

Innovation Promotion through Standards Development

Malihe Nazi ^{1*}

1. Textile and Leather Research Group, Research Center of Chemistry and Petrochemistry, Standard Research Institute, Karaj, Iran

Over the last three decades, there has been some research on the relationship between innovation and standardization [1]. There are, according to the different organizations regarding the type, sector, maturity level, or size, different types of innovations (e.g. product, service, process, model, and method) ranging from incremental to radical, or the different types of approaches (e.g. internal and open innovation, user-, market-, technology- and design-driven innovation activities). Some important questions in these studies are such as:

- Is standardization an innovation enabler or an innovation barrier?
- How can an organization find and maintain the correct balance between standardization and innovation during times of organizational change?
- What is the interrelation between standardization and the concepts of open and responsible innovation?
- Are companies active in standardization more successful in winning public procurement contracts?

Research has discovered that standardization plays a facilitative role in innovation by enabling scalability, verification, and coordination [2]. These studies promote innovation, if several framework conditions, like the openness of the standardization process, are considered. However, the number of empirical studies assessing the impact of standardization and standards on innovation is limited [3]. Since standardization has several benefits, such as reliability, predictability, and safety; lower costs and more dependable, repeatable processes; and consistent measurements, at national and international levels, evidence demonstrates the importance of standardization, as a body of knowledge, to contribute to business innovation and to increase competitiveness and realization of value [4]. In 2009, Blind [5] described the characteristics of standardization as a catalyst for innovation, considering the following:

- The reduction of the time to market for inventions, research results, and innovative technologies;
- The promotion of the diffusion of innovative products;
- The leveling of the environment for innovation and therefore promoting competition and consequently innovation;
- The facilitation of the substitution of old technologies and allowing the coexistence of old and new technologies;
- The reflection of user needs and therefore promoting the purchase, i.e., the diffusion of new products by early adopters.

Therefore, standards can significantly influence the success of innovation by creating a shared framework and establishing common rules. This also includes the definition of common terminology, setting out the essential characteristics of a product, service, or technology, and the detection of best practices within the ecosystem to ensure successful results [6]. Furthermore, careful consideration of standardization and standards can enhance the effectiveness of future innovation policy schemes [7].

Since November 2008, standardization documents were produced by the European Committee on Standardization (CEN/TC 389) with several standards aiming to harmonize a common approach to innovation management concepts, and processes, including innovation projects management, innovation assessment, and innovation systems. In the past few years, international standardization activities have introduced the deliverables of the technical committee ISO/TC 279 "in-



© The Author(s) 2023. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

* Correspondence:
mnazi@standrad.ac.ir

novation management”—standardized vocabulary, guidance on innovation management system implementation and innovation management assessment, as well as tools and methods for innovation partnership and intellectual property management [1]. These initiatives aim to update business innovation management frameworks, shifting away from linear perspectives of the innovation process toward open innovation approaches and broader definitions of innovation [4]. Despite its potential, standardization has not yet become the powerful transfer tool it could be. The level of standardization can be considered as one of the indicators of sustainable development in the circular economy. Standardization can support economic, ecological, and social goals, ultimately contributing to supporting sustainable development. According to the results, when the prospect of innovation is considered in an organization, it is important to keep in mind that though standardization can be regarded as a tool for strengthening innovation, standardization doesn't have to be the end of innovation, and progress through innovation can also involve failure. So, the interrelationship between standardization and innovation must be issued in an area of further multidimensional and multifaceted research.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Received: Jun. 2023 Accepted: Jun. 2023

Published online: Jun. 2023

DOI: 10.22034/ASAS.2023.407249.1028

References

- [1] Pilena A., Mežinska I., and Lapin I., Standardization as a Catalyst for Open and Responsible Innovation, *Journal of Open Innovation: Technology, Market, and Complexity*, 2021, 7(3), 187
- [2] Zoo H., J. de Vries H. and Lee H., Interplay of innovation and standardization: Exploring the relevance in developing countries, *Technological Forecasting and Social Change*, 2017, V 118, 334-348
- [3] Blind K., Pohlisch, J., and Rainville, A., Innovation, and standardization as drivers of companies' success in public procurement: An empirical analysis, *The Journal of Technology Transfer*, 2019, 45, 664–693
- [4] Caetano I, Standardization, and Innovation Management, *Journal of Innovation Management*, 2017, JIM 5, 2, 8-14
- [5] Blind K., Standardization: a catalyst for innovation. Inaugural Address Series Research in Management, Erasmus Research Institute of Management – ERIM, Rotterdam School of Management (RSM), Erasmus School of Economics (ESE), Erasmus Universiteit Rotterdam, Haveka, 2009.
- [6] Shin D.H., Kim H., and Hwang J., Standardization revisit-

ed: A critical literature review on standards and innovation, *Computer Standards & Interfaces*, 2015, 38, 152–157

[7] Blind K., The Impact of Standardization and Standards on Innovation, NESTA Working Paper No. 13/15, Manchester Institute of Innovation Research, 2013, 3-28. Retrieved from https://ideas.repec.org/h/elg/eechap/16121_14.html

Submit your manuscript to Advances in the standards and applied sciences journal and benefit from:

- ▶ Convenient online submission
- ▶ Rigorous peer review
- ▶ Open Access: articles freely available online
- ▶ High visibility within the field
- ▶ Retaining the copyright to your article

**Submit your next manuscript at:
journal.standards.ac.ir**