

Journal of Supply Chain Management

Journal of Supply Chain Management (JSCM) was launched as the *International Journal of Purchasing and Materials Management* in 1965. Like its title, the Journal's mission has adapted to the changing nature of the discipline. Our global economic system is facing an unprecedented transformation and supply chains play a key role in this journey. JSCM is the journal of choice among supply chain management scholars, attracting high-quality, high-impact empirical research focusing on theory building and empirical methodologies. As a global journal, JSCM welcomes submissions from researchers with a diversity of demographic (i.e. gender, nationality, etc.) and professional (i.e. university, academic discipline, research methodologies, etc.) backgrounds. JSCM welcomes inter-disciplinary studies that push the boundaries of knowledge by focusing on emerging phenomena and/or using novel approaches to examine established phenomena.

Over the past decade, JSCM has often been ranked first or second among supply chain and operations management journals, based on its Clarivate Impact Factor. It is one of only four empirical OSCM journals included in the SCM Journal List (<http://www.scmlist.com/>). JSCM is also ranked as a 4 ("top journal") in the British ABS/AJG list.

Title of the special issue:

Replication studies in Supply Chain Management

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Deadline for to apply to attend Paper development workshop: April 1, 2024

Replication studies are a fundamental component of continually validating supply chain management knowledge (e.g., Gattiker et al., 2021). Yet replication studies remain extremely rare in the SCM discipline, putting the veracity and usefulness of our theories, models, typologies and predictions at significant risk.

The *Journal of Supply Chain Management's* mission is clear in the expectation that research published in The Journal must contribute to theory. The building, elaboration and testing of theory is the primary way a social science discipline advances. But that advance is predicated on results being valid, holding over time and on an understanding of the other contexts where those results would (not) hold.

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Davis et al. (2023) provide initial evidence that some predictions in the SCM discipline do replicate. However, these scholars only replicated 1 or 2 key hypotheses from 10 experimental behavioural operations studies previously published in *Management Science*, and their success rate was only 70%.

Equally, the evidence from other disciplines indicates we should be very worried that many of the foundations of the SCM discipline are built on sand. In psychology, The Open Science Collaboration replicated 100 highly cited papers from ‘top’ journals. Their results were highly uncomfortable. Ninety seven percent of the original studies had significant results while only 36% of the replications did and only 47% of the effect sizes for the replications were within the confidence intervals of the original (Open Science Collaboration, 2015). Similarly, researchers in entrepreneurship tried to replicate a series of seminal studies, all of which used the same publicly available data (Crawford et al., 2022). The authors were only able to replicate 6 out of 19 studies.

The lack of replication studies in our discipline should then be a serious concern for supply chain management scholars. Plus, our discipline is highly dynamic. Therefore, our theories, models and predictions, even if validated at one point in time, need to be regularly replicated to understand if previous results still hold.

JSCM rightfully prides itself on publishing research that will make significant contributions to theory, research, practice, policy and social-ecological systems. But for those contributions to have real and lasting impact, the knowledge base needs to be valid, both at the time of publication and into the future. It needs to be replicated.

Therefore, this special issue builds on previous editorials in JSCM (Gattiker et al., 2021) as well as calls in supply chain and other disciplines (e.g., Pagell, 2021; Köhler and Cortina, 2021, Davis et al., 2023) to explicitly call for papers that replicate prior SCM studies.

Incentives to do replication studies

Anecdotally researchers do not conduct replication studies for a variety of reasons. There is an assumption that leading journals like JSCM will not publish replications because of a lack of novelty. Rather than being perceived as important, researchers fear that replications are viewed as boring (Gattiker et al., 2021) and that editors and reviewers believe that purely confirmatory research, as opposed to disconfirming or confirming and extending (Frohlich and Dixon, 2006), will not get read or cited making replication studies very difficult to publish. In addition, some may worry that the authors of the original work will react negatively.

We recently surveyed JSCM’s AES and ERB members. The results from 56 responses shown in Table 1 confirmed that the thinking above is commonplace; one of the main impediments to doing replications is the perception that they are not novel and hence hard or impossible to publish.

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Table 1. Reasons why researchers might not do a replication study

	Disagree totally	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree totally
Answering a research question a second time is viewed as a waste of resources – we already know the answer.	21%	16%	14%	41%	7%
Researchers don't have good examples of published replications, so they don't know how to proceed.	4%	5%	7%	59%	25%
Researchers fear retaliation from the authors of the original study if the results are disconfirming.	13%	27%	21%	34%	5%
Editors and reviewers don't have good examples of published replications and limited expertise in judging them.		9%	14%	45%	32%
Editors and reviewers prefer conceptual or theoretical contributions over purely confirmatory research such as replications.	4%	5%	7%	27%	57%

Hopefully this CFP and the associated editorials, webinars and interviews done by JSCM's editors will help disabuse SCM researchers of this notion. In addition, the Journal's editors and the special issue editors are dedicating resources to multiple replication paper development workshops. These resources are an additional signal of intent as well as an indication that rather than looking to reject replication papers, The Journal is willing to help them progress to publication.

Based on the survey these incentives should be attractive (see Table 2), especially to early career researchers moving into a new space or PhD students doing multiple study dissertations. All research needs to start with a literature review. But while necessary for the study at hand, literature reviews typically tell us what we already do and don't know. Few truly advance the field, which is why they are rarely published in leading journals. Yet, the first study in many multiple study dissertations is a literature review and many early career researchers follow this pattern in subsequent projects. Instead, we suggest these projects start with a replication study that is related to the topic at hand. Not only are these replication studies more likely to advance the discipline, but the research question has already been deemed important, there is a research design to build on, and the results will be critical for the rest of the project. This is especially true for cases when the replication does not confirm prior results, which will be disconcerting at the time. However, conducting a dissertation study and failing to find what was predicted, not because the study was flawed but rather because the theoretical foundations had not been properly tested and refined, is worse. Replication (and extension) of the foundational study (or studies) is one way to make sure the foundation is sound.

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Table 2. Factors that would encourage researchers to engage in replication research

	Very discouraging	Somewhat discouraging	Neither encouraging nor discouraging	Somewhat encouraging	Very encouraging
The existence of the special issue		2%	25%	48%	25%
The use of the registered report format with replication papers		7%	29%	34%	30%
Paper writing workshops with a specific focus on replication papers		2%	30%	41%	27%
Other training on how to conduct and publish replication studies		2%	29%	48%	21%
The replication conversation discussions conducted by JSCM		5%	25%	48%	21%
Seeing others in my discipline engaging in replication research		0%	14%	52%	34%
Opportunity to partner with scholars with a track record of publishing replication research		2%	25%	39%	34%
Encouragement from more senior scholars in my department	3%	5%	45%	36%	13%
Encouragement from high status scholars in the field		5%	29%	38%	29%
Having a peer group who think it is important to conduct replication research	3%	0%	21%	55%	21%
Confidence in my (or authors') ability to be unsuccessful when it comes to replication research		4%	23%	39%	34%
Access to data or other resources		4%	20%	50%	27%

This is not idle speculation on our part. Mark Pagell's dissertation was a traditional monograph, that started with a replication study (Pagell and Krause, 1999) that was done at the behest of a committee member uncomfortable with the empirical support for the theoretical predictions on which his dissertation hinged. The results of the replication did not support the original predictions in the literature raising the possibility that the underlying theoretical basis was flawed. Armed with this knowledge, changes were made to the dissertation's primary study so that its publishability was not dependent on the veracity of the previous results.

The registered report process (see Gattiker et al., 2021 for full details) should also play a role in incentivizing researchers, especially early career researchers, to do replication studies. By reviewing what is in essence the front end of the paper prior to data collection and analysis, the registered report process takes a great deal of risk out of the review process. If the editors

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don't feel the original paper is worth replicating (or the proposed design is not robust) the authors will know this prior to doing the hard work of collecting and analysing data.

Registered reports also remove the risk that the paper might not be published if the authors find the 'wrong' thing while also reducing incentives to engage in questionable practices such as p-hacking (e.g., Aguinis et al., 2022). For instance, Scheel et al., (2021) compared the results of recent papers in psychology using the registered report format to papers published in the same journals at the same time using a traditional approach. They found that while 96% of papers using the traditional process had significant results, only 44% of papers using registered reports did.

The registered report process being used by JSCM means that papers are conditionally accepted by the journal much earlier in the research and review process. Having a registered report accepted is then the strongest evidence – short of the official final acceptance- that a paper is on the way to being published. While this should be valuable for all researchers, for early career researchers, accepted registered reports would be the best evidence they could present that their in-process research, will be published in a leading journal. Said differently, early career researchers are always trying to convince people (for instance hiring committees) of the likelihood of their work being published in the future: an accepted registered report is about the strongest evidence that they can present. Registered reports may currently be novel in the SCM discipline, but we think authors should embrace this novelty.

What and how to replicate

In 2006 Frohlich and Dixon suggested we should 'replicate everything' since at the time we had replicated almost nothing. We can't argue with that sentiment. But given JSCM's mission and the dearth of replications in the discipline we are asking authors to be more targeted and to focus on seminal papers. Especially, papers whose results might change today because of methodological advances, the context of the original study (e.g., a study of only large USA based manufacturing plants) or changes in the global environment in which supply chains operate (e.g., the belated recognition of the climate crisis).

The introduction section of these registered reports will in essence be a justification for why a replication of the proposed study should be published in JSCM. How authors will justify that a paper is 'seminal' will of course vary. But we would expect part of the rationale to focus on citations (or other measures of impact), or the original paper's influence on practice, policy, social-ecological systems or subsequent research.

Equally, there are numerous forms of replication (see for instance Pagell, 2020; Köhler and Cortina, 2021) and the form of replication that is most appropriate will vary based on the topic and research design of the original study, as well as how the world may have changed since the original paper was published.

The survey also asked respondents to identify papers they wished to see replicated (see Table 1). One of the examples was Jacobs and Singal's (2017) event study of the Rana Plaza collapse. A pure replication of the same event using the same research design would not be likely to advance the field. But a differentiated replication using a more recent event – such

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as the civil unrest in Bangladesh due to working conditions in the textile industry at the time of writing – and the same design would be a way to determine if shareholders would react to a similar event in the same context in the same way, today. Similarly, it was also suggested that an updated (10 more years of data) and expanded (include the social dimension) of Golic and Smith's (2013) meta-analysis of the relationship between environmental and firm performance might help to reconcile the findings of the original with the observed slow progress in sustainable supply chain management.

We are open to all forms of replication, but we expect the research to be designed such as to provide empirical evidence to address why the results did/ did not replicate. In other words, if the authors find that results from 1994 do not hold in 2024, they need to be able to empirically show if this is because of the time that has passed, changes in the sample, changes in operationalizing key constructs, or something else. A good design can address these issues. For instance, we expect that one common rationale for replicating to be that the original study used questionable measures. A state-of-the-art replication would of course improve how constructs were measured. But it would need to be designed so that direct empirical comparisons could be made to the original. This might be done by including both the original and improved measures of the key constructs to show how changing the constructs' operationalizations did (not) change the results. Similarly, a replication done under the auspices that the results might be due to the context of the initial study (industry, country, etc.) would naturally be conducted in a new context, but would have to find a way to empirically show that the results were due to changing the context, not to a change in something else. One way to address this concern would be to sample from the original context and the new context, rather than just the new context.

Finally, while we assume that most replications will be of quantitative papers, replications of qualitative work are possible (Aguinis and Solarino, 2019) and welcome. These are likely to be constructive replications; studies which retain all of the virtues of the original while including at least one methodological improvement (Köhler and Cortina, 2021). For example, a respondent suggested replicating Wu and Pagell (2011), which was based on multiple case studies, to see what has and has not changed 12 years later. We would suggest such a study might change the sampling to include both exemplars (as per the original) and non-exemplar firms (as per Kirchoff et al., 2016). It could also use recent advances in theorising to take a paradox perspective rather than the theoretical perspective in the original. For a template for a qualitative replication study, see Haven *et al.* (2020) who present a pre-registration format specific to qualitative work.

As to what papers to replicate, given the lack of previous replication studies and in light of our belief that authors are most motivated to work on topics they care about, we mainly leave that to your fertile imagination. However, Table 3 may also provide inspiration. Similarly, the survey also asked respondents to share why they thought a replication could be useful and these results may also provide inspiration. One common theme was to replicate work that was done in either North America or Western Europe in other contexts because “different perspectives could emerge that provide a deeper understanding of under explored contexts”. It was also noted that some papers may be highly cited because they offer a “highly appealing story” which is based on a weak empirical base. A replication would allow us to better

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determine if the appealing story was also a valid story. Finally, many of the suggested papers used a specific secondary data set and it was noted that a replication using different data would (hopefully) show the results were not due to the source of the data.

If one of the papers in Table 3 is yours, congratulations! That the SCM research community believes a paper is worth replicating is an endorsement for the original work. In other words, the original authors should view this as validation for what they were trying to do, even if a subsequent replication advances their research design or questions their results. Replication is the highest form of, academic, flattery.

Table 3 – Articles the JSCM community suggested should be replicated

Bellamy, M. A., Ghosh, S., & Hora, M. (2014). The influence of supply network structure on firm innovation. <i>Journal of Operations Management</i> , 32(6), 357-373.
Gligor, D.M., Esmark, C.L. and Holcomb, M.C., 2015. Performance outcomes of supply chain agility: when should you be agile? <i>Journal of Operations Management</i> , 33, 71-82.
., & Smith, C. D. (2013). A meta-analysis of environmentally sustainable dolphin choirmanagement practices and firm performance. <i>Journal of Supply Chain</i> , 49(2), 78-95.
Jacobs, B. W., & Singhal, V. R. (2017). The effect of the Rana Plaza disaster on shareholder wealth of retailers: Implications for sourcing strategies and supply chain governance. <i>Journal of Operations Management</i> , 49, 52-66.
Liu, H., Ke, W., Wei, K.K., Gu, J. and Chen, H., 2010. The role of institutional pressures and organizational culture in the firm's intention to adopt internet-enabled supply chain management systems. <i>Journal of Operations Management</i> , 28(5), pp.372-384.
Paulraj, A. and Chen, I.J., 2007. Environmental uncertainty and strategic supply management: a resource dependence perspective and performance implications. <i>Journal of Supply Chain Management</i> , 43(3), pp.29-42.
Thirumalai, S., & Sinha, K. K. (2011). Product Recalls in the Medical Device Industry: An Empirical Exploration of the Sources and Financial Consequences. <i>Management Science</i> , 57(2), 376-392.
Villena, V. H., Revilla, E., & Choi, T. Y. (2011). The dark side of buyer–supplier relationships: A social capital perspective. <i>Journal of Operations Management</i> , 29(6), 561-576.
Wang, Y., Li, J., Wu, D., & Anupindi, R. (2021). When Ignorance Is Not Bliss: An Empirical Analysis of Subtier Supply Network Structure on Firm Risk. <i>Management Science</i> , 67(4), 2029-2048.
Wu, Z. and Pagell, M., 2011. Balancing priorities: Decision-making in sustainable supply chain management. <i>Journal of Operations Management</i> , 29(6), 577-590.

Process and key dates

Replications and registered reports are both rare in SCM. Hence, the timeline (see Table 4 for full details) is relatively long to give as many potential authors as possible the chance to

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submit. We prefer to review and discuss replication studies that are in the design phase but will consider studies that are already in process on a case-by-case basis. Full registered report proposal submissions are due by December 31, 2024.

These proposals are effectively the entire front end of the paper and include the introduction explaining the paper being replicated and why it is important to replicate, a description of how the state of knowledge and theory has advanced since the original paper was published, the specific hypotheses or research questions being replicated (and or extended), the form of replication and the full research design (sampling, data collection, proposed analysis and so on). See below for full details on what is expected in the proposal. Once more: the conditional decision to accept or reject will be made based on the proposal, not the final paper. Accepted proposals will form the basis of the registered report. However, final acceptance is conditional on the researchers carrying out the research design proposed and writing to JSCM's standards.

Table 4. Timelines

Action	Date
Application with <i>prospectus</i> due for paper development workshop	April 1, 2024
Invitations to paper development workshops sent out	May 1, 2024
Workshop 1 - in person only (Barcelona)	July 4, 2024
Workshop 2 - Zoom only	Late Aug, Early Sep
Full registered report <i>proposals</i> (i.e front end of paper) due	Dec 31, 2024

In addition, to help authors develop their research and understand the process, The Journal will host a pair of paper development workshops (PDWs); one in person in Barcelona July 4th (the day after the main EurOMA conference) and a second online in late August or early September scheduled to suit researchers in the Americas and Asia. We will also explore adding additional times if there is demand. To participate in the PDWs authors will need to submit a prospectus of the replication study they intend to do, by April 1, 2024.

We believe that participation in a PDW will help authors develop their research, but we know that some authors will not be able to attend. Therefore, these workshops are totally voluntary and there is no requirement to attend to publish in the special issue. Please feel free to contact any of the special issues editors with questions.

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Prospectus to apply for the PDWs

The prospectus is an outline of the intended replication study, to be submitted as application for participation in the PDW with an indicative length of 2,000-3,000 words. It should include the following:

1. Specify the study that will be replicated and why it is important to replicate some or all of this study.
2. Stipulate and discuss the hypotheses / research questions.
3. Specify the type of replication being proposed: pure, differentiated, constructive or replication and extension (see Gattiker et al., 2022 and Köhler and Cortina, 2021).
4. Discuss the possible findings and their interpretation including clarifying how null results and or any deviations from the original study will be interpreted.
5. Describe the dependent, independent, and control variables and specify how they will be measured.
6. List the two to three most important risks to successfully executing the proposal (e.g., deviations from intended sample size and sample composition) and discuss how the design mitigates these risks.

Full replication proposals

We would like to repeat that it is not necessary to participate in a PDW and develop a prospectus. Instead, authors may choose to develop a full replication proposal and submit it to The Journal with the intention of the proposal being acknowledged as registered report. Full replication proposals are effectively the entire front of a paper. On top of elements 1 to 6 specified above, they should also:

7. Explain the sampling strategy and data collection instruments. Specify the target sample size and composition. Provide preliminary evidence of sufficient power based on the effect sizes in the initial study.
8. Describe the planned statistical analysis, being as specific as possible.
9. Provide a timeline for when will the data be collected and the final manuscript will be submitted.

Note:

When submitting a full registration proposal, no pre-registered report needs to be filed elsewhere. However, as soon as the replication proposal has been accepted by the Special Issued editors, we require pre-registration at the Center for Open Science's repository.

reference s:

Aguinis, H., Archibold, E.E. and Rice, D.B. (2022), Let's Fix our Own Problem: Quelling the Irresponsible Research Perfect Storm. *Journal of Management Studies*, 59, 1628-1642.

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Aguinis, H. and Solarino, A.M., 2019. Transparency and replicability in qualitative research: The case of interviews with elite informants. *Strategic Management Journal*, 40(8), 1291-1315.

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Davis, A.M., Flicker, B., Hyndman, K., Katok, E., Keppler, S., Leider, S., Long, X. and Tong, J.D., 2023. A replication study of operations management experiments in Management Science. *Management Science*. Forthcoming.

Frohlich, M.T. and Dixon, J.R., 2006. Reflections on replication in OM research and this special issue. *Journal of Operations Management*, 24(6), 865-867.

Gattiker, T.F., Hartmann, J., Wynstra, F., Pagell, M., Cantor, D., Yan, T. and Tate, W., 2022. Testing the shoulders of giants—Replication research using registered reports. *Journal of Supply Chain Management*, 58(3), 89-94.

Haven, T. L., Errington, T. M., Gleditsch, K. S., van Grootel, L., Jacobs, A. M., Kern, F. G., Piñeiro, R., Rosenblatt, F., & Mekkink, L. B. (2020). Preregistering Qualitative Research: A Delphi Study. *International Journal of Qualitative Methods*, 19.

Kirchoff, J.F., Omar, A. and Fugate, B.S., 2016. A behavioral theory of sustainable supply chain management decision making in non-exemplar firms. *Journal of Supply Chain Management*, 52(1), 41-65.

Köhler, T. and Cortina, J.M., 2021. Play it again, Sam! An analysis of constructive replication in the organizational sciences. *Journal of Management*, 47(2), 488-518.

Open Science Collaboration, 2015. Estimating the reproducibility of psychological science. *Science*, 349(6251), p.aac4716.

Pagell, M., 2021. Replication without repeating ourselves: Addressing the replication crisis in operations and supply chain management research. *Journal of Operations Management*, 67(1), 105-115.

Pagell, M. and Krause, D.R., 1999. A multiple-method study of environmental uncertainty and manufacturing flexibility. *Journal of Operations Management*, 17(3), 307-325.

Scheel, A.M., Schijen, M.R. and Lakens, D., 2021. An excess of positive results: Comparing the standard psychology literature with registered reports. *Advances in Methods and Practices in Psychological Science*, 4(2), p.25152459211007467.