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Bridging the Data Gap: A Compendium of Open Data Forecasting Use Cases for Small and Medium-Sized Enterprises

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TREO Talk Paper

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Abstract

In an era of global supply chain volatility and geopolitical shifts, accurate forecasting is no longer a luxury but a prerequisite for survival. While large corporations leverage vast internal datasets and specialized data science teams, Small and Medium-sized Enterprises (SMEs) often struggle with low data density and limited resources (Walcott & Ali, 2021).

Open Data, freely available data from sources such as government portals or organizations like NASA, offers a practical way to complement these limitations. By combining internal data (e.g., sales patterns or production capacities) with external signals such as market trends, weather data, or geopolitical developments, SMEs can move toward more timely and robust forecasts (Weisz et al., 2023).

The core of this research focuses on bridging the gap between the availability of Open Data and its practical application in the manufacturing sector. For many SMEs, the internal perspective provided by ERP data alone is insufficient, as it often reflects external shocks, such as raw material price fluctuations or supply chain disruptions, only with a significant time lag. This talk shows use cases where Open Data can provide early warning signals, including risk management.

The talk then shows how SMEs can identify relevant use cases for Open Data and match them with suitable sources. It presents early results from ongoing research focusing on manufacturing SMEs and introduces use case clusters that illustrate how external data can be integrated into existing processes. Overall, the talk aims to provide a low-threshold, practical perspective on how SMEs can leverage Open Data to improve forecast quality and strengthen supply chain resilience.

References

Walcott, Terry H., Ali, Maaruf (2021): Machine Learning for Smaller Firms: Challenges and Opportunities. In: 2021 International Conference on Computing, Electronics & Communications Engineering (iCCECE). Southend, United Kingdom, 16.08.2021 - 17.08.2021: IEEE, S. 82–86.

Weisz, Eric; Herold, David M.; Kummer, Sebastian (2023): Revisiting the bullwhip effect: how can AI smoothen the bullwhip phenomenon? In: IJLM 34 (7), S. 98–120. DOI: 10.1108/IJLM-02-2022-0078.

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