**Appendix A – Systematic Literature Review**

A SLR was selected as methodology to derive from the literature relevant propositions on the effects of AM on SC capabilities and SC vulnerabilities since it ensures the replicability, validity and reliability of the results (Sudusinghe and Seuring, 2022; Anjomshoae *et al.*, 2023). In this work, the three-step methodology of Tranfield *et al*. (2003) was adopted. Before describing the three steps, we want to highlight that, as mentioned in Section 2 of the manuscript, the work of Naghshineh and Carvalho (2022b) represents a SLR evaluating the effects of AM on SC capabilities and SC vulnerabilities. Given the similarity in scope, one might argue that we could have leveraged their work. However, their review did not specifically focused on developing research propositions. Therefore, we chose to conduct a new SLR to ensure the development of comprehensive research propositions and to include any new findings published after their review.

*Step 1 – Planning the review*

As first Step, the need for the SLR needs to be identified. As discussed, this corresponds to identify from the literature research propositions on the effects of AM on the SC capabilities and SC vulnerabilities identified by Pettit *et al.* (2010). Then, this Step involves to develop the protocol for the SLR. In this work we have adopted the PRISMA protocol, as commonly done in the literature (Moher *et al.*, 2010; Amrutha and Geetha, 2020; Correia Loureiro *et al.*, 2021; Peron *et al.*, 2022).

*Step 2 – Conducting the review*

The SLR was conducted following the PRISMA protocol. Here, considered its broad coverage of high quality journals (Ahi and Searcy, 2015), Scopus was used as database to collect relevant articles.

The search consists of a two-groups keywords structure (Table A1). The first group (Group A) consists of keywords defining AM, while the second group (Group B) consists of keywords defining SCR (and the underlying SC capabilities and vulnerabilities).

|  |  |
| --- | --- |
| **Group A** | **Group B** |
| “Additive Manufactur\*”  “Additive Technique\*”  “3D Print\*”  “3D Object\*”  “Rapid Prototyp\*”  “Rapid Manufactur\*”  “Rapid Tool\*”  “Layer Manufactur\*”  “Freeform Fabrication\*”  “Digital Fabrication” | “Resilien\*”  “Supply Chain Resilien\*”  “Supply Chain Capabilit\*”  “Supply Chain Vulnerabilit\*” |

**Table A1.** Keywords’ groups.

The logical operators ‘AND’ and ‘OR’ were used to generate the search strings within ‘Title, Abstract and Keywords’. The search was limited to articles in English, published in the subject areas ‘engineering’, ‘business, management and accounting’, ‘decision science’, and ‘economics, econometrics, and finance’, resulting in 360 articles. The query included papers published until (and including) 2023.

These articles were screened according to the following inclusion criteria:

i. Journal articles and conference papers.

ii. Full text availability.

iii. Detailed and narrow focus: Only articles explicitly discussing positive and/or negative impacts of AM on the SC capabilities and vulnerabilities identified by Pettit *et al.* (2010) were considered.

Notably, following Seuring and Gold (2012), two authors carried out independently (iii) to ensure reliability and objectivity of the results. At the end, the article set was reduced to 85 articles.

The same two authors screened the full text of the remaining articles to confirm their relevance, resulting in a total of 38 articles.

*Step 3 – Reporting and dissemination*

This steps usually consists of a descriptive and a content analysis. However, for the sake of brevity and since the goal of the SLR in this work is just to derive the propositions to be used in the Delphi study, here only the content analysis was carried out. Given the scope of this work, the articles remaining after the full text screening were categorized based on the SC capabilities and SC vulnerabilities identified by Pettit *et al*. (2010) and analyzed to develop the corresponding research propositions. In doing so, to ensure reliability and objectivity in the categorization, the same approach adopted in Step 2 was applied. The analysis of the different papers according to the different SC capabilities and SC vulnerabilities is reported together with the developed propositions in Sections 3.2. and 3.3. of the manuscript.

**References**

Amrutha, V.N. and Geetha, S.N. (2020) ‘A systematic review on green human resource management: Implications for social sustainability’, Journal of Cleaner Production, 247, 119131.

Anjomshoae, A., Banomyong, R., Hossein Azadnia, A., Kunz, N., and Blome, C. (2023), ‘Sustainable humanitarian supply chains: a systematic literature review and research propositions’, Production Planning & Control, 1–21.

Correia Loureiro, S. M.; Guerreiro, J. and Tussyadiah, I. (2021) ‘Artificial intelligence in business: State of the art and future research agenda’, Journal of Business Research, 129, pp. 911-926.

Moher, D., Liberati, A., Tetzlaff, J. and Altman, D.G. (2010) ‘Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement’, International Journal of Surgery, 8(5), pp. 336–341.

Naghshineh, B. and Carvalho, H. (2022b) ‘The implications of additive manufacturing technology adoption for supply chain resilience: A systematic search and review’, International Journal of Production Economics, 247, p. 108387.

Peron, M.; Arena, S.; Micheli, G.J.L. and Sgarbossa, F. (2022) ‘A decision support system for designing win–win interventions impacting occupational safety and operational performance in ageing workforce contexts’, Safety Science, 147,105598

Pettit, T.J., Fiksel, J. and Croxton, K.L. (2010) ‘Ensuring supply chain resilience: development of a conceptual framework’, Journal of Business Logistics, 31(1), pp. 1–21.

Seuring, S. and Gold, S., (2012) 'Conducting content‐analysis based literature reviews in supply chain management', Supply Chain Management: An International Journal, 17, pp. 544-555.

Sudusinghe, J.I. and Seuring, S. (2022) ‘Supply chain collaboration and sustainability performance in circular economy: A systematic literature review’, International Journal of Production Economics, 245.

Tranfield, D., Denyer, D. and Smart, P. (2003) ‘Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review’, British Journal of Management, 14(3), pp. 207–222.