



## **Track n. 5 - Artificial Intelligence and the Interplay with business innovation**

Nowadays, with the unprecedented and exponential growth of information communication technologies (ICTs), all types of business have been impacted by digital transformation. In this context, organizations are being challenged to understand and create value using cutting-edge technologies. For instance, blockchain, big data, artificial intelligence, and Industry 4.0 are not only buzzwords but were in the top search interest in 2018 between scholars (Nature, 2019). Digital transformation (DT) is driven by enhanced connectivity and an explosion of available data changing the way enterprises do business. This frequently implies new strategies, new business models and new and dynamic capabilities mostly to create data-driven businesses. (Mosconi, Packmohr & Santa-Eulalia, 2019).

In this outlook, a prominent and highly disruptive technology, Artificial Intelligence hereinafter AI, is defined as “the ability of machines to mimic intelligent human behavior, and specifically refers to “cognitive” functions that we associate with the human mind, including problem solving and learning” (Syam & Sharma, 2018, p. 136). In addition, firms are investing in machine learning (ML) in order to empower the capacity of the robots and algorithms to learn with the experience. Combining AI and ML, the organizations are the strength of the self-decision making process of the robots for a vast of activities (e.g., customer support in a call center, interaction in the social media, products recommendation, patterns recognition, travel recommendations, follow-up, activities, etc.).

In this context, organizations and their supply chain management (SCM) are experimenting significant challenges in order to apply AI effectively into their business models (Plastino, Purdy, Plastino, & Purdy, 2018). For example, with AI organizations make use of “Artificial Intelligence” in supply chain ecosystems which in combination with human behaviour will create a new degree of intelligence, innovation, and collaboration” (Bienhaus, Haddud, Bienhaus, & Haddud, 2018, p. 966). As potential examples, AI and ML can be used to detect card fraud in payments (Ryman-tubb, Krause, & Garn, 2018), in sales management improvement (Syam & Sharma, 2018), in procurement and supply chains (Bienhaus et al., 2018).

With AI, organizations will need to adopt new business models and approaches in their functional areas (Plastino et al., 2018) and need to rethink the work in the age of intelligent machines and AI (Crowston & Bolici, 2019). Unfortunately, the organizations have limited awareness about the effects of AI and ML in their business models and how there can affect its business management in order to create value. Moreover, empirical studies covering cutting-edge technologies focusing the real business value and to capture it, are scarce (Fosso Wamba, Kamdjoug, Robert, Bawack, & Keogh, 2018). Additionally, the extant literature is also limited in reporting the AI/ ML strategies and its interplay with other technologies, in both, organizational and SCM levels. Furthermore, organizations need to explore more in-depth the interaction of AI and human intelligence (Kelling et al., 2015).

Therefore, this track aims to invite scholars, researchers, practitioners, and managers to shed more light, unlock, and identify at the organizational, inter-organizational and SCM levels, the dynamics in capture business value from AI/ML and the interplay with others emerging technologies, in terms of improved performance, innovative business models, improved decisions making, improved interaction with customers, and competitive advantage.

We encourage submissions but are not limited to the following topics:

- The role of AI for the digital transformation: awareness and knowledge challenges in emerging and developed countries
- AI and the interplay with (Blockchain/BDA/CPS/IoT/M2M/smart cities/Additive manufacturing/Circular economy/Social media) enabled-business process innovation at the firm and supply chain levels
- Determinants of the AI adoption in operations at the organizational and inter-organizational levels



- Determinants of the AI diffusion stages (intention, adoption, and routinization) in supply chains
- AI initiatives for business process management improvement
- Assessment of facilitators and inhibitors of AI adoption for supply chain management processes
- AI initiatives reporting performance improved, competitive advantage, and business value at the organizational and inter-organizational levels
- Implementation of IT infrastructure to support AI initiatives for improved operations management, lean & agile operations, quality management in operations and SCM
- AI, data analytics and intelligent sensors supporting optimization for smart manufacturing and Industry 4.0.
- AI and intelligent agents supporting business process digitization
- AI supporting human interaction and collaboration within organizations
- Facilitation of innovative electronic business models and operations by using AI/ML in various sectors (e.g., transportation, fashion, healthcare, retail industry, and manufacturing)

### References

Bienhaus, F., Haddud, A., Bienhaus, F., & Haddud, A. (2018). Procurement 4.0: factors influencing the digitisation of procurement and supply chains. <https://doi.org/10.1108/BPMJ-06-2017-0139>

Crowston, K., & Bolici, F. (2019). Impacts of Machine Learning on Work. In Proceedings of the 52nd Hawaii International Conference on System Sciences.

Fosso Wamba, S., Kamdjoug, K., Robert, J., Bawack, R., & Keogh, J. (2018). Bitcoin ,Blockchain , and FinTech : A Systematic Review and Case Studies in the Supply Chain Bitcoin ,Blockchain , and FinTech : A Systematic Review and Case Studies in the Supply Chain. *Production Planning and Control*, (June).

Kelling, S., Fink, D., La Sorte, F. A., Johnston, A., Bruns, N. E., & Hochachka, W. M. (2015). Taking a 'Big Data' approach to data quality in a citizen science project. *Ambio*, 44(4), 601–611. <https://doi.org/10.1007/s13280-015-0710-4>

Mosconi, E., Packmohr, S., & de Santa-Eulalia, L. A. (2019). Making Digital Transformation Real. Proceedings of the 52nd Hawaii International Conference on System Sciences.

Nature. (2019). Here's what scientists searched for in 2018: AI is up, stress is down: The most-searched keywords in the Scopus database and on Google, revealed. Retrieved from [https://www.nature.com/articles/d41586-018-07879-9?utm\\_source=tw\\_t\\_nnc&utm\\_medium=social&utm\\_campaign=naturenews&sf205601751=1](https://www.nature.com/articles/d41586-018-07879-9?utm_source=tw_t_nnc&utm_medium=social&utm_campaign=naturenews&sf205601751=1)

Plastino, E., Purdy, M., Plastino, E., & Purdy, M. (2018). Game changing value from Artificial Intelligence : eight strategies. <https://doi.org/10.1108/SL-11-2017-0106>

Ryman-tubb, N. F., Krause, P., & Garn, W. (2018). Engineering Applications of Artificial Intelligence How Artificial Intelligence and machine learning research impacts payment card fraud detection : A survey and industry benchmark, 76(July), 130–157.

Syam, N., & Sharma, A. (2018). Waiting for a sales renaissance in the fourth industrial revolution : Machine learning and artificial intelligence in sales research and practice, 69(January), 135–146.

### Type of contributions invited:

We are seeking contributions to this track of the following types: full research papers, and research-in-progress papers. In addition, submissions employing empirical methods (e.g., surveys, in-depth cases, pilot studies, mixed methods, etc) are welcome.



### Track Co-Chairs

Name – Surname	Samuel FossoWamba
Title	Prof
E-mail	s.fosso-wamba@tbs-education.fr
Affiliation	Toulouse Business School
Short bio	Dr Samuel FossoWamba is Full Professor at Toulouse Business School. His current research focuses on business value of IT, inter-organizational systems adoption and use, supply chain management, electronic commerce, mobile commerce, electronic government, IT-enabled government transparency, blockchain, artificial intelligence in business, social media, business analytics, big data and open data. He has published papers in a number of international conferences and journals including: Academy of Management Journal, European Journal of Information Systems, Journal of Cleaner Production, International Journal of Production Economics, International Journal of Production Research, Journal of Business Research, Technology Forecasting and Social Change, Production Planning & Control, Journal of Strategic Marketing, Information Systems Frontiers, Electronic Markets – The International Journal on Networked Business, Business Process Management Journal, Proceedings of the IEEE, Hawaii International Conference on Systems Science (HICSS), Pacific Asia Conference on Information Systems (PACIS), Americas Conference on Information Systems (AMCIS) and International Conference on Information Systems (ICIS). Prof FossoWamba is organizing special issues on IT-related topics for leading international journals. He is the coordinator of The Big Data Program in London for Toulouse Business School. He won the best paper award of The Academy of Management Journal in 2017 and the papers of the year 2017 of The Electronic Markets: The International Journal on Networked Business. He is an Associate Editor of International Journal of Logistics Management information. He serves on editorial board of five international journals. According to Google Scholar he has an h-index of 32 and over 4,004 citations by January 17, 2019. Prof FossoWamba is CompTIA RFID+ Certified Professional, Academic Co-Founder of RFID Academia.
Name – Surname	Maciel M. Queiroz
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Short bio	Dr Maciel M. Queiroz is a Researcher in Operations and Supply Chain Management at the Naval Architecture and Ocean Engineering Department of the University of São Paulo, Brazil. Maciel holds an MSc and a PhD in Naval Architecture and Ocean Engineering from the University of São Paulo. His current research interests focus on supply chain digital disruptions, digital supply chain capabilities, Industry 4.0, blockchain, big data, IoT, CPS, including the adoption and use of these technologies. Also, he has supported important tracks as IFAC MIM and AMCIS.
Name – Surname	Elaine Mosconi
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Affiliation  
Short bio

University of Sherbrooke

Dr Elaine Mosconi is an Assistant Professor in Business Technology Management at the Université de Sherbrooke, Business School, Department of Information Systems and Quantitative Methods. Elaine is a cofounder of IntelliLab, a research group on emerging digital technologies in the context of the 4th Industrial Revolution and of Centre of Excellence for Innovative Manufacturing Companies (CEGEMI). Elaine is a member of many multidisciplinary research groups, such as Collaborative Research Network on Supply Chain (SC4), Collaborative Robotics on Manufacturing (CoRoM), Research Pole on Business Intelligence Strategy (PRISME) and the WAIM.Network (Work in age of intelligent machine). She holds a PhD in Business Administration from Université Laval, Canada, an MSc in Industrial Engineering from University of São Paulo, Brazil, B.Sc. in Information Science and Federal University of São Carlos, Brazil. She has worked as a researcher and consultant knowledge management and information systems. Professor Elaine has coauthored papers published in peer-reviewed journals and selected conferences as AoM, HICSS and ECIS. Her current research interests are related to digital transformation, collaborative innovation Industry 4.0 and decision performance, especially in manufacturing sector context.

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### Submission

Submissions will be evaluated through a standard blind review process. Track chairs will ensure



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anonymity of the review process.

Authors are highly encouraged to seek guidance from Track Chairs prior submitting the paper. We highly encourage authors to formalize this process by sending an abstract to the Track Chairs to receive feedback and guidance. Formal submission must specify the track that they are intended for. The page limit for contributions submitted in English is equal to 12 pages (maximum). Formatting rules (LNCS Springer format) are available at this link:

<http://www.springer.com/it/computer-science/lncs/conference-proceedings-guidelines>

Deadline for encouraged abstract submission: April 21, 2019

**Deadline for full paper submission: May 20, 2019**