

Which SMEs use digital platforms?

No. 303, 29 October 2020

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Digital platforms are services that enable a wide range of interactions such as information, intermediation, transaction processing and comparisons between diverse groups of users. From a business point of view, for example, they provide the advantage of being able to reach large groups of customers. But they also change the relationship between suppliers and customers. Digital platforms can significantly change the markets and sectors involved.

The use of platforms is widespread across the SME sector, with a share of 37%. This shows that many small and medium-sized enterprises see platforms as a useful tool and that the barriers for their use are not excessively high. Other digital technologies that are currently being considered important as well are used much less often by SMEs. Early adopters of platforms are large SMEs and enterprises providing knowledge-based services, as well as R&D-intensive manufacturers. What is also apparent is that young businesses and companies with a high proportion of young employees are often active on digital platforms.

The key finding of the survey is that enterprises which employ university graduates, have a digitalisation strategy or innovate are also more likely to use platforms. However, undertaking own research and development (R&D) and bringing forth original innovations does not mean a use of platforms to an extent that goes beyond those activities. This indicates that being receptive to novelty, exploring the benefits and challenges of digitalisation and developing a certain amount of expertise concerning digital technologies are crucial to the use of digital platforms. But it does not require a scientific working method or the ability to develop new-to-market innovations. Importantly, what has become clear is that enterprises which spend above-average amounts on digitalisation are not more frequently active on digital platforms than those that spend average sums on digitalisation. This, too, indicates that the effort required to be able to use digital platforms can be described as rather moderate.

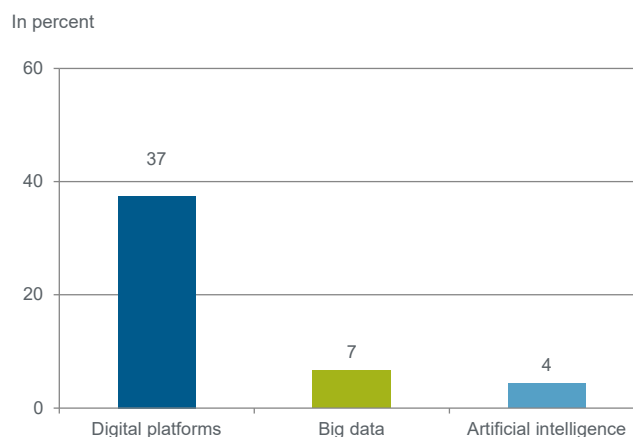
The importance of digital platforms can therefore be expected to continue growing in the years ahead. As a result, the risks which digital platforms are seen to be associated with from an economic point of view will increase as well. The current debate about the market power of digital platforms and their effect on reducing competition is therefore important to limit possible adverse effects of the 'platform economy'.

Digital platforms have been a well-known and essential feature of our everyday lives for some years now. They are

typically provided by large, globally operating US and, increasingly, Chinese companies. In the SME sector, different variants of e-commerce play an important role. In 2018, 26% of SME turnover was generated through electronic channels.¹ In the following we examine how intensely small and medium-sized enterprises use digital platforms for their business activity. The analysis is based on the data collected from the survey of the KfW SME Panel 2019.

Digital platforms are intermediaries that enable interaction between different user groups.² Their services for business customers range from providing information / establishing customer contact to intermediation, transaction processing, enabling the exchange of goods and comparisons. What is characteristic of platforms is that they are geared to the behaviour and usage patterns of the relevant user groups and shaped by strong network effects.³ Network effects mean that as the number of users rises, so does the benefit for the individual user.

Figure 1: Use of digital platforms in SMEs compared with other digital technologies



Note: Figures extrapolated to the number of enterprises.

Source: KfW SME Panel 2019, own calculations

But platforms are not an entirely new phenomenon. They have always been used to organise transactions, for example in the form of mediaeval markets or early modern securities or commodity markets. While traditional platforms were constrained by natural growth boundaries (capacity limits, transaction, transport or travel costs), these costs are significantly lower on digital platforms. Digital platforms are therefore characterised by high scalability.⁴

Rapid advances in data storage and processing capabilities are technical requirements for this. They enable the systematic collection and processing of available information, including user behaviours. That, for its part, enables the various

offerings to be efficiently matched with the user's preferences and it is at the core of many digital platforms.

Digital platforms can be of interest to small and medium-sized enterprises in many ways. Sales and payment transaction platforms provide the advantage that they enable businesses to reach a large group of customers and offer a broad product assortment.⁵ For these reasons, platforms appeal to businesses for procurement as well. They can also be used for customer contacts and marketing. By comparison, hotel, accommodation, mobility and financing platforms⁶ are likely to be of secondary importance to small and medium-sized enterprises.

However, because they act as intermediaries, platforms also alter the relationship between producers and customers. They can create new dependencies for businesses, siphon off a large proportion of profits and increase the risk of price competition. From an economic point of view, platforms can generate considerable changes in markets and sectors by replacing traditional intermediaries (e.g. brokers and travel agents) or enable transactions that have not taken place previously because of coordination problems. The network effects and high scalability of platforms potentially enable platforms to gain market power and even create monopolistic structures, thereby restricting competition.⁷ One of the concerns this raises is that it may slow down innovation activity as well.⁸

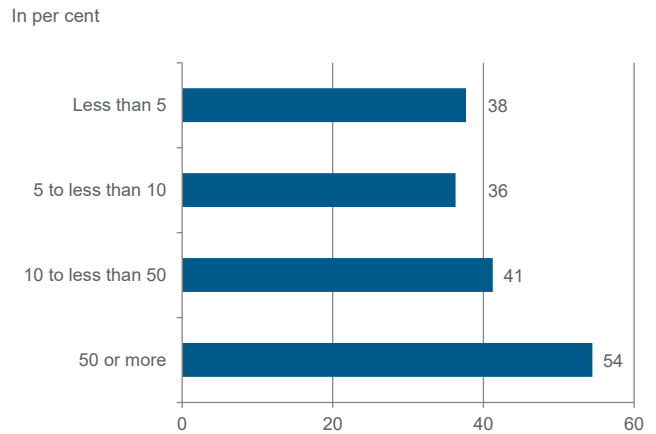
Widespread use of digital platforms in the SME sector

Overall, nearly two fifths of SMEs use digital platforms (including a negligible share of companies actively involved in developing platforms).⁹ Digital platforms are thus used much more broadly by SMEs than, for example, big data applications or artificial intelligence applications (Figure 1). The use of platforms is therefore a good example that SMEs are receptive to digitalisation and prepared to embrace new technologies if they promise success and their use does not pose excessively high barriers.

Many small businesses use digital platforms

A high proportion of small businesses with fewer than five employees – 38% – also uses digital platforms. In sales platforms in particular, what drives this is probably the fact that such platforms make it relatively easy to access a large number of potential customers and that they are typically easy to use. The share of large SMEs with 50 or more employees that use digital platforms is an even higher 54%. This is probably due to the frequently observed phenomenon that larger enterprises are generally more active in digitalisation than small businesses. One likely reason for this is that digital solutions also generate greater utility for them because of their broader activities.¹⁰ The increase across size classes, however, is relatively moderate since such solutions are already widespread among small businesses.

Figure 2: Use of digital platforms by company size



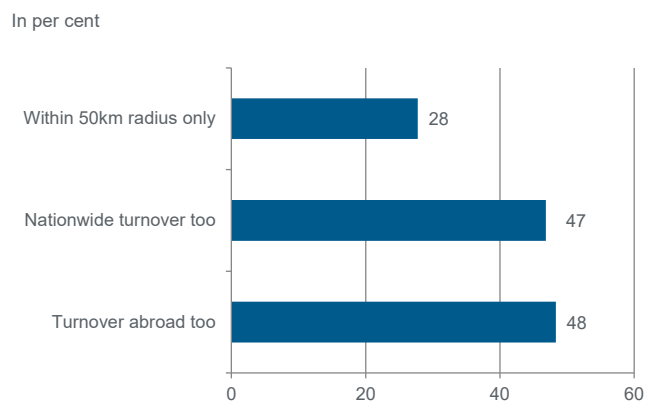
Note: Figures extrapolated to the number of enterprises.

Source: KfW SME Panel 2019, own calculations

Enterprises with supra-regional operations are more likely to use digital platforms

Businesses with supra-regional operations use digital platforms more often than SMEs that serve only their region (Figure 3). The argument of being able to reach a large number of potential customers while saving the high cost of maintaining personal contacts supports this observation as well. The share of platform users rises from 28% for businesses with regional sales to 47% for SMEs with Germany-wide sales. Whether enterprises generate additional turnover abroad, however, does not play a role in platform use. But since companies with supra-regional operations tend to be larger and, for example, more likely to employ graduates and innovate, this finding for the sales region is likely to reflect these features as well.

Figure 3: Use of digital platforms by sales region



Note: Figures extrapolated to the number of enterprises.

Source: KfW SME Panel 2019, own calculations

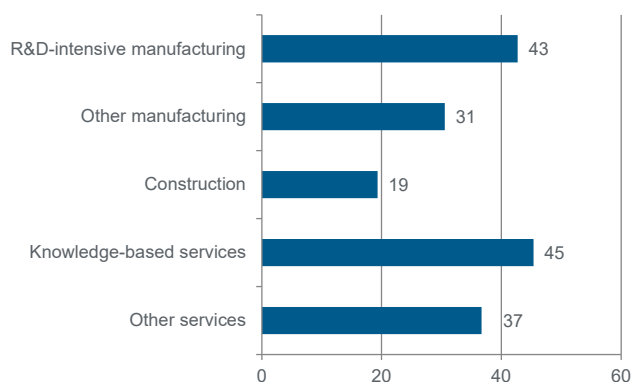
Knowledge-based service providers and R&D-intensive manufacturers are leading the field

The sector comparison shows that companies from the knowledge-based services sector top the list with a share of users of 45% (Figure 4). These include, for example, media, IT and information services, law firms, tax consultancies and management consulting firms. R&D-intensive manufacturing is just behind, with 43% of enterprises. This sector includes

mechanical engineering, electrical engineering and chemicals, for example. Here, too, there are similarities to digitalisation activities as a whole. In this sector, the share of enterprises with completed digitalisation projects is also higher.¹¹

Figure 4: Use of digital platforms by economic sector

In per cent



Note: Figures extrapolated to the number of enterprises.

Source: KfW SME Panel 2019, own calculations

In the construction sector, by contrast, digitalisation is less common than in other sectors, probably due in part to the fact that there are limited possibilities for digitalising direct service delivery. And at 19%, the use of digital platforms is also lower here than in other sectors. Apart from the fact that digitalisation is generally less common in the construction sector, one reason may also be that in the skilled trades specifically many businesses have abandoned digital platforms again after a short period of use.¹²

Employing graduates encourages the use of platforms ...

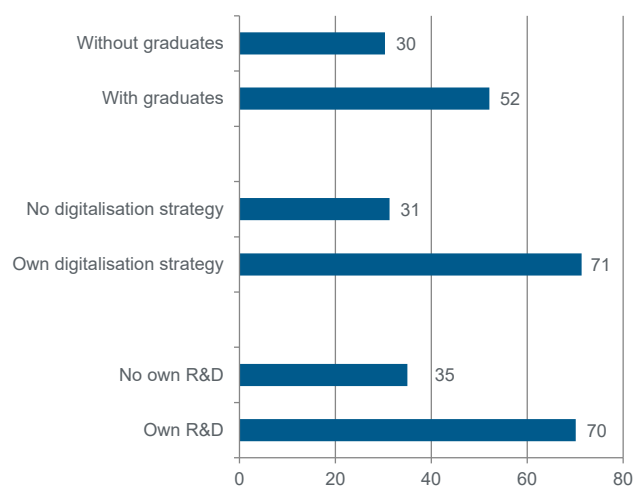
Figure 5 shows the use of digital platforms according to different indicators of the knowledge base existing in an enterprise. The share of platform users in businesses that employ graduates is 52%. This share is therefore almost three quarters higher than in businesses without graduates. The likely reason for this is that human capital is an important source for the creation and use of traditional as well as digital innovations. Hiring employees with a university degree is a strong driver for the implementation of such projects in enterprises.¹³ A university degree possibly makes graduates more adept at acquiring new knowledge and adopting new technologies (absorptive capacity)¹⁴ than other educational pathways.

... and so does having a digitalisation strategy ...

At 71%, the proportion of SMEs that have a digitalisation strategy and use platforms is even higher. Compared with enterprises that have no digitalisation strategy, these enterprises are 2.3 times more likely to use platforms. Having a digitalisation strategy shows that the enterprise in question is closely examining the opportunities and challenges involved in digitalisation, is building expertise and has drawn conclusions from it for its further course of action. This is the process which the relevant enterprises have probably followed to identify the benefits digital platforms have for their business.

Figure 5: Use of digital platforms by in-house knowledge basis

In per cent



Note: Figures extrapolated to the number of enterprises.

Source: KfW SME Panel 2019, own calculations

... and undertaking own R&D

In enterprises that conduct their own R&D, the share of platform users is almost the same, at 70%. Carrying out R&D shows that an enterprise is systematically working on developing and implementing innovations using a scientific approach.¹⁵ What is remarkable in this finding is that the share of platform users among SMEs that undertake R&D is no higher than among those that have a digitalisation strategy. It is an indication that carrying out own R&D does not drive the use of platforms more strongly than having a digitalisation strategy. Thus, having specific expertise such as that generated by an enterprise's own R&D does not provide an additional advantage for the use of platforms.

Innovators use digital platforms more often

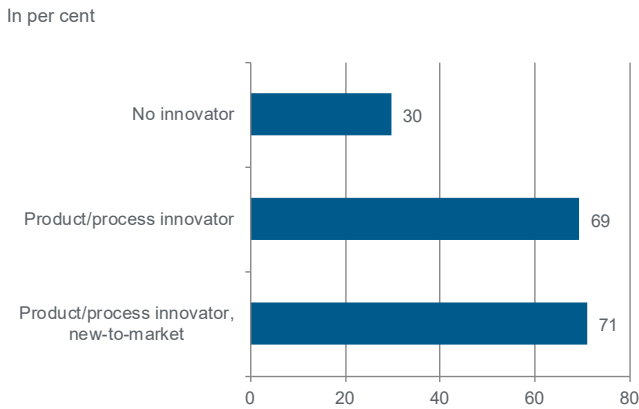
This is consistent with the finding that enterprises which have innovated in the past also use digital platforms more often but also that the share of users among SMEs with innovations that are at once new-to-market innovations is not higher (Figure 6). Therefore, using platforms does not require the expertise and creativity needed to develop original innovations. This is likely due to the fact that using a platform does not require a company to develop one itself but that a meaningful application can be identified within the company and the expertise required to use platforms available in the market exists within the company.

The use of digital platforms is not concentrated in companies with high digitalisation expenditure

Figure 7 shows the use of digital platforms according to how much an enterprise currently spends on digitalisation. The use of digital platforms rises initially with the amount spent on digitalisation each year, from 27% in the group of enterprises that spend nothing on digitalisation to 72% among enterprises that spend between EUR 5,000 and EUR 15,000 on digitalisation. The amount which enterprises of this group spend on digitalisation is thus still below the average amount

of EUR 17,000 which an SME spends on digitalisation each year.¹⁶ This increase is consistent with the consideration that enterprises which are more actively involved with digitalisation are also the ones that use platforms more often, as was already observed for those that have a digitalisation strategy.

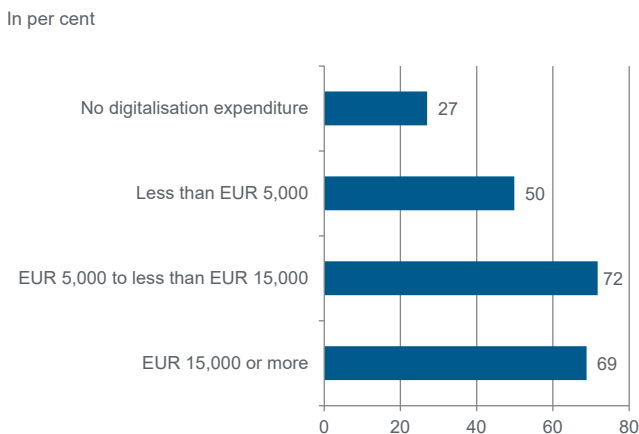
Figure 6: Use of digital platforms by type of innovator



Note: Figures extrapolated to the number of enterprises.

Source: KfW SME Panel 2019, own calculations

Figure 7: Use of digital platforms according to how much an enterprise spends on digitalisation



Note: Figures extrapolated to the number of enterprises.

Source: KfW SME Panel 2019, own calculations

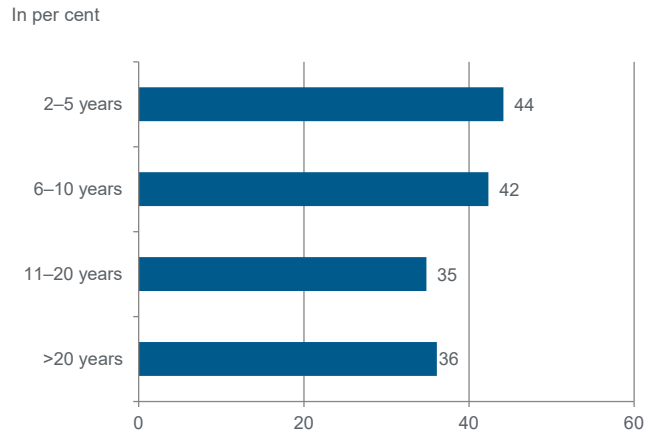
The fact that enterprises which spend even more on digitalisation do not also use digital platforms more often is noteworthy. It can be seen as an indication that the intensity with which enterprises have to deal with digitalisation in order to be able to use digital platforms is limited. Familiarisation with relevant tools and using them requires a certain amount of preparation and understanding but that can be acquired with moderate effort.

Using digital platforms is also a question of age

Finally, using platforms is also a question of the age of both the enterprise and its workforce. Young enterprises use digital platforms more often than enterprises that have been operating for 11 or more years, with rates of 42 to 44% as opposed to 35% (Figure 8). One likely reason for this is that today's start-ups are better positioned digitally to begin

with,¹⁷ while older enterprises whose business models have worked without digitalisation in the past now have to first explore the opportunities offered by digitalisation.

Figure 8: Use of digital platforms by age of business

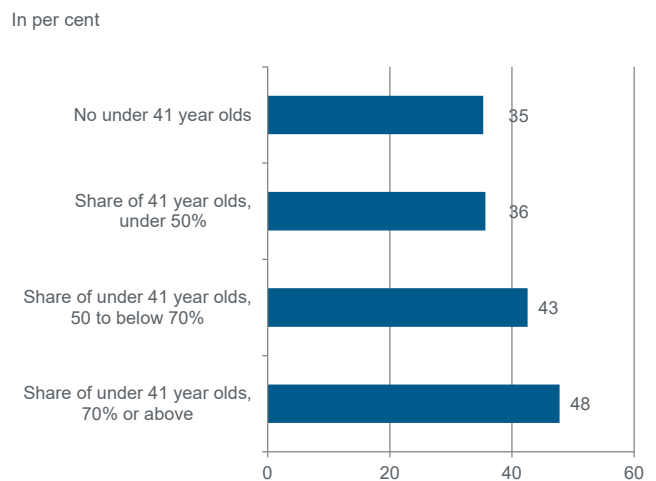


Note: Figures extrapolated to the number of enterprises.

Source: KfW SME Panel 2019, own calculations

The age composition of the workforce also plays a role in the extent to which platforms are used. Enterprises that employ a high share of young workers are more likely to use digital platforms (Figure 9). Studies have come to the conclusion that young people in particular use digital technologies sooner in their day-to-day work than older workers.¹⁸ The broad dissemination of digital platforms in enterprises with young employees is likely due to the fact that younger people more readily adopt and are more familiar with digital technologies. This finding corroborates the importance of digital natives for successful digitalisation, an aspect that is often emphasised in the public debate.

Figure 9: Use of digital platforms by age composition of workforce



Note: Figures extrapolated to the number of enterprises.

Source: KfW SME Panel 2019, own calculations

Conclusion

With a share of just under two fifths, the use of platforms is widespread in the SME sector. This shows that many small and medium-sized enterprises see platforms as a useful tool and that the barriers for their use are not excessively high.

What is particularly interesting with respect to the use of digital platforms is the finding that although enterprises that employ graduates, have a digitalisation strategy or innovate are also more likely to use platforms but that conducting own R&D and generating original innovations does not go hand-in-hand with a more widespread use of platforms. Another finding is that enterprises which spend above-average amounts on digitalisation are not more active on digital platforms than enterprises that spend average amounts on digitalisation. This indicates that the effort required to be able to use digital platforms can be described as rather moderate. These findings are consistent with the realisation that platforms are geared to the needs of their users and aim to be user-friendly – not least in order to secure their loyalty.

Using platforms thus appears to be economically advantageous for many small and medium-sized enterprises. In this way, SMEs actively contribute to their dissemination and

the structural transformation they generate. The findings of the survey suggest that platforms will continue to gain popularity in future. The upheavals are also likely to accelerate in the affected markets.

As a result, the risks which digital platforms are seen to be associated with from an economic point of view will also increase. At present, there is intense debate in particular about the market power of digital platforms and their potential ability to restrict competition. This debate appears to be necessary in order to avoid potential negative consequences that may arise from markets dominated by platforms.

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¹ Cf. Schwartz, M. (2019): **KfW SME Panel 2019: After a record year, dark clouds are gathering – businesses between all-time highs and recession fears**, KfW Research.

² Cf. Rochet, J.-C and Tirole, J. (2003): Platform Competition in Two-sided Markets. *Journal of the European Economic Association*, 1(4), p. 990–1029, or Caillaud, B. and Jullien, B. (2003): Chickens & Eggs: Competition among Intermediation Service Providers. *RAND Journal of Economics*, 34(2), p. 309–328.

³ Cf. Armstrong, M. (2006): Competition in Two-sided Markets. *RAND Journal of Economics*, 37(3), p. 668–691, or Evans, D. S. and Schmalensee, R. (2007): The Industrial Organization of Markets with Two-Sided Platforms. *Competition Policy International*, 3(1), p. 151–179.

⁴ Cf. Lenz, F. (2020): Plattformökonomie – zwischen Abwehr und Wunschdenken (*Platform economy – between resistance and wishful thinking* – our title translation, in German only), *Zeitthemen* 03, Berlin, Stiftung Marktwirtschaft.

⁵ Cf. Herda, N.; Friedrich, K. and Ruf, S. (2020): Plattformökonomie als Game-Changer (*Platform economy as a game changer* – our title translation, in German), *Strategie Journal* (3), p. 4–9.

⁶ KfW Research plans to analyse SMEs' use of financing platforms this autumn.

⁷ Vgl. Haucap, J. (2020): Plattformökonomie: neue Wettbewerbsregeln – Renaissance der Missbrauchsaufsicht, (*Platform economy: new competition rules – renaissance of abuse control* – our title translation, in German only) *Wirtschaftsdienst* 100 (Iss. Konferenzheft), p. 20–29 and Wambach, A. and Weche, P. (2020): Sektorübergreifende Konzentrations- und Margenzunahme: Bestandsaufnahme, Ursachen und Folgen (*Cross-sector increase in concentration and margins: current status, causes and effects* – our title translation, in German only), *Perspektiven der Wirtschaftspolitik* 21(2), p. 120–136.

⁸ Cf. Aghion, P.; Bergeaud, A.; Boppart, T.; Klenow, P.J. and Huiyu, L. (2019): A Theory of Falling Growth and Rising Rents, NBER Working Paper No. 26448

⁹ The question was worded as follows: 'Did you use or develop digital platforms yourself in your company in the years 2016–2018?'

¹⁰ Cf. Zimmermann, V. (2020): **KfW SME Digitalisation Report 2019. Digitalisation projects are gaining traction in the SME sector but digitalisation expenditure has remained low for years**, KfW Research.

¹¹ Cf. Zimmermann, V. (2020): **KfW SME Digitalisation Report 2019. Digitalisation projects are gaining traction in the SME sector but digitalisation expenditure has remained low for years**, KfW Research.

¹² Cf. Proeger, T.; Meub, L.; Thonipara, A.; and Bizer, K. (2019): Digitale Plattformen im Handwerk - eine Analyse von MyHammer und ProvenExpert, *Göttinger Beiträge zur Handwerksforschung* 32 (*Digital platforms in skilled trades – an analysis by MyHammer and ProvenExpert* – our title translation, in German only), Institute for Small Business Economics at the University of Göttingen.

¹³ Cf. Hottenrott, H and Peters, B. (2012): Innovative capability and financing constraints for innovation – more money, more innovation? *Review of Economics and Statistics* 94(4), p. 1126–1142, and Zimmermann, V. (2018): (2018): Determinants of digitalisation and innovation behaviour in the SME sector, *Focus on Economics* No. 236, KfW Research.

¹⁴ Cf. Cohen, W. M. and Levinthal, D. A. (1990): Absorptive-Capacity - A New Perspective on Learning and Innovation, *Administrative Science Quarterly* 35(1), p. 128–152.

¹⁵ Cf. OECD (2015) (publisher), *Frascati Manual 2015. Guidelines for collecting and reporting data on research and experimental development*.

¹⁶ Cf. Zimmermann, V. (2020), **KfW SME Digitalisation Report 2019. Digitalisation projects are gaining traction in the SME sector but digitalisation expenditure has remained low for years**, KfW Research.

¹⁷ Cf. Lubczyk, M., 2019: Digitalisierung in Unternehmen – Gründungen sind einen Schritt voraus (*Digitalisation in enterprises – start-ups are one step ahead* – our title translation, in German only), *Junge Unternehmen* No. 8: 3–5.

¹⁸ Cf. Meyer, J. (2011): Workforce age and technology adoption in small and medium-sized service firms, *Small Business Economics* 37(3), S. 305–324, or Weinberg, P. (2004): Experience and technology adoption, *IZA Discussion Paper* 1051.