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Abstract for SupplyOn Workshop „Big Data Analytics in Supply Chain Management: Practical Insights in Aerospace Supplier Collaboration"

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Big Data has become a frequently used term. This expression is used to summarize the large amount of unstructured or semi-structured data, which are produced day by day by companies, their devices, machines, or products in use (Ivanov et al. 2019[1]). Big data has been characterized in literature by 5Vs: volume, variety, velocity, veracity, and value (Fosso Wamba et al. 2014[2]). These characteristics also define the challenges how to handle big data the right way.

Analytics of such big data offers a lot of potential for new business models: In the Aerospace industry the concept of big data has been started to be adopted, e.g. based on the approach of "digital twins", where a physical product is always accompanied by a corresponding digital counterpart object, including lifecycle information. A concrete example to be presented in the workshop is the lifecycle of e.g. material demand, incorporating demand generation, forecast and order collaboration, delivery, goods receipt and finally the invoice. Based on the SCOR model (Bolstorff et al. 2007[3]), also return and repair processes can become relevant.

The Aerospace industry is a good example of an industry where collaboration between business partners can contribute to better planning of such material demands, as an early warning system, to avoid foreseeable bottlenecks and stock outs. Ability to deliver needs to be combined with minimized levels of bound capital.

While benefits of such a demanding supply chain are undisputable, the following thesises shall be discussed, as part of this workshop:
1. "An end-to-end supply chain is only as reliable as its weakest part. This can be proven for the Tier-n level of industries like Aerospace."
2. "Good collaboration tools are not enough, even if combined with big data, if the data quality is insufficient. A good example is the Aerospace industry."
3. "Usage of big data must be secured by clear rules who owns and shares the right level of data. In industries like Aerospace, it is often the operator or the OEM who define such rules."

The goal of the workshop will therefore be to sharpen the view for structured, use-case driven, secure, meaningful, value-creating best practice approaches of big data analytics, based on concrete examples, here from collaboration in the Aerospace industry. Contributions from both scientific and business perspective are highly welcome.

Contact Partner: Arvid Holzwarth MBA, SupplyOn AG.

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[1] Ivanov, Tsipoulanidis, Schönberger (2018). Global Supply Chain and Operations Management. A Decision-Oriented Introduction to the Creation of Value. 2nd ed. Springer.
[2] Fosso Wamba, Akter, Edwards, Chopin, Gnanzou. (2014). How 'big data' can make big impact: Findings from a systematic review and a longitudinal case study. International Journal of Production Economics. 10.1016/j.ijpe.2014.12.031.
[3] Bolstorff, Rosenbaum, Poluha (2007). Spitzenleistungen im Supply Chain Management. Ein Praxishandbuch zur Optimierung mit SCOR. Springer.