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EDITORIAL

Antecedents and cases of Impact Innovation – Recent studies from Europe

Jimmi Normann Kristiansen[1*], Catarina Batista[2], Tuuli Maria Utriainen[3]

[1]Aalborg University Business School, Aalborg University, Denmark
[2]CERN IdeaSquare, CERN, Switzerland
[3]CERN IdeaSquare, CERN, Switzerland
*Corresponding author: jimmi@business.aau.dk

Recent research and practice in innovation concludes that impact innovation (cf., breakthrough innovation, radical innovation) is increasingly becoming a major driving force in industrial and economic growth. It has the possibility to enforce major change in existing markets and industries. Significant impact suggests a significant change in how we work with innovation.

Research suggests that impact innovation entails a combination of exploration and exploitation (as already concluded by March 1991), which involves both exploring new ideas and technologies while also leveraging existing knowledge and resources.

Impact innovation requires a diverse set of skills in teams in order to be successful. Studies have investigated how organizations can support and grow such teams, e.g., through skunkworks projects. These practices include extreme empowerment and autonomy in job design and task development. A risk of not having the appropriate support for team diversity is a disconnection between the mainstream organization and the employees in the team (Oltra et al., 2022). This implies that it may become difficult for organizations to optimally plan for skill development and retention of this development in the organization. Individual personality traits and self-efficacy perception have also been shown to be significant factors in innovation and value creation (Stauffer, 2016). Research on the impact of personality traits in the innovation process suggests that, although certain traits might predispose individuals to perform more successfully in different stages of the process, it is possible to take this into account and plan for more collaborative and multidisciplinary practices (Stock et al., 2016). Since most studies conducted in this field rely on self-reported measures, the need for new ways of measuring such skills and traits is emerging.

One motivation for the call for papers of this particular special issue has been a program made in collaboration between Collège des Ingénieurs and CERN IdeaSquare. Here, a mix of PhD and M.Sc. students have followed an MBA program. The engagement of PhDs with entrepreneurship practices has proved to be beneficial on both academic and business outcomes (Colombelli & Paolucci, 2021), making this program of distinct significance. One seminar had a special emphasis on "Impact Innovation", which requested the program participants to carefully observe work processes as well as output as a part of the seminar. This resulted in the collection of data particularly addressed for impact innovation. This program, along with other educational and research activities, are an indication of increased emphasis on working with innovation of tomorrow, that can act as a nexus between science and society. Science has the potential to transform society by providing innovative solutions and informing public policy decisions to complex issues. Moreover, bridging the gap between deep science and society can also help to inspire the next generation of responsible scientists and innovators (Owen et al., 2012).

Similarly, additional research has showed the importance of fostering innovation skills such as critical thinking, problem-solving, and creativity both within in education and organizational contexts (Alden Rivers et al., 2015; Deo & Malge, 2022; Figueiredo et al., 2022). By being equipped with such abilities, individuals and organizations can develop new approaches to address societal challenges and are empowered to take an active role in shaping their own futures.

This special issue presents 4 selected papers that have an emphasis on either the antecedents or provide concrete cases of impact innovation. Across the papers, the authors approach the topic of impact innovation from distinct angles, from measures of personal innovativeness to the power of physical teamwork, to the purpose of prototyping and entrepreneurial attitudes. This serves to demonstrate that innovation is not a linear process but rather a complex phenomenon that can be studied from a multitude of technical and social perspectives.

Vajner et al. (2023), explored different ways of measuring individual innovativeness, and compared this on the standard Individual Innovativeness Scale (IIS). The authors developed a new personal innovativeness score based on 12 questions and compared it with the standard Innovativeness Scale (IIS) through a survey of over 30 university students and graduates. It shows that individual innovativeness measured in different ways, and possible self-report bias. This provides new insight as to how individuals self-perceive their innovativeness. The findings of the research may give way to recruiting and understanding of different types of talent for impact

innovation projects; and possibly aid in a discussion of whether and how individuals' self-perception of innovativeness correspond with their actual innovativeness.

Gelner et al. (2022) examine the effectiveness of face-to-face (f2f) and virtual meetings for team tasks in a learning environment. This was carried out in relation to an impact innovation course at an MBA program. The researchers found that for the brainstorming and discussion phase of the project, team participants rated the face-2-face format as more effective than virtual meetings due to interpersonal team-building processes and better communication channels. In turn, for the preparation phase, there was no significant difference in effectiveness between f2f and virtual meetings. For the final phase of the project, if it involved a presentation, students rated the f2f format as more effective, while there was no clear preference for written reports. The study also found no clear correlation between extroversion and students' assessment of the effectiveness of f2f and online formats. Based on these findings, the study proposed a structure for project phases in an educational or working environment, with f2f formats preferred for the idea/finding phase and final presentation phase, while the choice of format for the preparation phase can be made based on institutional circumstances. This potentially gives managers of innovation tools for resource-optimizing new project work in the future for impact innovation, especially concerning global teams.

Tschernuth et al. (2022), investigate the entrepreneurial proneness between highly educated students in Germany and Italy. Using an open-ended survey, it examined actual entrepreneurship status in Italy and Germany, and analyze entrepreneurial desirability in these countries respectively. Italians demonstrate an increased willingness to take risks when it comes to entrepreneurship and are more resilient towards harsh working conditions. Germans, on the other hand, prefer secure traditional career paths, possibly due to the higher offer of well-paid positions in established German companies. This gives indication that team composition in terms of country of origin may have an effect on the likelihood of undertaking highly uncertain tasks (such as working with impact innovation projects) in companies as well. Different people have different affinity towards types of personal risk as well, and global firms thus must navigate in this.

Rojas-Martínez et al. (2023), explored the impact of prototype fidelity on perceived customer value by analyzing the feedback obtained after exposure to two types of prototypes. The study produced a low-fidelity "eye-dot" prototype in under 48 hours. It had a similar high-fidelity prototype produced in order to detect possible differences of customer value using the two. The results indicated that both low-fidelity and high-fidelity prototypes were suitable for assessing perceived customer value, and there was no statistical significance between the groups exposed to high-fidelity and low-fidelity prototypes. This supports existing research in the field and suggests that the development of learning prototypes or minimum viable concepts are well balanced resource-wise when doing market experimentation with impact innovation (O'Connor, 1998).

Between the papers, we can see that previously researched antecedents of impact innovation (cf. e.g., Slater et al., 2014) are still suggested as crucial when undertaking impact innovation activities. This applies both in recruiting and selecting the right team members according to their innovativeness in teams (Vajner et al., 2023), as well as how the modus operandum of ongoing project work undertaken in companies is taking place (Gelner et al., 2023). Concurrently, cross-country projects may be affected by risk aversion and different motives for joining impact innovation projects. This was supported by the findings of Tschernuth et al (2023), showing the entrepreneurial proclivity of different team members. Lastly, the research carried out by Rojas-Martínez et al. (2023) demonstrated the importance of understanding early user feedback. Interestingly, it also showed that user-feedback may be given even with low-fidelity prototypes, suggesting that companies need not overspend resources in order to get meaningful feedback.

We encourage researchers, practitioners and educators to continue motivated work in research and practice on the study of impact innovation. Solving the big societal challenges of tomorrow will require new ways of thinking – and working – and this special issue has showcased interesting research areas in precursers, as well as how impact innovation has come to life in different work environments.

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