

Executive Summary

March 2020

Digital Competences in Austrian SMEs

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Study commissioned by

 **Bundesministerium**
Digitalisierung und
Wirtschaftsstandort



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Executive summary

The aim of this report is to derive measures to increase digital skills and competences for Austrian Small and Medium Enterprises (SMEs) based on an extensive literature research and several empirical studies. In particular, the aim is to propose measures to increase *basic* digital skills among SMEs. The promotion of basic digital skills is particularly important in times of COVID-19 and the enactment of social distancing measures. In this situation, people and companies who are lacking digital skills are practically excluded from social and economic life.

The report starts with a literature review on the most important motivational, skill-related and situational factors influencing SMEs' use of digital technologies and their willingness to engage in further training. In addition, the report presents principles of behavioral intervention planning and discusses possibilities to support digital education during work.

The chapter on international comparisons, examines Austria's performance on various comparative indices. In particular, the authors discuss the Digital Economic and Society Index (DESI) with regard to its essential subfactors. This exercise shows that Austria is lagging behind internationally in terms of SME digitization. While the general skills of the population are slightly above the EU average, the country is below average in terms of broadband coverage, individual internet use, and the digitization of SMEs, especially with regard to e-commerce and marketing via social media.

The chapter on international best practices discusses in detail the measures taken by Sweden, Finland, the Netherlands, Belgium, the United Kingdom and South Korea to promote digitization on the basis of the indices discussed. What unites these leading countries is a sophisticated strategic concept with priorities and target criteria, the use of very large financial resources (directly and indirectly via research and development), networking at the strategic level (between federal and state governments, industry associations, universities, etc.), networking at the operational level: companies, research institutions, universities, industry associations, etc. to promote learning from each other and free online training and information services for SME managers, employees and the general population.

The chapter on the status quo in Austria, briefly introduces existing Austrian funding related to digitization. In addition, the chapter reports assessments of experts involved in the administration and management of these funding instruments.

The empirical part of the present report consists of three studies – carried out in the period from November 2019 to January 2020 (i.e., before the COVID-19 crisis): a

qualitative in-depth interview study with 20 SME managers, a quantitative survey study with 210 SME managers and a quantitative survey study with 300 SME employees.

Results from the qualitative in-depth interviews and the quantitative surveys with companies show that many managers do not consider the digitization of their companies to be important and therefore do not intend to use digital technologies in the future. More specifically, managers do not see how concrete digital technologies can increase their companies' productivity and thus generate real added value. The in-depth interviews show that especially in industries that traditionally maintain close and direct contact with customers (gastronomy, insurance, etc.) there is a fear that digitization will erode the specific characteristics of the industry. Other barriers to digitization are the lack of time during day-to-day business, a lack of knowledge about specific applications and fears like high costs, possible dependence on providers or lack of acceptance by customers.

The quantitative survey on the SME management allows to statistically evaluate all barriers to digitization projects in combination by applying regression analyses. Of all the barriers surveyed, such as lack of time, financial resources or limited supply of digitization technologies, only motivational variables are significant predictors for a company's intention to implement digitization projects. Confirming previous international studies, the present results show that the interest in digitization and the assessment that digitization increases a company's productivity, determine whether a company will pursue digitization or not.

Furthermore, the results show that especially entrepreneurs who completed an apprenticeship and who have few employees, have few existing digital projects and do not intend to use more digital technologies in the future. These companies with little initiative probably need to be contacted personally and individually to demonstrate how they can increase their profits in the short term through a certain technology and concrete industry-specific applications.

The in-depth interviews show that companies that are interested in the use of digital technologies call in external consultants but also have own (young) employees who then attend special training courses. The companies are looking for excellent quality in further training, support in selecting the best experts and networking with other SMEs, universities or industry (e.g. through job rotation between companies, study trips). The managers also see that they have the greatest need for training in online marketing and e-commerce, thus confirming the results of international comparative studies. Due to the COVID-19 crisis and its social distancing measures, the field of online marketing and online trade has become even more important, because during the lockdown it is one of the few – if not the only way to get in contact with customers. A further aspect, which

did not appear in the surveys, but which might have become important in times of social distancing, is home office. Supporting SMEs to continue to operate via home office can determine whether a company can be economically active at all.

The survey of employees showed that older employees have statistically significantly fewer skills and also less motivation to continue their training compared to younger employees. These circumstances could be exploited in reversed mentoring programs where the young employees are trained to explain new technologies to older employees and to advise them about further (online) training offers. Also, vocational training could be used to train young employees to disseminate digitization knowledge into companies. During COVID-19 related social distancing measures, younger people can also inform their older colleagues over the telephone about new communication tools and digital training opportunities via the internet.

Austria also has many companies with a high motivation to use digital technologies in the future. These are particularly large companies with managers who have a higher educational qualification. These companies are also motivated to use cutting-edge technologies (big data, robotics), but need more know-how about how they concretely can implement these technologies in their companies as well as subsidies for acquisition costs. The existing offers of the FFG (Austrian Research Promotion Agency) would be very interesting for these companies. The Digital Pro Bootcamps allow the conception of shorter training courses, while the Research Skills for Businesses allow the implementation of long-term training courses and Digital Innovation Hubs serve as information centers on specific topics. Unfortunately, only a few companies are aware of these programs – a central point where companies can obtain information on the entire range of subsidies and services is missing. In addition, some programs do not allow for much planning because their monetary endowments are often quickly exhausted and not available on a regularly basis.

The results of the present empirical studies represent the situation before the COVID-19 crisis. It is likely that the motivation to deal with digital technologies has increased in many companies and among employees under the impression of the COVID-19 related lockdown and the social distancing measures. The importance of online marketing and trade for economic survival, by now, most likely is clear to many. However, entrepreneurs and employees who are particularly digitization-averse, especially older people with a lower formal level of education, might still show little initiative and probably hope that everything will quickly return to normal or not affect them. Given that many people are now affected by short-time work and unemployment, the situation should be used productively for industry-specific training on digitization.

In the final chapter, the authors propose the following measures to promote digitization in Austrian SMEs:

1. **Strategy development and focusing.** In line with the situation in Austria and based on the strategies of South Korea and the Scandinavian countries, a focus on online marketing and e-commerce as well as digitization and automation of production could be made. A particular focus on the promotion of home office readiness seems to have a special relevance due to the COVID-19 related social distancing measures.
2. **Establishment of a national digital coalition.** Representatives of the federal states and the federal government, social partners, universities, etc. should regularly inform each other and develop strategic goals and plans for implementation.
3. **Establishment of a central information point** for further education offers, online learning materials, and networking opportunities. Through information campaigns (e.g., by the Austrian Economic Chamber) and targeted behavioral economic interventions, SME employees could be motivated to participate in further training.
4. **Use COVID-19 related short-time work or unemployment for further training.** For people who are in short-time work or unemployed due to COVID-19 and the corresponding social distancing measures, it would make sense to train them in digital skills based on the needs in their industry.
5. **Further development of the program “KMU Digital”**, in particular with demonstration workshops for companies with little skills and with new incentives for consultants to advise especially those companies that have the greatest need. In times of COVID-19 and social distancing measures, the consultations can be initiated by telephone, the demonstration workshops can be held as online workshops. To the extent possible, the consultants support the companies in online participation and subsequent implementation of the projects. In addition, the workshops and projects can deal specifically with problems and challenges in times of the COVID-19 and social distancing.
6. **Further development of FFG programs**, especially through reliable financing and through the development and publication of learning materials concerned with digitization.
7. **Increase of the budget to support SME research and development expenses** to a level similar to that of the frontrunner countries.
8. **Expanding the infrastructure for broadband internet in rural areas.**