



KfW Research

# »»» KfW Start-up Report 2018

Number of start-up founders  
increased to 108,000 in 2017

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Economics Department

Palmengartenstrasse 5-9

60325 Frankfurt am Main

Phone +49 69 7431-0, Fax +49 69 7431-2944

[www.kfw.de](http://www.kfw.de)

Author

Dr Georg Metzger, KfW Group

Phone +49 69 7431-9717

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# Number of start-up founders increased to 108,000 in 2017

## Number of business founders has increased

In 2017 there were 108,000 start-up founders with 60,000 start-ups in Germany, more than the year before. Start-up founders are innovation- or growth-oriented and therefore of particular economic interest. The widespread public perception of start-up founders is correct in many points but partly distorted.

## Young, male, graduate!?

Start-up founders are younger than other young entrepreneurs – but on average by just 3 to 5 years. Even if the share of founders below the age of 30 is significantly higher, one start-up founder in six is over the age of 50. Women are even more underrepresented as start-up founders than they are in business founding in general. This is also a consequence of the high proportion of STEM graduates. What this means is that if more women can be inspired to take STEM degree courses (or technical training in general), there will be more female start-up entrepreneurs.

## Internet-based, digital, international

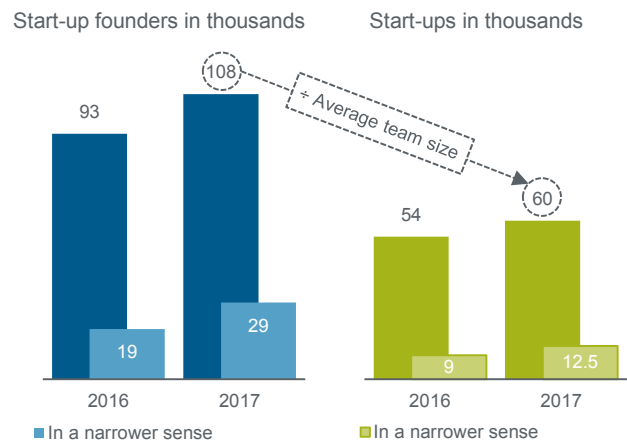
Start-up founders' innovation or growth orientation is reflected in the fact that their projects are more likely to be internet-based, digital and international. The reason is that these characteristics stand for more efficient sales channels, higher scalability and larger markets. This leads to a higher capital requirement. Alternative providers of external capital are more important to meet start-up entrepreneurs' capital needs. But they also face more difficulties in financing their start-ups. Start-up entrepreneurs are also more geared towards business customers than other young entrepreneurs, which distinguishes them from internationally successful start-ups. In future, however, their B2B focus may be of advantage.

## Start-ups: hope for tomorrow's economy

In Germany, 'start-up' has become a generally accepted term to describe innovative or growth-oriented young enterprises. Start-ups help to make new technologies socially acceptable, break up encrusted structures and create jobs of the future. Google and Facebook are two such start-ups of the past 20 years that have managed to do all that. They have changed our everyday lives, especially our use of information and our social behaviour. Founded in 1998 and 2004, they are today among the world's five most valuable

companies and collectively employ more than 100,000 people. Google and Facebook are not the only success stories. There are numerous other examples of start-ups that became large enterprises in a relatively short time. In August 2018 there were more than 260 businesses worldwide that are known as unicorns – (non-listed) start-ups already valued at more than USD 1 billion. They, too, are expected to achieve great success. The leading unicorn from Germany is currently the used-vehicle platform provider Auto1 Group.<sup>1</sup> The potential of start-ups have aroused growing economic and political interest.

**Figure 1: 108,000 start-up founders with 60,000 start-up businesses in Germany – more than the previous year**



Source: KfW Start-up Monitor.

## Number of start-up founders has increased

Although start-ups are often the topic of public debate, there is no uniform definition. There is consensus that they are **innovation-driven or growth-driven** young enterprises. The KfW Start-up Report from the KfW Start-up Monitor shows that there were around 108,000 start-up founders with 60,000 young businesses in Germany in 2017 (Figure 1). In 2016 it was only 93,000 business founders with 54,000 start-up businesses. Much smaller, but also higher, was the number of young entrepreneurs who met both criteria, that is, who were **both innovation- and growth-oriented**. In 2017 there were 29,000 such start-up founders in a narrower sense, with 12,500 young businesses. In 2016 there were only 19,000 start-up founders with 9,000 start-up businesses in a narrower sense.<sup>2</sup>

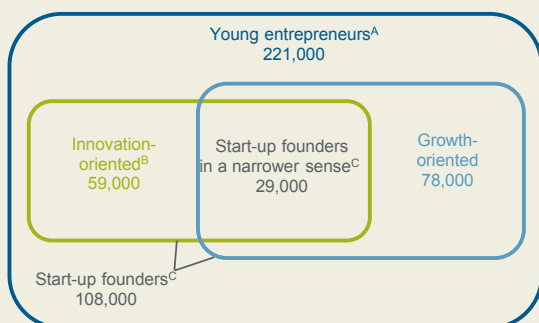
### Box: KfW Start-up Report of the KfW Start-up Monitor

The KfW Start-up Monitor is based on the information provided by 50,000 randomly selected persons domiciled in Germany. They are interviewed by telephone on an annual basis as part of a representative survey of the population. The survey focuses on business founders who set up a business in the preceding five years. It covers a broad range of start-ups: full-time and part-time entrepreneurs, self-employed professionals and business owners, new businesses and takeovers. That makes the KfW Start-up Monitor the only data source in Germany to provide a comprehensive picture of German start-up activity.

Start-up founders include all business founders in the KfW Start-up Monitor who set up their business not more than five years earlier, whose business is still active, who are running a commercial business (i.e. not self-employed), have co-founders or workers and were last working full-time. Based on this total population of young entrepreneurs (Figure 1), we distinguish between

- **start-up founders** who are innovation- or growth-oriented and
- **start-up founders in the narrower sense**, who are both innovation-oriented and growth-oriented.

**Figure 1: Start-up founders as innovation- or growth-oriented subset of all young entrepreneurs**



<sup>A</sup> Young entrepreneurs are all founders who founded their business no more than five years earlier, whose business is still active, who are running a business (i.e. not self-employed), have cofounders or workers and were last working full-time.

<sup>B</sup> Innovation-oriented founders are those who conduct research and development to make a technological innovation ready for the market or whose product or service is a new-to-market innovation at least in Germany.

<sup>C</sup> Start-up founders are all innovation- or growth-oriented young entrepreneurs. Start-up founders in the narrower sense are innovation- and growth-oriented.

Source: KfW Start-up Monitor.

The relatively big differences in the numbers of start-up founders from one year to another reflect the high start-up and closure dynamics existing in the start-up scene.

### Who starts up a business? Fact-checking the myths

The success of their start-ups also moved the founders of Google and Facebook into the public limelight and shaped the image of the start-up entrepreneur as young, male, student or student dropout. How accurate is this depiction? Is it a distortion or a reflection of reality? Actually, both! Young people, males and university graduates have an above-average entrepreneurial drive.<sup>3</sup> That means they are generally overrepresented among business founders compared with the population at large. This applies even more to start-up founders.

**Start-up founders are younger** than other young entrepreneurs, on average by 3–5 years (Figure 3, I). Nevertheless, their average age is mid- to late thirties. Start-up founders are therefore not per se in their twenties, even if their share in start-up founders is significantly higher than among other young entrepreneurs. Interestingly, this only lowers the relative share of 41 to 50-year-olds. Founders over the age of 50 are just as common as among other young enterprises – one in six is 51 years old or older. The founder's age is therefore probably sector-specific. For digital finance or insurance start-ups (known as FinTechs and InsurTechs), work experience is an advantage and even required by the regulator. Accordingly, founders in these sectors are likely to be older on average.

**Start-up founders are more likely to be male** than other young entrepreneurs (Figure 3, II). The already smaller share of female entrepreneurs decreases significantly once again to 10 to 20% among start-up founders. The reason is that female start-ups are more likely to offer solutions to practical problems of everyday life and are less likely to be geared to (technological) innovation or growth (that is, are less likely to conduct research and development, bring new supra-regional products or services to market or aim to grow 'as big as possible').<sup>4</sup>

**Start-up founders are more likely to be university graduates** than other young entrepreneurs (Figure 3, III). One young entrepreneur in four has a university degree, in start-up founders it is 35 to 45%, many of whom have a STEM degree. Start-up founders are also significantly more likely to be young graduates, meaning they started their business directly after or during their degree course. Student dropouts, by

contrast, are the exception – at least until they have earned their first degree. Universities thus make a very important contribution to the dynamics in the start-up scene with respect to both founders and technologies.

**Start-up founders are more likely to be opportunity entrepreneurs** than other young entrepreneurs (Figure 3, IV). Putting a business idea into practice is the dominant motive of start-up founders, whereas such opportunity entrepreneurs account for just under half the other young entrepreneurs. The will to innovate or grow is therefore usually driven by ideas and less by motives such as lack of income alternatives or self-realisation.

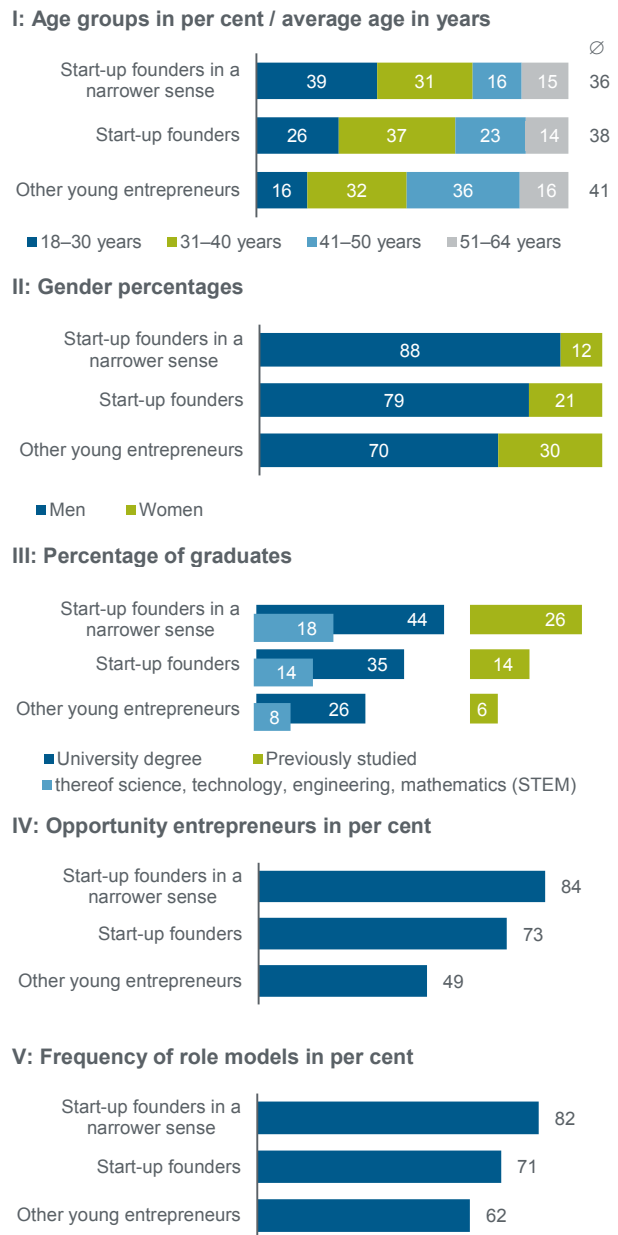
**Start-up founders are more likely to have role models** than other young entrepreneurs (Figure 3, V). Start-up founders up to the age of 40, in particular, are more likely than average to have friends or relatives who are also business founders. The educational background does not play a role here, a tertiary entrepreneurial background is therefore not crucial. It is possible that entrepreneurship is inspired by innovative or growth projects in particular.

**Internet-based, digital, international: a cliché, or start-up reality?**

Google and Facebook have also shaped the perception of start-ups as businesses: internet-based, digital, international. Does this characterisation reflect reality? What features prominently reflect innovation or growth orientation? The results are clear – and they confirm the cliché (Figure 4):

**Start-up founders are more internet-based** than other young entrepreneurs. The internet is therefore much more likely to be a core business element of start-up founders. This reflects both their innovation drive and their growth orientation. For one thing, the advantage of many new business models lies precisely in the use of the internet as a core element, as in the case of pure online banks, online shops or streaming services. Without the internet they would have no commercial basis. New platform solutions cannot exist without an internet connection either. Ideally, all of this can be used wirelessly. For another, internet-based business models are more easily scalable as potential users (customers) are only a mouse click away. This enables faster growth.

**Figure 3: Start-up founders are more likely to be male, young, graduates and have role models**



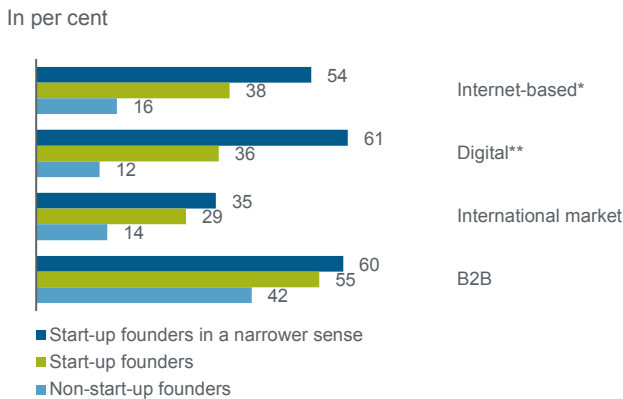
Source: KfW Start-up Monitor.

**Start-up founders are more digital** than other young entrepreneurs. This reflects their orientation towards innovation. After all, they work on digital solutions that make things easier in almost every area of life. Start-up founders are trendsetters in this search by seeking commercial success with their digital solutions. Digital founders do not necessarily have internet-based business models to do this. Some of them develop specialised software, for example in the field of artificial intelligence.

**Start-up founders are more international** than other young entrepreneurs. Start-up founders therefore also approach customers outside German-speaking countries. This reflects their growth orientation. It is easier to grow in a larger market. They would put themselves in chains if they restricted their market to a particular region.

**Start-up founders are more geared towards business customers** than other young entrepreneurs. Start-up founders are more likely to target business customers (B2B), while most other young entrepreneurs focus on consumers (B2C). In this respect, German start-up founders differ from their famous US role models, which target private internet users. Their B2B focus also makes it particularly important for German start-ups to cooperate with established enterprises and possibly succeed in winning them over as pilot customers.

**Figure 4: Projects of start-up founders are more often digital, internet-based, international and geared to business customers**



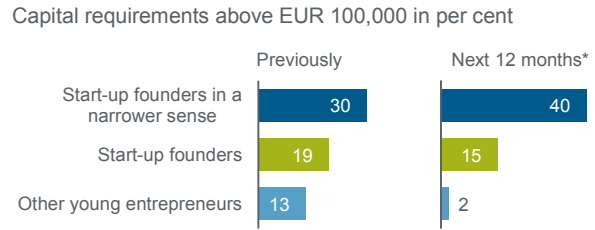
\* The internet is a core element of the enterprise. \*\* Customers must use digital technologies to be able to use the product or service.

Source: KfW Start-up Monitor.

**Start-up founders have higher capital requirements**

Young enterprises usually depend on funds from the founders or from external providers of capital. A large portion of young enterprises get by with up to EUR 100,000 and the majority even require EUR 25,000 or less. In start-ups the ratios have shifted towards larger financing requirements (Figure 5). Besides, significantly more start-up founders expect to require more than EUR 100,000 from providers of external capital in the next 12 months. The vast majority of other young entrepreneurs do not have such funding requirements. Reasons for start-ups' higher capital requirements include high research and development expenditure in the context of innovation activity or rising labour costs resulting from growth.

**Figure 5: Start-up founders have higher capital requirements**

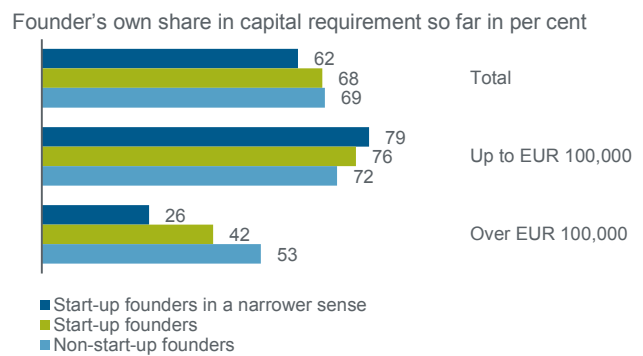


\* From providers of external capital in 2018.

Source: KfW Start-up Monitor.

The founders' own share in the capital requirement is only slightly lower than in other young enterprises across all start-ups. Where a start-up's capital requirement exceeds EUR 100,000, however, the founder's share is significantly smaller (Figure 6). One reason for this is that in start-ups in particular the capital requirement above the EUR 100,000 threshold becomes more varied with growing amounts and therefore the founder's own share, while remaining the same in absolute terms, is relatively lower. Another reason is the founders' socio-demographics, as younger entrepreneurs have less capital of their own to contribute. The higher capital requirement therefore makes it all the more important for start-up founders to attract providers of external capital.

**Figure 6: Start-up founder's own share decreases when capital requirement exceeds EUR 100,000**



Source: KfW Start-up Monitor.

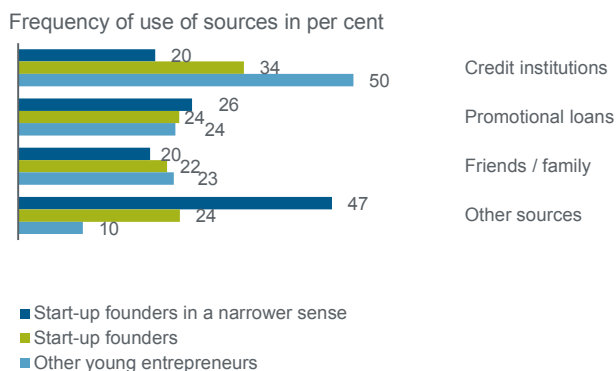
**Alternative providers of external capital are more important for start-up founders**

The capital providers which start-up founders resort to most often are credit institutions, family and friends and promotional institutions.<sup>5</sup> Classic loans from credit institutions are also the first choice for young entrepreneurs. Half of all young entrepreneurs used classic loans from credit institutions to meet their external capital requirement (Figure 7). This was not the case for start-ups. Credit institutions are funding partners for only one start-up founder in five.

Instead, start-up founders make more use of alternative sources of capital. Funding alternatives include private equity (from business angels, other private investors or venture capital firms) and various types of crowdfunding. One quarter to one half of start-up founders use such alternatives but only one in ten of the other young entrepreneurs. Promotional loans or capital from friends and family, however, are used by start-up founders and other young entrepreneurs in roughly equal proportions.

Just like their higher capital requirements, start-up founders' much more reduced use of classic bank loans is an expression of their innovation or growth orientation. While innovation and growth offer great opportunities, they are typically fraught with risk, too. Loans often do not fit with such a risk-return profile. This is because lenders normally cannot charge an interest rate that is in line with the high default risk – it would simply be too high.

**Figure 7: Start-up founders are much less likely to apply for credit – alternative sources predominate**



Source: KfW Start-up Monitor.

The low flexibility of credit repayment schedules does not fit with the often irregular cash flows produced by innovation and growth projects, which are more effectively financed with private equity. This does nothing to change the high risk but equity investors have the chance to generate a return that is in line with the risk. Successful innovation and growth projects increase the company value. So the more successful start-ups are, the higher the return for the investor from a sale of their interest in the business. This makes private equity a suitable form of funding for start-ups.

**Attracting customers, financial risk and infrastructure are much more often a challenge for start-up founders**

Because start-up founders more often have to find alternative sources of capital, it takes more effort for them to raise funds. Accordingly, they are more likely to

perceive problems financing their start-ups (table). In general, start-up founders face problems more often. They mention 12 of 17 start-up obstacles more often than other young entrepreneurs.

Five of the seven start-up obstacles typically mentioned by start-up founders are significantly more widespread among them. They are: attracting customers, financial risk, attracting workers, funding and infrastructure. Many start-up founders also regard red tape and burden on the family as barriers. However, other young entrepreneurs perceive red tape as a problem with similar frequency and they see running their own business even more often as a burden on the family. The latter can be explained with the age structure. Many of the younger start-up entrepreneurs have probably not started a family yet. The significantly less common concern among start-up founders about social descent in case of failure can also be explained by the larger share of younger entrepreneurs.

**Table: 12 of 17 start-up obstacles more widespread among start-up founders**

	Start-up founders i.n.s.	Start-up founders	Other young entrepreneurs
Attracting customers	53	30	19
Financial risk	52	43	31
Attracting workers	49	46	37
Bureaucracy	47	45	42
Funding	41	30	23
Burden for family	35	44	48
Infrastructure	33	28	14
Opportunity costs	26	16	14
Technical qualifications	25	17	15
Lack of suppliers	24	14	7
Lack of co-founders	20	16	8
Undeveloped business idea	20	16	10
Fear of social descent in case of failure	20	25	36
Business cycle	17	14	16
Business skills	12	14	20
Access to promotional funds	12	12	22
Being too old	4	3	9

Source: KfW Start-up Monitor.

### Start-ups: future challenges

Start-ups are young, innovation- or growth-oriented enterprises. Their function is to help spread new technologies, break up encrusted structures and create jobs of the future. Achieving great success is not a utopia for start-ups. Google and Facebook are two examples of successful start-ups of the past 20 years. In Germany the number of start-ups recently grew to around 60,000 in 2017. The image of start-ups and start-up founders that was shaped by US role models is often accurate.

Young people, males, graduates – especially STEM graduates – are found more frequently among start-up entrepreneurs. What is remarkable, however, is that one start-up founder in six is over the age of 50. Start-up projects of women are less frequently regarded as start-ups because they are less interested in fast growth. In addition, studies have shown that women more often question their business skills and technical qualifications.<sup>6</sup> This may be a reason for their lower growth orientation. But what is clear is that fewer women graduate from STEM degree courses – and therefore are less common in the start-up scene. So the equation is: more women in STEM=more women in start-ups!

Start-ups are often internet-based, digital and international. So they actually do help introduce new technologies into society. Start-ups need more capital than other young enterprises for their innovation and growth strategies. But they seek traditional loans less often and are more interested in alternative sources. Tapping into these sources is more challenging, which often makes funding more difficult for start-ups. Private equity is a particularly suitable form of funding for start-ups. Securing an adequate supply of private equity is therefore a key challenge for the development of a sustainable start-up ecosystem.

One thing that sets German start-ups apart from their US role models is that they focus more on business customers. Even the list of ‘unicorns’ – start-ups valued by their investors at more than USD 1 billion – is dominated by B2C enterprises, that is, those that target consumers. So is the B2B focus of German start-ups a growth obstacle? Perhaps. But it may also be an opportunity for the future. After all, the digitalisation of the economy has only just begun. When it has gathered momentum, start-ups that target business customers as digital partners might turn out to be the great winners. ■

<sup>1</sup> The US-based data provider CB Insights regularly publishes a worldwide list of unicorns at [www.cbinsights.com/research-unicorn-companies](http://www.cbinsights.com/research-unicorn-companies), last retrieved on 10 October 2018.

<sup>2</sup> Start-up founders had an average 0.8 (0.7) team partners in 2017 (2016), so an average team consisted of 1.8 (1.7) founders. Start-up founders in the narrower sense of the word had an average 1.4 (1.1) team partners, so a mean team consisted of 2.4 (2.1) founders.

<sup>3</sup> For details on the factors that determine a person’s decision to start a business see Metzger, G. (2018), **KfW Start-up Monitor 2018, Appendix of Tables and Methods** (in German only), KfW Research, page 7.

<sup>4</sup> Metzger, G. (2017), **Starting a business with kids: mompreneurs balance work and family life**, Focus on Economics No. 181, KfW Research.

<sup>5</sup> For more on the funding structure of start-ups see Metzger, G. (2018), **KfW Start-up Monitor 2018, Appendix of Tables and Methods** (in German only), KfW Research, page 19.

<sup>6</sup> E.g. Abel-Koch, J. (2014): *Gründerinnen holen auf – Selbstständigkeit als Weg in die Erwerbstätigkeit, ('Female business founders are catching up – self-employment as a pathway to economic activity' – in German only)*, Focus on Economics No. 71, KfW Research.