

Editorial: Insights

Gregory Sandstrom, Managing Editor

Welcome to the February issue of the Technology Innovation Management Review.

The edition begins with a paper by the TIM program's **Tony Bailetti** and **Stoyan Tanev**, the first to be published by the new Scale Early Rapidly Securely (SERS) project community, titled "Examining the Relationship Between Value Propositions and Scaling Value for New Companies". It addresses a basic question, the answer to which has proven to be a significant challenge in practise: what do companies need to do to scale company value rapidly? The authors emphasize that new companies committed to scale early and rapidly need to develop value propositions for diverse parties in their business ecosystem. According to them, the multiplicity of the value propositions forces such companies to address two parallel alignment problems —first, to align the different value propositions and, second, to align the value propositions to companies' scaling objectives. The paper presents topic modelling results based on a corpus of 137 assertions about scaling that were derived on the basis of: (i) insights from 733 articles published in 99 peer-refereed academic journals since 2007; (ii) empirical observations from a sample of 311 companies from 22 countries that have increased their company value to over \$1 billion USD since January 1, 2010. The corpus included 19 assertions focusing on value propositions. Conducting an eight topic model led to six stable topics: Fundraise, Enable, Position, Communicate, Innovate, and Complement. The authors found that of the 19 assertions about value propositions, four are connected to Complement, four to Innovate, one to Position, one to Fundraise, and one to Communicate. The results suggest that the multiple value propositions of scaling companies are fundamentally related to their scaling priorities. Thus, the paper contributes to the understanding of how a new company scales company value rapidly.

The second paper by **Hans H. Jung** and **Franz M.J. Pfister** is titled "Blockchain-enabled Clinical Study Consent Management". It focuses on a new approach to health artificial intelligence (AI). The authors identify a key feature of the healthcare system involved in clinical trials and testing, which is still based largely on paper: the written informed consent of patients. They propose a platform business model that aims to digitalise the process of giving consent, both before a clinical trial, as well as potentially re-consenting afterwards, or withdrawing consent, through a dynamic distributed ledger permission system. The decentralising of clinical

consent management in a way that increases transparency and removes intermediaries, raises issues involving access to data, data storage, and encryption, as part of a securitization push to protect "sensitive private patient data that cannot be reproduced" (20). The authors present a technical implementation solution built on top of the Ocean Protocol framework to provide basic platform functionality. The paper contributes to the discussion and exploration of AI ethics in the race to build digital platforms for healthcare.

The paper by **Mika Westerlund** follows up on last month's paper in TIMR, "An Ethical Framework for Smart Robots", which addressed the issue of 'roboethics'. This edition features "The Ethical Dimensions of Public Opinion on Smart Robots", in which Westerlund applies the framework that was suggested in his previous paper. Once again focussing on the incoming challenges raised by smart robots, Westerlund makes an analysis of public opinion about smart robots in online articles, gathering short quotes from 117 public comments and structuring them into 11 themes. While "the majority of public discussion focuses on the impacts and implications of robots on society" (33), significantly less attention is given to how people should treat robots, or if they should have "robot rights". The author notes that "the overall tone displayed in this investigation was remarkably negative" (33), in contrast with some previous research on the topic, and reports that "there appears to be a fairly widespread feeling against technological determinism, or at least concern about it in society today" (27). The article offers suggestions to improve the transparency of smart robot product development, and the engage the target market more extensively in the design process with robotics entrepreneurs and manufacturers.

A trio of authors, **Johannes Gasde**, **Philipp Preiss**, and **Claus Lang-Koetz**, present the next paper, "Integrated Innovation and Sustainability Analysis for New Technologies: An approach for collaborative R&D projects". They conduct an analysis on R&D collaborations with particular attention to sustainability-oriented innovation, involving two projects over a period of three years in Germany with academic research and industry partners. The two projects focus on collaborations which are aiming to improve the process of plastics recycling, as well as to reduce microbial contamination of paint in industrial (car body) painting plants. The paper showcases the results in what the authors call an Integrated Innovation and Sustainability

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Analysis (IISA), which aims to enhance stakeholder dialogue and integration, by generating feedback loops in technology development. It provides a multi-sided assessment regarding sustainability, environmental life cycle, and both economic and social aspects.

The next paper by **Marcos Ferasso** and **Eloisio Andrey Bergamaschi** brings a sometimes-controversial theory in economics to bear on organizational planning for the future. In “Kondratieff’s Economic Waves and Future Scenarios Planning: an approach for organizations”, the authors provide a short summary of work done in future studies, foresight, forecasting, and technology assessment. Their aim is to make a connection between the long economic waves model by Russian economist Nikolai Kondratieff as it may relate to strategic planning and technology development. The authors suggest that Kondratieff’s waves can be used as an effective tool for scenario-building techniques, “as a way to anticipate challenges, opportunities, and threats for organizations’ contingency planning” (51). At the same time, they caution that, “[t]he study of long economic waves does not presuppose a certain future to come, but rather can indicate possible signs based on empirical evidence from past events” (60).

The final paper of the edition by **Tony Bailetti** and **Dan Craigen**, continues research from the SERS community, with a goal of “Examining the Relationship between Cybersecurity and Scaling Value for New Companies”. The aim of the authors is to “explore the cybersecurity-scaling relationship in the context of scaling new company value rapidly” (62). Drawing on experience from Carleton University’s recent 3-year Global Cybersecurity Resource project, they conduct a topic modelling analysis of 137 scaling assertions about company scaling practices. The results include six stable topics (company scaling priorities) and a discussion of the relationship between 17 assertions about cybersecurity management and the scaling priorities. The topic modelling results reveal that 11 of the cybersecurity assertions are related to four topics: Position, Innovate, Complement, and Fundraise. According to the authors, cybersecurity management is an important aspect of a company’s scaling master plan and “what a new company does to protect against the malicious or unauthorized use of electronic data” (67) is related to the scaling priorities described by the above four topics.

The TIM Review currently has a Call for Papers on the website for April and May special editions on

“Digitalization and its Impact on the International Growth of SMEs”, and “The Sharing Economy as a Path to Government Innovation.” For future issues, we invite general submissions of articles on technology entrepreneurship, innovation management, and other topics relevant to launching and scaling technology companies, and solving practical problems in emerging domains. Please contact us with potential article ideas and submissions, or proposals for future special issues.

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