

STANDARDIZATION AS COMPETITIVE ADVANTAGE: THE EXTENT OF AUSTRIAN SMES IN STANDARDIZATION PROCESSES

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Abstract: Standardization – the development of standards in/with organizations like DIN, ISO or Austrian Standards – plays a crucial role for modern industries and fostering innovation, yet the extent of participation by SMEs might remain concerning. According to literature, participation in standardization can be both beneficial and challenging for SMEs. While standards level the playing field and facilitate innovation and market access, SMEs often face barriers in standardization processes, due to lack of resources (human, time, financial, expertise) and lack of awareness of the advantages of participating.

In this explorative study, the SME participation in standardization processes in Austria is analyzed by using existing data and expert interviews. We find that Austrian SMEs participation varies by industry and activity/technology field. SMEs with a technical background in the broader sense, such as in the construction industry, are involved in standardization to a higher extent, but face the challenge that the experts participating for them in standardization fora are ageing and a new generation is missing. The development of service standards seems to be less popular with Austrian SMEs. With varying opinions regarding the extent to which Austrian SMEs participate in standards development, a differentiated view regarding this topic seems necessary.

Keywords: SMEs, small and medium-sized enterprises, standardization, Austria, participation, involvement, and variations thereof.

1 INTRODUCTION

A standard is a technical document designed to be used as a rule, guideline, or definition. It is a consensus-built, repeatable way of doing something (ITS Standardization, 2024). A standard provides requirements, specifications, guidelines, or characteristics that can be used to ensure that materials, products, processes, and services are fit for purpose, safe, reliable and of high quality. Standards cover a wide range of subjects, from construction to artificial intelligence, and from globes to agricultural machinery (Small Business Standards). Standardization and innovation are interconnected (Radauer, 2020). They are often perceived, however, as opposite aspects in the business world. Research shows that this view may be actually wrong, and standardization and innovation can interact with each other in a positive way. For example, standardization can serve as a foundation for innovation by providing a more stable platform on which innovative ideas can be developed and implemented (Blind, 2016).

Standards are created by bringing together all interested parties such as manufacturers, consumers and regulators of a particular material, product, process, or service (CEN_CELNEC, 2024). For the economy to work successfully with standards, various stakeholders must be involved in the process of developing standards. The extent of participation by small and medium sized enterprises (SMEs) – otherwise considered a highly important type of firms for innovation, employment and innovation in an economy (OECD, 2010) – might, however, remain concerning (Blind & Mangelsdorf, 2016). This paper explores the sufficiency of participation of Austrian SMEs in standardization processes. It attempts to answer the two following research questions: (1) To what extent do Austrian SMEs participate in standardization activities? and (2) Can the level of participation be deemed, from an innovation and industrial policy view, as sufficient?

2 METHODOLOGY

To answer the research questions, we assessed available literature and data on SME participation in standardization in general, and of respective participation in Austria specifically. We furthermore executed eight interviews using semi-structured interview guidelines with experts from Austrian SMEs, Austrian Standards, international standardization bodies and the Federal Economic Chamber on this topic. All interviews were recorded, transcribed in verbatim and analyzed using qualitative content analysis.

3 STANDARDS/STANDARDIZATION AND SME PARTICIPATION IN GENERAL

Standards play a crucial role in fostering innovation, promoting safety, enhancing quality, and facilitating interoperability. They can apply to very specific products, or they can be general like quality or environmental management system standards. Blind describes some advantages of standards as follows (Blind, 2004):

- Standards supports consistency. They ensure that products, processes, or services are consistent and uniform, which leads to higher quality and reliability, making it easier for users to understand and work with them.
- In technology and other fields, standards play a crucial role in enabling different systems, components, or devices to work together seamlessly, e.g., in data communication.
- In industries where safety is a concern (such as healthcare or construction), standards can help establish safety guidelines and requirements that reduce the risk of accidents or hazards.
- Standards often cover quality control measures, ensuring that products or services meet certain benchmarks or requirements.
- Furthermore, they can lead to increased efficiency by streamlining processes and reducing redundancy. Organizations can hence save time and resources.
- Many industries are subject to regulations and standards set by government bodies. Complying with these standards is often mandatory. In global trade, standards help facilitate the exchange of goods and services across borders.

Standardization is the process of developing and agreeing upon standards. (Blind, 2004). Standards are developed through a consensus process involving industry experts, stakeholders, and relevant organizations. Adherence to standards can be voluntary or mandated by regulatory bodies, depending on the context and the industry involved. Standards are being developed with the support of recognized standard-developing organizations (SDOs) at national, European and global levels, with these levels being interconnected.

In this context, it is important to underline that SDOs act as facilitatory platforms, while the standards themselves are developed by the voluntary-participating (mostly) private organizations. Within the respective committees, large firms are typically dominating (Riillo & Jakobs, 2022) , which raises the question whether SME participation is sufficient (Gupta, 2017). This, in turn, depends on factors such as the possible benefits of being a participant vs. the associated efforts, challenges and barriers. The question, if participation in standardization processes is advantageous for SMEs or not, is still not fully answered. Wakke & Blind found that participation in standardization processes is positively related to the companies' performance in the manufacturing sector. However, in the service sector no such evidence was found (Wakke & Blind, 2016). Participation in standardization can be both beneficial and challenging for SMEs. A firm participating in SDOs can increase its competitiveness by actively influencing standards towards its own preferred specializations or by passively gaining knowledge from the standardization process (Blind & Mangelsdorf, 2016). While standards can also level the playing field and facilitate innovation and international market access, SMEs often face specific barriers in standardization processes due to a lack of resources (human, time, financial, expertise) and a lack of awareness of the advantages of participating (Yuhao & de Vries, 2022). In niche markets standards can also help to secure those niches and erect barriers to entry (Eto, 2019). However, given the resource constraints of SMEs, it is interesting to note that the likelihood of SMEs' technical

contributions being accepted is similar to that of larger companies, at least according to literature (Gupta, 2017). SMEs can also benefit from participating in international standard-setting activities as it can lead to strategic marketing advantages.

De Vries et al. published in 2009 a paper of recommendation for CEN and CELENEC on how to improve access to European standardization for small and medium-sized enterprises. They created a toolbox for SDOs and trade associations by indicating recommendations, each containing concrete suggestions and best practices from European countries.

Some examples of the many recommendations geared towards SDOs are to invest in standardization education, to have SDOs develop a communication plan especially for SMEs, for SDOs to actively seek additional channels to get in touch with targeted groups of SMEs and to provide the opportunity to search for European and international standards in the national language(s) in a user-friendly way (de Vries, et al., 2009).

4 THE AUSTRIAN SITUATION

Small and medium-sized enterprises (SMEs) play a key role in the Austrian economy. They are the backbone of the country's economy, contributing to job creation, entrepreneurial spirit, innovation, and competitiveness. In 2021, drawing on the official definition of the EU for an SME, 99.7 % of the total business economy in Austria consisted of SMEs, employing more than 2 million people (Federal Ministry of Labour and Economic Affairs, 2023). SMEs in Austria are also heavily involved in international trade, both as exporters and importers. They account for 63% of economic value added in the country (OECD, 2023). Austrian SMEs have an above-average degree of internationalization, with 15% exporting goods to third countries (compared to 10% of SMEs on average in the EU) and 16% selling goods online to other EU countries (versus 9% EU-wide) (Federal Ministry of Labour and Economic Affairs, 2024). Most notably, SMEs are important for innovation in Austria. 59% of Austrian SMEs implemented innovation activities between 2018 and 2020, a slightly higher proportion than the EU average of SMEs (52%). SMEs in Austria generate a high share of sales with innovations (10% vs. 8% on average in the EU) (Federal Ministry of Labour and Economic Affairs, 2023).

Combing the importance of standards overall, and the importance for SMEs in the economy, it becomes evident that both SMEs and the economy more widely would benefit from SMEs being adequately involved in standardization. According to the annual reports of Austrian Standards 2018-2022 (Austrian Standards, 2023) approximately 46% on a five-year average of the participating parties were SMEs (see Fig.1), and in absolute figures the average amount of participating persons from SMEs has been increasing also from 4343 (2018) to 4562 (2022) (Austrian Standards).

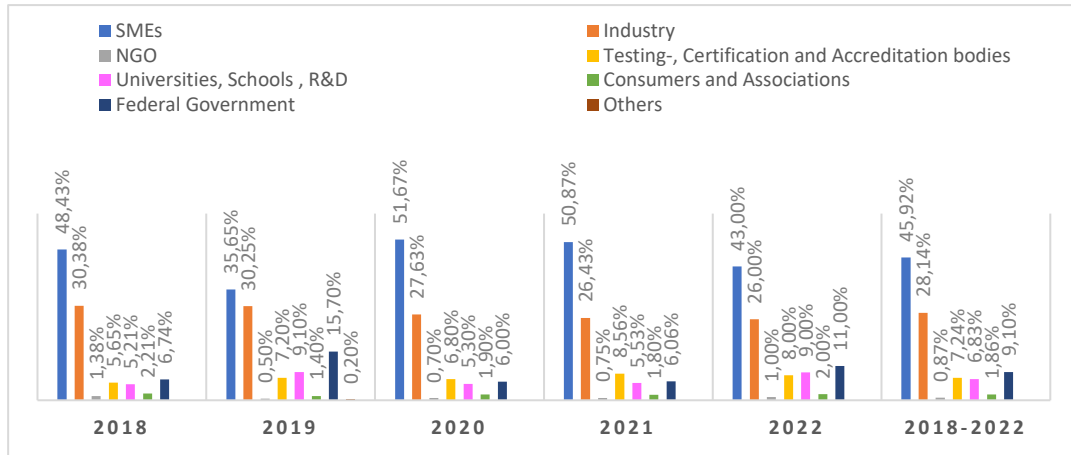


Figure 1: Development of Participant Groups in Standardization Processes, Source: Austrian Standards, Annual Reports 2018-2022, own representation

The question remains, whether these figures can be deemed satisfactory.

5 RESULTS FROM INTERVIEWS

The interview evidence paints the following picture: In line with literature also in Austria the involvement of SMEs is rather low in comparison to their significance in the Austrian economy. The participation of firms in the technical field is observed to be higher than in service sector. According to experts the reason is that e.g. in the construction sector a lot of standards are, in practical terms, obligatory. Even if the use of standards is voluntary, the courts will use the existing standards as a basis for their jurisprudence in the event of a possible lawsuit. This turns voluntary standards into semi-mandatory ones. In addition, the proportion of innovative SMEs is not that high, especially in the construction industry. A specific issue noted in Austria are professional (job) accreditation standards. Because of the Austria dual education system, access to certain profession is regulated via compulsory education. In countries, where such an education system does not exist, there is a higher call for voluntary standards to be developed. As a result, not only do Austrian SMEs participate less in such standardization endeavours, but also policy reacts negatively by having such standards being sort of imposed on them.

In Austria, the Chamber of Commerce plays a particular role because membership is compulsory for any enterprise regardless of size. The Chamber of Commerce's legal mandate is to balance the interests of its members, including when it comes to standards. Therefore, the Chamber of Commerce intensively cooperates with Austrian Standards. They even offer an introduction into the practices in the standardization committees and are also taking part in several boards, depending on existing in-house-competencies. The focus is the legal effect of standards on all members, not the interests of individual member companies. As a result, relevant SMEs in Austria may be more easily identified and

approached and asked to participate in standardization processes than in other countries.

As one of the main advantages of international standards is that they facilitate the exchange of goods and services across borders, companies interested in exporting will be more inclined to work on standardization processes. Regarding the fact that Austrian enterprises have an above EU-average rate of exporting goods and international online-trade, Austria's companies (including SMEs) should show an accordingly higher participation rate in standardization.

Most experts, however, gauged that the SME-participation in standardization is too low, especially in the younger generation. It used to be considered a professional distinction if a person was part of standardization processes; this image may have changed.

Although there are newsletters and publications from professional associations sent to the firms, they might not feel very motivated to collaborate. Another reason for a rather low participation-rate can be the high number of standards. The flood of information is overwhelming, especially in the construction business. They are perceived as too long and complicated. Standards have a reputation for being tedious because there is no immediate return on investment given, so the time and efforts spent in participation may be conceived as not adequate.

The lack of strategic orientation of SMEs was mentioned as a further reason for the lack of participation by SMEs. Large companies certainly have an advantage here.

6 CONCLUSION

The paper has assessed the extent to which Austrian SMEs are participating in standardization processes. It provides a first exploratory assessment whether the extent of participation is satisfactory. Its main contribution to the international debate in this context is that, in all likelihood, a differentiated view is needed regarding the question of sufficient participation. This is somewhat in contrast to the existing literature. SME participation differs by technology field and sectors, and the expert views regarding the sufficiency of SME participation are also more divided than the literature base would one have expected. More research is needed to understand the sector-specific needs in more detail, including more interviews but perhaps also a quantitative (survey) analysis.

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