURNALS WITH 5 OR MORE ARTICLES | | TOP 50 MOST CITED ARTICLES (GS >= 60) | | ONLY JPP | | EVERYTHING EXCEPT JPP | |
|--|--------------|-------------|---------------------------------------|-------------|---------------------------------------|-------------|------------|-------------|-----------------------|-------------|
| | n | % | n | % | n | % | n | % | n | % |
| 7. TYPE OF PAPER | | | | | | | | | | |
| Conceptual/ Theoretical/Methodological | 270 | 36% | 108 | 34% | 21 | 42% | 52 | 38% | 218 | 36% |
| Empirical - All or Mostly Quantitative | 280 | 38% | 116 | 37% | 23 | 46% | 57 | 41% | 223 | 37% |
| Empirical - All or Mostly Qualitative | 146 | 20% | 64 | 20% | 17 | 34% | 23 | 17% | 123 | 20% |
| Empirical - Mixed Methods | 59 | 8% | 25 | 8% | 1 | 2% | 11 | 8% | 48 | 8% |
| Comparative | 39 | 5% | 15 | 5% | 5 | 10% | 6 | 4% | 33 | 5% |
| Discussion/Policy Analysis/Legal Analysis | 144 | 19% | 68 | 22% | 3 | 6% | 24 | 17% | 120 | 20% |
| Exploratory | 30 | 4% | 21 | 7% | 2 | 4% | 11 | 8% | 19 | 3% |
| Case Study | 57 | 8% | 25 | 8% | 4 | 8% | 10 | 7% | 47 | 8% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |
| 8. SAMPLE | | | | | | | | | | |
| Large Sample Analysis (n>=30) | 337 | 45% | 144 | 46% | 23 | 46% | 70 | 51% | 267 | 44% |
| Small Sample Analysis (n<30) | 66 | 9% | 28 | 9% | 4 | 8% | 9 | 7% | 57 | 9% |
| Case studies | 143 | 19% | 62 | 20% | 15 | 30% | 24 | 17% | 119 | 20% |
| Descriptive/Sporadic Illustrations | 207 | 28% | 83 | 26% | 10 | 20% | 36 | 26% | 171 | 28% |
| None/DNA | 12 | 2% | 3 | 1% | 0 | 0% | 1 | 1% | 11 | 2% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |
| 9. DATA COLLECTION METHOD | | | | | | | | | | |
| Secondary Sources/Documents | 717 | 97% | 307 | 97% | 47 | 94% | 135 | 98% | 582 | 96% |
| Observation/Unstructured Fieldwork | 23 | 3% | 11 | 3% | 5 | 10% | 2 | 1% | 21 | 3% |
| Interviews | 167 | 22% | 75 | 24% | 15 | 30% | 28 | 20% | 139 | 23% |
| Questionnaires | 162 | 22% | 81 | 26% | 11 | 22% | 38 | 28% | 124 | 20% |
| None/DNA | 17 | 2% | 4 | 1% | 2 | 4% | 1 | 1% | 16 | 3% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |
| 10. ACTORS | | | | | | | | | | |
| Public Buyers/Other Public Sector Employees and Bodies | 311 | 42% | 146 | 46% | 26 | 52% | 60 | 43% | 251 | 41% |
| Suppliers/Private sector | 212 | 29% | 95 | 30% | 19 | 38% | 37 | 27% | 175 | 29% |
| Policy makers/Legislators/Elected representatives | 43 | 6% | 12 | 4% | 5 | 10% | 5 | 4% | 38 | 6% |
| Auditors/Regulators | 16 | 2% | 3 | 1% | 0 | 0% | 3 | 2% | 13 | 2% |
| Tribunals/Quasi-Legal entities | 14 | 2% | 7 | 2% | 0 | 0% | 0 | 0% | 14 | 2% |
| None/DNA | 334 | 45% | 126 | 40% | 15 | 30% | 61 | 44% | 273 | 45% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |

| | ALL ARTICLES | | ONLY JOURNALS WITH 5 OR MORE ARTICLES | | TOP 50 MOST CITED ARTICLES (GS >= 60) | | ONLY JPP | | EVERYTHING EXCEPT JPP | |
|--|--------------|------|---------------------------------------|------|---------------------------------------|------|----------|------|-----------------------|------|
| | n | % | n | % | n | % | n | % | n | % |
| 11. GEOGRAPHIC FOCUS | | | | | | | | | | |
| USA | 125 | 17% | 88 | 28% | 10 | 20% | 44 | 32% | 81 | 13% |
| Canada | 8 | 1% | 2 | 1% | 1 | 2% | 1 | 1% | 7 | 1% |
| UK | 54 | 7% | 29 | 9% | 7 | 14% | 9 | 7% | 45 | 7% |
| EU | 278 | 37% | 102 | 32% | 16 | 32% | 35 | 25% | 243 | 40% |
| Non-EU European Countries (except UK) | 25 | 3% | 8 | 3% | 2 | 4% | 4 | 3% | 21 | 3% |
| Russia | 18 | 2% | 7 | 2% | 1 | 2% | 3 | 2% | 15 | 2% |
| Brazil | 12 | 2% | 2 | 1% | 1 | 2% | 0 | 0% | 12 | 2% |
| Latin America | 12 | 2% | 3 | 1% | 2 | 4% | 2 | 1% | 10 | 2% |
| Middle East & North Africa | 12 | 2% | 6 | 2% | 1 | 2% | 1 | 1% | 11 | 2% |
| Sub-Saharan Africa (except South Africa) | 57 | 8% | 24 | 8% | 1 | 2% | 14 | 10% | 43 | 7% |
| South Africa | 5 | 1% | 0 | 0% | 0 | 0% | 0 | 0% | 5 | 1% |
| Central Asia | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| East Asia/South East Asia (except China) | 36 | 5% | 15 | 5% | 5 | 10% | 6 | 4% | 30 | 5% |
| China | 18 | 2% | 4 | 1% | 2 | 4% | 1 | 1% | 17 | 3% |
| South Asia (India/Pakistan/Bangladesh/Nepal/Bhutan/Maldives) | 22 | 3% | 9 | 3% | 3 | 6% | 3 | 2% | 19 | 3% |
| Australia/New Zealand | 16 | 2% | 4 | 1% | 0 | 0% | 1 | 1% | 15 | 2% |
| All | 17 | 2% | 6 | 2% | 0 | 0% | 4 | 3% | 13 | 2% |
| None/DNA | 76 | 10% | 31 | 10% | 8 | 16% | 19 | 14% | 57 | 9% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |
| 12. JURISDICTION | | | | | | | | | | |
| Supranational | 135 | 18% | 47 | 15% | 8 | 16% | 21 | 15% | 114 | 19% |
| National Government | 518 | 70% | 223 | 71% | 30 | 60% | 94 | 68% | 424 | 70% |
| State/Provincial/Regional Government | 116 | 16% | 52 | 17% | 8 | 16% | 21 | 15% | 95 | 16% |
| Local/Municipal Government | 155 | 21% | 61 | 19% | 14 | 28% | 22 | 16% | 133 | 22% |
| None/DNA | 62 | 8% | 26 | 8% | 5 | 10% | 16 | 12% | 46 | 8% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |

| 13. SECTOR | ALL ARTICLES | | ONLY JOURNALS WITH 5 OR MORE ARTICLES | | TOP 50 MOST CITED ARTICLES (GS >= 60) | | ONLY JPP | | EVERYTHING EXCEPT JPP | |
|---|--------------|------|---------------------------------------|------|---------------------------------------|------|----------|------|-----------------------|------|
| | n | % | n | % | n | % | n | % | n | % |
| General Supplies/Commodities | 14 | 2% | 3 | 1% | 0 | 0% | 1 | 1% | 13 | 2% |
| General Building Construction (Offices, Etc.) | 57 | 8% | 25 | 8% | 3 | 6% | 5 | 4% | 52 | 9% |
| Energy | 13 | 2% | 5 | 2% | 0 | 0% | 2 | 1% | 11 | 2% |
| Utilities | 5 | 1% | 1 | 0% | 0 | 0% | 1 | 1% | 4 | 1% |
| Health | 38 | 5% | 16 | 5% | 4 | 8% | 7 | 5% | 31 | 5% |
| Services | 49 | 7% | 14 | 4% | 2 | 4% | 7 | 5% | 42 | 7% |
| Education | 8 | 1% | 4 | 1% | 0 | 0% | 2 | 1% | 6 | 1% |
| Sports | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Military | 40 | 5% | 24 | 8% | 0 | 0% | 17 | 12% | 23 | 4% |
| Transportation | 54 | 7% | 18 | 6% | 4 | 8% | 8 | 6% | 46 | 8% |
| Multiple | 73 | 10% | 34 | 11% | 8 | 16% | 15 | 11% | 58 | 10% |
| None/DNA/Not Specified | 393 | 53% | 174 | 55% | 28 | 56% | 76 | 55% | 317 | 52% |
| Total number of articles | 743 | 100% | 315 | 100% | 50 | 100% | 138 | 100% | 605 | 100% |

APPENDIX 3. MOST FREQUENT JOURNALS

| Publication Title | Articles |
|--|----------|
| <i>Journal of Public Procurement</i> ⁵ | 138 |
| Public Contract Law Journal | 35 |
| The International Journal of Public Sector Management | 21 |
| Journal of Purchasing and Supply Management | 16 |
| Journal of Cleaner Production | 15 |
| Innovation | 12 |
| Public Money & Management | 12 |
| International Journal of Public Administration | 12 |
| International Journal of Procurement Management | 10 |
| Construction Management and Economics | 6 |
| Procedia Economics and Finance | 6 |
| International Journal of Industrial Organization | 6 |
| Procedia Engineering | 6 |
| European Procurement & Public Private Partnership Law Review | 5 |
| Research Policy | 5 |
| Review of Industrial Organization | 5 |
| International Journal of Project Management | 5 |
| Environment and Planning C: Politics and Space | 4 |
| Lex Localis | 4 |
| Critical Perspectives on Accounting | 4 |
| European Planning Studies | 4 |
| Industrial Marketing Management | 4 |
| European Journal of Operational Research | 4 |

⁵ Please note that the Journal of Public Procurement should be analyzed separately, as all its articles were included in the population whether they met the keywords criteria or not.

APPENDIX 4. MOST CITED JOURNALS

| Publication Title | Google Scholar Citations |
|---|--------------------------|
| <i>Journal of Public Procurement</i> ⁶ | 1405 |
| The International Journal of Public Sector Management | 613 |
| Journal of Purchasing and Supply Management | 471 |
| Journal of Cleaner Production | 467 |
| Research Policy | 411 |
| Journal of Rural Studies | 397 |
| International Journal of Operations & Production Management | 367 |
| European Planning Studies | 364 |
| Review of Finance | 362 |
| International Journal of Industrial Organization | 285 |
| Innovation | 230 |
| The Quarterly Journal of Economics | 219 |
| Public Contract Law Journal | 212 |
| Technological Forecasting and Social Change | 194 |
| Construction Management and Economics | 188 |
| European Journal of Operational Research | 187 |
| Technovation | 169 |
| The Journal of Politics | 161 |
| Journal of Public Administration and Policy Research | 154 |
| Public Money & Management | 146 |
| International Journal of Production Economics | 143 |
| American Economic Journal: Economic Policy | 143 |
| Resources, Conservation and Recycling | 140 |
| International Journal of Managing Projects in Business | 114 |
| Ecological Economics | 111 |
| Transforming Government: People, Process and Policy | 111 |
| Critical Perspectives on Accounting | 108 |
| International Journal of Project Management | 106 |
| Food Policy | 104 |
| American Economic Journal. Economic Policy | 101 |
| American Economic Journal. Microeconomics | 100 |

⁶ Please note that the Journal of Public Procurement should be analyzed separately, as all its articles were included in the population whether they met the keywords criteria or not.

APPENDIX 5. 50 MOST CITED ARTICLES (TOTAL)

| Author | Date | Title | Publication Title | Volume | Issue | Pages | Google Scholar Citations |
|---|------|---|---|--------|-------|---------|--------------------------|
| Brammer, Stephen; Walker, Helen | 2011 | Sustainable procurement in the public sector: an international comparative study | International Journal of Operations & Production Management | 31 | 4 | 452–476 | 367 |
| Goldman, Eitan; Rocholl, Jörg; So, Jongil | 2013 | Politically Connected Boards of Directors and The Allocation of Procurement Contracts | Review of Finance | 17 | 5 | 1617 | 362 |
| Uyarra, Elvira; Flanagan, Kieron | 2010 | Understanding the Innovation Impacts of Public Procurement | European Planning Studies | 18 | 1 | 123 | 315 |
| Mercado, Geovana; Hjortsø, Carsten Nico; Kledal, Paul Rye | 2016 | Public procurement for school breakfasts in the Bolivian Altiplan: Governance structures enabling smallholder inclusion | Journal of Rural Studies | 44 | | 63–76 | 308 |
| Edquist, Charles; Zabala-Iturriagoitia, Jon Mikel | 2012 | Public Procurement for Innovation as mission-oriented innovation policy | Research Policy | 41 | 10 | 1757 | 296 |
| Lewis, Gregory; Bajari, Patrick | 2011 | Procurement Contracting With Time Incentives: Theory and Evidence | The Quarterly Journal of Economics | 126 | 3 | 1173 | 219 |
| Wee Shu, Hui; Othman, Radiah; Normah Hj, Omar; Rashidah Abdul, Rahman; Haron, Nurul Husna | 2011 | Procurement issues in Malaysia | The International Journal of Public Sector Management | 24 | 6 | 567–593 | 178 |
| Georghiou, Luke; Edler, Jakob; Uyarra, Elvira; Yeow, Jillian | 2014 | Policy instruments for public procurement of innovation: Choice, design and assessment | Technological Forecasting and Social Change | 86 | - | 1 | 172 |
| Uyarra, Elvira; Edler, Jakob; Garcia-Estevez, Javier; Georghiou, Luke; Yeow, Jillian | 2014 | Barriers to innovation through public procurement: A supplier perspective | Technovation | 34 | 10 | 631 | 159 |
| Walker, Helen; Brammer, Stephen | 2012 | The relationship between sustainable procurement and e-procurement in the public sector | International Journal of Production Economics | 140 | 1 | 256 | 143 |
| Mahmood, Shakeel Ahmed Ibne | 2010 | Public procurement and corruption in Bangladesh confronting the challenges and opportunities | Journal of Public Administration and Policy Research | 2 | 6 | 103–111 | 143 |
| Falagario, Marco; Sciancalepore, Fabio; Costantino, Nicola; Pietroforte, Roberto | 2012 | Using a DEA-cross efficiency approach in public procurement tenders | European Journal of Operational Research | 218 | 2 | 523 | 141 |
| Witjes, Sjors; Lozano, Rodrigo | 2016 | Towards a more Circular Economy: Proposing a framework linking sustainable public procurement and sustainable business models | Resources, Conservation and Recycling | 112 | | 37–44 | 132 |

| | | | | | | | |
|---|------|--|--|----|---|-----------|-----|
| Tadelis, Steven | 2012 | Public procurement design: Lessons from the private sector | International Journal of Industrial Organization | 30 | 3 | 297 | 130 |
| Boas, Taylor C; Hidalgo, F Daniel; Richardson, Neal P | 2014 | The Spoils of Victory: Campaign Donations and Government Contracts in Brazil | The Journal of Politics | 76 | 2 | 415 | 129 |
| Bergman, Mats A; Lundberg, Sofia | 2013 | Tender evaluation and supplier selection methods in public procurement | Journal of Purchasing and Supply Management | 19 | 2 | 73 | 125 |
| Testa, Francesco; Iraldo, Fabio; Frey, Marco; Daddi, Tiberio | 2012 | What factors influence the uptake of GPP (green public procurement) practices? New evidence from an Italian survey | Ecological Economics | 82 | | 88–96 | 107 |
| Arlbjørn, Jan Stentoft; Freytag, Per Vagn | 2012 | Public procurement vs private purchasing | The International Journal of Public Sector Management | 25 | 3 | 203–220 | 105 |
| Sonnino, Roberta; McWilliam, Susannah | 2011 | Food waste, catering practices and public procurement: A case study of hospital food systems in Wales | Food Policy | 36 | 6 | 823 | 104 |
| Lewis-Faupel, Sean; Neggers, Yusuf; Olken, Benjamin A; Pande, Rohini | 2016 | Can Electronic Procurement Improve Infrastructure Provision? Evidence from Public Works in India and Indonesia | American Economic Journal. Economic Policy | 8 | 3 | 258–283 | 101 |
| Athey, Susan; Coey, Dominic; Levin, Jonathan | 2013 | Set-Asides and Subsidies in Auctions | American Economic Journal. Microeconomics | 5 | 1 | 1–27 | 100 |
| Osei-Tutu, E; Badu, E; Owusu-Manu, D | 2010 | Exploring corruption practices in public procurement of infrastructural projects in Ghana | International Journal of Managing Projects in Business | 3 | 2 | 236–256 | 100 |
| Tarantini, Mario; Loprieno, Arianna Dominici; Porta, Pier Luigi | 2011 | A life cycle approach to Green Public Procurement of building materials and elements: A case study on windows | Energy | 36 | 5 | 2473–2482 | 97 |
| Lember, Veiko; Kalvet, Tarmo; Kattel, Rainer | 2011 | Urban Competitiveness and Public Procurement for Innovation | Urban Studies | 48 | 7 | 1373 | 95 |
| Bratt, Cecilia; Hallstedt, Sophie; Robèrt, K H; Broman, Göran; Oldmark, Jonas | 2013 | Assessment of criteria development for public procurement from a strategic sustainability perspective | Journal of Cleaner Production | 52 | | 309–316 | 94 |
| Sambasivan, Murali; Wemyss, George Patrick; Raduan Che, Rose | 2010 | User acceptance of a G2B system: a case of electronic procurement system in Malaysia | Internet Research | 20 | 2 | 169–187 | 93 |
| Kattel, Rainer; Lember, Veiko | 2010 | PUBLIC PROCUREMENT AS AN INDUSTRIAL POLICY TOOL: AN OPTION FOR DEVELOPING COUNTRIES? | Journal of Public Procurement | 10 | 3 | 368–404 | 91 |
| Spagnolo, Giancarlo | 2012 | Reputation, competition, and entry in procurement | International Journal of Industrial Organization | 30 | 3 | 291 | 89 |

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|--|------|--|---|-------------|-------|-----------|----|
| Izumi, Betty T; Wright, Wynne D; Hamm, Michael W | 2010 | Market Diversification and Social Benefits: Motivations of Farmers Participating in Farm to School Programs | Journal of Rural Studies | 26 | 4 | 374–382 | 89 |
| Testa, Francesco; Annunziata, Eleonora; Iraldo, Fabio; Frey, Marco | 2016 | Drawbacks and opportunities of green public procurement: an effective tool for sustainable production | Journal of Cleaner Production | 112, Part 3 | | 1893–1900 | 86 |
| Johnston, Jocelyn M; Girth, Amanda M | 2012 | Government Contracts and "Managing the Market": Exploring the Costs of Strategic Management Responses to Weak Vendor Competition | Administration & Society | 44 | 1 | 3 | 83 |
| Coviello, Decio; Mariniello, Mario | 2014 | Publicity requirements in public procurement: Evidence from a regression discontinuity design | Journal of Public Economics | 109 | | 76–100 | 81 |
| Boardman, Anthony E; Vining, Aidan R | 2012 | THE POLITICAL ECONOMY OF PUBLIC-PRIVATE PARTNERSHIPS AND ANALYSIS OF THEIR SOCIAL VALUE* | Annals of Public and Cooperative Economics | 83 | 2 | 117–141 | 80 |
| Arrowsmith, Sue | 2010 | HORIZONTAL POLICIES IN PUBLIC PROCUREMENT: A TAXONOMY | Journal of Public Procurement | 10 | 2 | 149–186 | 80 |
| Zhu, Qinghua; Geng, Yong; Sarkis, Joseph | 2013 | Motivating green public procurement in China: An individual level perspective | Journal of Environmental Management | 126 | | 85-95 | 73 |
| Laurie Kaye, Nijaki; Worrel, Gabriela | 2012 | Procurement for sustainable local economic development | The International Journal of Public Sector Management | 25 | 2 | 133–153 | 73 |
| Preuss, Lutz | 2011 | On the contribution of public procurement to entrepreneurship and small business policy | Entrepreneurship and Regional Development | 23 | 42652 | 787 | 73 |
| Oruezabala, Gwenaëlle; Rico, Jean-Charles | 2012 | The impact of sustainable public procurement on supplier management - The case of French public hospitals | Industrial Marketing Management | 41 | 4 | 573 | 70 |
| Mironov, Maxim; Zhuravskaya, Ekaterina | 2016 | Corruption in Procurement and the Political Cycle in Tunneling: Evidence from Financial Transactions Data | American Economic Journal: Economic Policy | 8 | 2 | 287–321 | 69 |
| Aman, Aini; Kasimin, Hasmiah | 2011 | E-procurement implementation: a case of Malaysia government | Transforming Government: People, Process and Policy | 5 | 4 | 330–344 | 69 |
| Coviello, Decio; Gagliarducci, Stefano | 2017 | Tenure in Office and Public Procurement | American Economic Journal: Economic Policy | 9 | 3 | 59–105 | 68 |
| Witesman, Eva M; Fernandez, Sergio | 2013 | Government Contracts With Private Organizations: Are There Differences Between Nonprofits and For-profits? | Nonprofit and Voluntary Sector Quarterly | 42 | 4 | 689-715 | 65 |
| Conley, Timothy G; Decarolis, Francesco | 2016 | Detecting Bidders Groups in Collusive Auctions | American Economic Journal: Microeconomics | 8 | 2 | 1–38 | 63 |

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|---|------|--|---|----|---|---------|----|
| Edler, Jakob; Yeow, Jillian | 2016 | Connecting demand and supply: The role of intermediation in public procurement of innovation | Research Policy | 45 | 2 | 414 | 63 |
| Witko, Christopher | 2011 | Campaign Contributions, Access, and Government Contracting | Journal of Public Administration Research and Theory | 21 | 4 | 761 | 63 |
| Amann, Markus; K. Roehrich, Jens; Eßig, Michael; Harland, Christine | 2014 | Driving sustainable supply chain management in the public sector | Supply Chain Management | 19 | 3 | 351 | 62 |
| Rolfstam, Max | 2012 | An institutional approach to research on public procurement of innovation | Innovation | 25 | 3 | 303 | 61 |
| Smith, Matthew L | 2010 | Building institutional trust through e-government trustworthiness cues | Information Technology & People | 23 | 3 | 222–246 | 61 |
| Chowdhury, Abu Naser; Chen, Po-Han; Tiong, Robert L K | 2011 | Analysing the structure of public-private partnership projects using network theory | Construction Management and Economics | 29 | 3 | 247 | 60 |
| Rolfstam, Max; Phillips, Wendy; Bakker, Elmer | 2011 | Public procurement of innovations, diffusion and endogenous institutions | The International Journal of Public Sector Management | 24 | 5 | 452–468 | 60 |

APPENDIX 6. 50 MOST CITED ARTICLES (AVERAGE PER YEAR)

| Author | Date | Title | Publication Title | Volume | Issue | Pages | Average Google Scholar Cit./Year |
|--|------|---|---|-------------|-------|-----------|----------------------------------|
| Mercado, Geovana; Hjortsø, Carsten Nico; Kledal, Paul Rye | 2016 | Public procurement for school breakfasts in the Bolivian Altiplan: Governance structures enabling smallholder inclusion | Journal of Rural Studies | 44 | | 63–76 | 102,7 |
| Goldman, Eitan; Rocholl, Jörg; So, Jongil | 2013 | Politically Connected Boards of Directors and The Allocation of Procurement Contracts | Review of Finance | 17 | 5 | 1617 | 60,3 |
| Brammer, Stephen; Walker, Helen | 2011 | Sustainable procurement in the public sector: an international comparative study | International Journal of Operations & Production Management | 31 | 4 | 452–476 | 45,9 |
| Witjes, Sjors; Lozano, Rodrigo | 2016 | Towards a more Circular Economy: Proposing a framework linking sustainable public procurement and sustainable business models | Resources, Conservation and Recycling | 112 | | 37–44 | 44,0 |
| Edquist, Charles; Zabala-Iturriagoitia, Jon Mikel | 2012 | Public Procurement for Innovation as mission-oriented innovation policy | Research Policy | 41 | 10 | 1757 | 42,3 |
| Zamboni, Yves; Litschig, Stephan | 2018 | Audit risk and rent extraction: Evidence from a randomized evaluation in Brazil | Journal of Development Economics | 134 | | 133–149 | 37,0 |
| Uyarra, Elvira; Flanagan, Kieron | 2010 | Understanding the Innovation Impacts of Public Procurement | European Planning Studies | 18 | 1 | 123 | 35,0 |
| Georghiou, Luke; Edler, Jakob; Uyarra, Elvira; Yeow, Jillian | 2014 | Policy instruments for public procurement of innovation: Choice, design and assessment | Technological Forecasting and Social Change | 86 | - | 1 | 34,4 |
| Coviello, Decio; Gagliarducci, Stefano | 2017 | Tenure in Office and Public Procurement | American Economic Journal: Economic Policy | 9 | 3 | 59–105 | 34,0 |
| Lewis-Faupel, Sean; Neggers, Yusuf; Olken, Benjamin A; Pande, Rohini | 2016 | Can Electronic Procurement Improve Infrastructure Provision? Evidence from Public Works in India and Indonesia | American Economic Journal. Economic Policy | 8 | 3 | 258–283 | 33,7 |
| Coviello, Decio; Moretti, Luigi; Spagnolo, Giancarlo; Valbonesi, Paola | 2018 | Court Efficiency and Procurement Performance | The Scandinavian Journal of Economics | 120 | 3 | 826–858 | 32,0 |
| Uyarra, Elvira; Edler, Jakob; Garcia-Estevez, Javier; Georghiou, Luke; Yeow, Jillian | 2014 | Barriers to innovation through public procurement: A supplier perspective | Technovation | 34 | 10 | 631 | 31,8 |
| Testa, Francesco; Annunziata, Eleonora; Iraldo, Fabio; Frey, Marco | 2016 | Drawbacks and opportunities of green public procurement: an effective tool for sustainable production | Journal of Cleaner Production | 112, Part 3 | | 1893–1900 | 28,7 |
| Lewis, Gregory; Bajari, Patrick | 2011 | Procurement Contracting With Time Incentives: | The Quarterly Journal of | 126 | 3 | 1173 | 27,4 |

| | | Theory and Evidence | Economics | | | | |
|---|------|--|---|-----|---|---------|------|
| Boas, Taylor C; Hidalgo, F Daniel; Richardson, Neal P | 2014 | The Spoils of Victory: Campaign Donations and Government Contracts in Brazil | The Journal of Politics | 76 | 2 | 415 | 25,8 |
| Mironov, Maxim; Zhuravskaya, Ekaterina | 2016 | Corruption in Procurement and the Political Cycle in Tunneling: Evidence from Financial Transactions Data | American Economic Journal: Economic Policy | 8 | 2 | 287–321 | 23,0 |
| Wee Shu, Hui; Othman, Radiah; Normah Hj, Omar; Rashidah Abdul, Rahman; Haron, Nurul Husna | 2011 | Procurement issues in Malaysia | The International Journal of Public Sector Management | 24 | 6 | 567–593 | 22,3 |
| Lehne, Jonathan; Shapiro, Jacob N; Eynde, Oliver Vanden | 2018 | Building connections: Political corruption and road construction in India | Journal of Development Economics | 131 | | 62–78 | 22,0 |
| Conley, Timothy G; Decarolis, Francesco | 2016 | Detecting Bidders Groups in Collusive Auctions | American Economic Journal: Microeconomics | 8 | 2 | 1–38 | 21,0 |
| Edler, Jakob; Yeow, Jillian | 2016 | Connecting demand and supply: The role of intermediation in public procurement of innovation | Research Policy | 45 | 2 | 414 | 21,0 |
| Bergman, Mats A; Lundberg, Sofia | 2013 | Tender evaluation and supplier selection methods in public procurement | Journal of Purchasing and Supply Management | 19 | 2 | 73 | 20,8 |
| Walker, Helen; Brammer, Stephen | 2012 | The relationship between sustainable procurement and e-procurement in the public sector | International Journal of Production Economics | 140 | 1 | 256 | 20,4 |
| Falagario, Marco; Sciancalepore, Fabio; Costantino, Nicola; Pietroforte, Roberto | 2012 | Using a DEA-cross efficiency approach in public procurement tenders | European Journal of Operational Research | 218 | 2 | 523 | 20,1 |
| Tadelis, Steven | 2012 | Public procurement design: Lessons from the private sector | International Journal of Industrial Organization | 30 | 3 | 297 | 18,6 |
| Decarolis, Francesco | 2018 | Comparing Public Procurement Auctions | International Economic Review | 59 | 2 | 391–419 | 17,0 |
| Athey, Susan; Coey, Dominic; Levin, Jonathan | 2013 | Set-Asides and Subsidies in Auctions | American Economic Journal. Microeconomics | 5 | 1 | 1–27 | 16,7 |
| Coviello, Decio; Mariniello, Mario | 2014 | Publicity requirements in public procurement: Evidence from a regression discontinuity design | Journal of Public Economics | 109 | | 76–100 | 16,2 |
| Charron, Nicholas; Dahlström, Carl; Fazekas, Mihaly; Lapuente, Victor | 2017 | Careers, Connections, and Corruption Risks: Investigating the Impact of Bureaucratic Meritocracy on Public Procurement Processes | The Journal of Politics | 79 | 1 | 89 | 16,0 |
| Mahmood, Shakeel Ahmed Ibne | 2010 | Public procurement and corruption in Bangladesh confronting the challenges and opportunities | Journal of Public Administration and Policy Research | 2 | 6 | 103–111 | 15,9 |

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|--|------|--|---|-----|---|-----------|------|
| Bratt, Cecilia; Hallstedt, Sophie; Robèrt, K H; Broman, Göran; Oldmark, Jonas | 2013 | Assessment of criteria development for public procurement from a strategic sustainability perspective | Journal of Cleaner Production | 52 | | 309–316 | 15,7 |
| Auriol, Emmanuelle; Straub, Stéphane; Flochel, Thomas | 2016 | Public Procurement and Rent-Seeking: The Case of Paraguay | World Development | 77 | | 395 | 15,7 |
| Testa, Francesco; Iraldo, Fabio; Frey, Marco; Daddi, Tiberio | 2012 | What factors influence the uptake of GPP (green public procurement) practices? New evidence from an Italian survey | Ecological Economics | 82 | | 88–96 | 15,3 |
| Arlbjørn, Jan Stentoft; Freytag, Per Vagn | 2012 | Public procurement vs private purchasing | The International Journal of Public Sector Management | 25 | 3 | 203–220 | 15,0 |
| Rainville, Anne | 2017 | Standards in green public procurement – A framework to enhance innovation | Journal of Cleaner Production | | | | 14,5 |
| Smith, Julie; Andersson, Gunilla; Gourlay, Robin; Karner, Sandra; Mikkelsen, Bent Egberg; Sonnino, Roberta; Barling, David | 2016 | Balancing competing policy demands: the case of sustainable public sector food procurement | Journal of Cleaner Production | 112 | | 249–256 | 14,3 |
| Neu, Dean; Everett, Jeff; Rahaman, Abu Shiraz | 2015 | Preventing corruption within government procurement: Constructing the disciplined and ethical subject | Critical Perspectives on Accounting | 28 | | 49–61 | 13,3 |
| Sonnino, Roberta; McWilliam, Susannah | 2011 | Food waste, catering practices and public procurement: A case study of hospital food systems in Wales | Food Policy | 36 | 6 | 823 | 13,0 |
| Hueskes, Marlies; Verhoest, Koen; Block, Thomas | 2017 | Governing public–private partnerships for sustainability: An analysis of procurement and governance practices of PPP infrastructure projects | International Journal of Project Management | 35 | 6 | 1184–1195 | 13,0 |
| Spagnolo, Giancarlo | 2012 | Reputation, competition, and entry in procurement | International Journal of Industrial Organization | 30 | 3 | 291 | 12,7 |
| Roman, Alexandru V | 2017 | Institutionalizing sustainability: A structural equation model of sustainable procurement in US public agencies | Journal of Cleaner Production | 143 | | 1048–1059 | 12,5 |
| Amann, Markus; K. Roehrich, Jens; Eßig, Michael; Harland, Christine | 2014 | Driving sustainable supply chain management in the public sector | Supply Chain Management | 19 | 3 | 351 | 12,4 |
| Zhu, Qinghua; Geng, Yong; Sarkis, Joseph | 2013 | Motivating green public procurement in China: An individual level perspective | Journal of Environmental Management | 126 | | 85-95 | 12,2 |
| Tarantini, Mario; Loprieno, Arianna Dominici; Porta, Pier Luigi | 2011 | A life cycle approach to Green Public Procurement of building materials and elements: A case study on windows | Energy | 36 | 5 | 2473–2482 | 12,1 |
| Lember, Veiko; Kalvet, Tarmo; Kattel, Rainer | 2011 | Urban Competitiveness and Public Procurement for Innovation | Urban Studies | 48 | 7 | 1373 | 11,9 |

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|--|------|--|--|----|---|---------|------|
| Johnston, Jocelyn M; Girth, Amanda M | 2012 | Government Contracts and "Managing the Market": Exploring the Costs of Strategic Management Responses to Weak Vendor Competition | Administration & Society | 44 | 1 | 3 | 11,9 |
| Uttam, Kedar; Le Lann Roos, Caroline | 2015 | Competitive dialogue procedure for sustainable public procurement | Journal of Cleaner Production | 86 | | 403-416 | 11,5 |
| Boardman, Anthony E; Vining, Aidan R | 2012 | THE POLITICAL ECONOMY OF PUBLIC-PRIVATE PARTNERSHIPS AND ANALYSIS OF THEIR SOCIAL VALUE* | Annals of Public and Cooperative Economics | 83 | 2 | 117-141 | 11,4 |
| Reijonen, Helen; Tammi, Timo; Saastamoinen, Jani | 2016 | SMEs and public sector procurement: Does entrepreneurial orientation make a difference? | International Small Business Journal | 34 | 4 | 468 | 11,3 |
| Osei-Tutu, E; Badu, E; Owusu-Manu, D | 2010 | Exploring corruption practices in public procurement of infrastructural projects in Ghana | International Journal of Managing Projects in Business | 3 | 2 | 236-256 | 11,1 |
| Witesman, Eva M; Fernandez, Sergio | 2013 | Government Contracts With Private Organizations: Are There Differences Between Nonprofits and For-profits? | Nonprofit and Voluntary Sector Quarterly | 42 | 4 | 689-715 | 10,8 |

APPENDIX 7. MOST FREQUENT AUTHORS

| Name | Number of Articles |
|------------------|---------------------------|
| McCue, C. | 11 |
| Davis, P. | 11 |
| Flynn, A. | 9 |
| Rendon, R. | 7 |
| Roman, A. | 7 |
| Lundberg, S. | 7 |
| Rizzo, I. | 6 |
| Ntayi, J. | 6 |
| Prier, E. | 6 |
| Fazekas, M. | 6 |
| Guccio, C. | 6 |
| Uyarra, E. | 5 |
| Tammi, T. | 5 |
| Saastamoinen, J. | 5 |
| Placek, M. | 5 |
| Reijonen, H. | 5 |
| McKevitt, D. | 5 |
| Kidalov, M. | 5 |
| Iraldo, F. | 5 |
| Spagnolo, G. | 4 |
| Yeow, J. | 4 |
| Wang, C. | 4 |
| Walker, H. | 4 |
| Testa, F. | 4 |
| Tkachenko, A. | 4 |
| Yakovlev, A. | 4 |
| Schmidt, M. | 4 |
| Ochrana, F. | 4 |
| Pucek, M. | 4 |
| Khan, S. | 4 |
| Khorana, S. | 4 |
| Lember, V. | 4 |
| Loader, K. | 4 |
| Mamavi, O. | 4 |
| Edler, J. | 4 |
| Hawkins, T. | 4 |
| limi, A. | 4 |
| Arai, K. | 4 |
| Decarolis, F. | 4 |
| Albano, G. | 4 |
| Basheka, B. | 4 |

APPENDIX 8. MOST CITED AUTHORS (TOTAL CITATIONS)

| Name | Google Scholar Citations |
|--------------------------|--------------------------|
| Uyarra, E. | 677 |
| Walker, H. | 561 |
| Brammer, S. | 510 |
| Yeow, J. | 435 |
| Edler, J. | 435 |
| So, J. | 362 |
| Rocholl, J. | 362 |
| Goldman, E. | 362 |
| Georghiou, L. | 338 |
| Flanagan, K. | 323 |
| Kledal, P. | 308 |
| Mercado, G. | 308 |
| Hjortsø, C. | 308 |
| Zabala-Iturriagoitia, J. | 304 |
| Edquist, C. | 296 |
| Lember, V. | 248 |
| Iraldo, F. | 224 |
| Testa, F. | 221 |
| Frey, M. | 220 |
| Lewis, G. | 219 |
| Bajari, P. | 219 |
| Kattel, R. | 207 |
| Falagario, M. | 196 |
| Costantino, N. | 196 |
| Lundberg, S. | 190 |
| McCue, C. | 184 |
| Sciancalepore, F. | 181 |
| Coviello, D. | 181 |
| Wee Shu, H. | 178 |
| Rashidah Abdul, R. | 178 |
| Normah Hj, O. | 178 |
| Othman, R. | 178 |
| Haron, N. | 178 |
| Garcia-Estevez, J. | 159 |
| Roman, A. | 158 |
| Kalvet, T. | 157 |
| Mahmood, S. | 154 |
| Sonnino, R. | 147 |
| Davis, P. | 147 |
| Pietroforte, R. | 141 |
| Rizzo, I. | 133 |
| Guccio, C. | 133 |
| Witjes, S. | 132 |
| Lozano, R. | 132 |
| Tadelis, S. | 130 |
| Richardson, N. | 129 |
| Hidalgo, F. | 129 |
| Boas, T. | 129 |
| Spagnolo, G. | 127 |
| Rendon, R. | 125 |

| Name | Google Scholar Citations |
|------------------|--------------------------|
| Bergman, M. | 125 |
| Rolfstam, M. | 121 |
| Decarolis, F. | 114 |
| Owusu-Manu, D. | 113 |
| Harland, C. | 113 |
| Bakker, E. | 111 |
| Ntayi, J. | 107 |
| Daddi, T. | 107 |
| Freytag, P. | 105 |
| Arlbjørn, J. | 105 |
| Badu, E. | 105 |
| McWilliam, S. | 104 |
| Olken, B. | 101 |
| Pande, R. | 101 |
| Lewis-Faupel, S. | 101 |
| Neggens, Y. | 101 |
| Osei-Tutu, E. | 100 |
| Levin, J. | 100 |
| Coey, D. | 100 |
| Athey, S. | 100 |
| Tarantini, M. | 97 |
| Porta, P. | 97 |
| Loprieno, A. | 97 |
| Pignataro, G. | 96 |
| Fazekas, M. | 96 |
| Robèrt, K. | 94 |
| Oldmark, J. | 94 |
| Hallstedt, S. | 94 |
| Broman, G. | 94 |
| Bratt, C. | 94 |
| Wemyss, G. | 93 |
| Sambasivan, M. | 93 |
| Raduan Che, R. | 93 |
| Kidalov, M. | 90 |
| Wright, W. | 89 |
| Tabish, S. | 89 |
| Izumi, B. | 89 |
| Jha, K. | 89 |
| Hamm, M. | 89 |
| Annunziata, E. | 86 |
| Flynn, A. | 83 |
| Johnston, J. | 83 |
| Girth, A. | 83 |
| Mariniello, M. | 81 |
| Vining, A. | 80 |
| Arrowsmith, S. | 80 |
| Boardman, A. | 80 |
| McKevitt, D. | 79 |
| Amann, M. | 78 |
| Loader, K. | 74 |