

Which role do education and training play in the digital transformation process?

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The focus of the digitalisation debate is often centred on technological progress and its diffusion into company processes. Less attention is accorded to the endeavours undertaken by companies to impart required competencies. This article uses the BIBB Training Panel to investigate the correlation between company promotion of competencies and use of technology.

Investments in education and training and technology – a question of size?

Employees play an important part in digital transformation; their many years of experience allow them to use the competencies they have acquired to shape the change (cf. PFEIFFER 2018). For this reason, the intention is to investigate the correlation between promotion of staff competencies and the degree of digitalisation at a company. Larger firms are more likely to have the opportunity to offer continuing training (cf. JANSSEN/LEBER 2015) and to invest in digital technologies (cf. GRIMM/BRITZE 2018). Nevertheless, the German economy is heavily sustained by SMEs (cf. SÖLLNER 2016). It is therefore important to monitor whether digitalisation will in fact become a "game for major players" or if small firms will be able to keep up.

Measurement of education and training orientation and of the degree of digitalisation

The BIBB Training Panel (cf. Information Box) differentiates between three types of company-funded advanced and continuing training.

1. Continuing training measures in the form of courses and seminars
2. Continuing training measures that do not take place in the form of a course, such as induction in the workplace or self-directed learning
3. Upgrading training that leads to the acquisition of rec-

ognised advanced training qualifications, i.e. formal qualifications at a higher level.

78 per cent of companies supported at least one of these three types of education and training in 2017. In 2016 or 2017, 33 per cent of companies had at least one trainee pursuant to the Berufsbildungsgesetz (BBiG) [Vocational Training Act] or Handwerksordnung (HwO) [Crafts and Trades Regulation Code] and are thus considered companies providing training for the purpose of this analysis. The BIBB Training Panel recorded the use of 13 technologies in order to identify a company's degree of digitalisation. The level of digitalisation was evaluated in quantitative terms by drawing up a linear index of these technologies, which was then converted into a three-point scale comprising a low, medium, and high degree of digitalisation (cf. WELLER/LUKOWSKI/BAUM 2019).

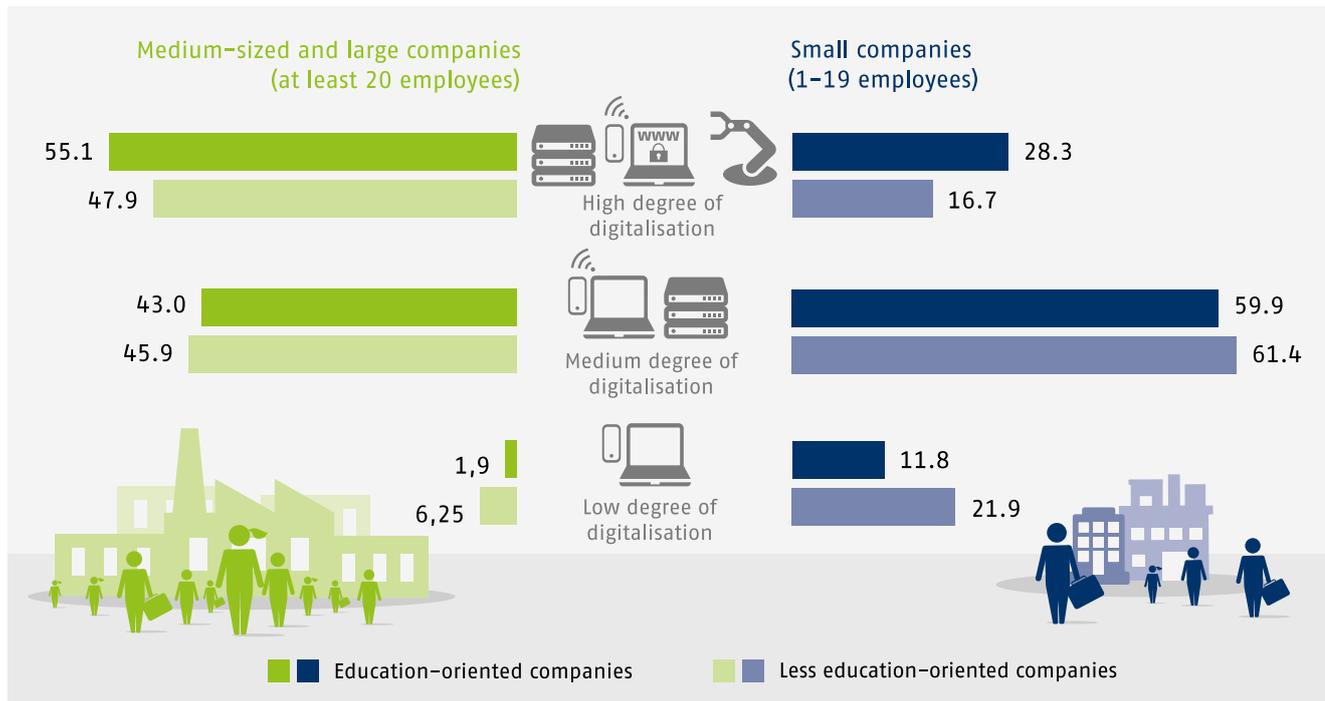
The correlation between promotion of competencies and degree of digitalisation is investigated by defining companies, which are more or less education-oriented. Companies which provide training and, in 2017, supported at least one form of advanced and continuing training were stipulated as being oriented to education and training. Companies, which do not currently provide training and/or do not support any types of advanced and continuing training are deemed to be less education-oriented.

BIBB Training Panel

The BIBB Establishment Panel on Training and Competence Development (BIBB Training Panel) is a survey which has been conducted annually since 2011. It is used to collect representative longitudinal data on the training activities of firms in Germany. Around 3,500 firms take part. Selection takes place via a disproportionately stratified sample of the statistical population of all companies with one or more employees subject to mandatory social insurance contributions. The focuses of the survey are companies' initial and continuing training activities, the recruitment of skilled workers, and company organisation. Data is collected via computer-aided personal interviews (CAPI). An ongoing module relating to digitalisation of the world of work was introduced in 2016 (for more information, cf. www.bibb.de/qp).

Figure

Correlation between orientation to education and training and degree of digitalisation separated by company size (in per cent)



Note: Company sizes are adjusted to the weighting variable.

Source: BIBB Training Panel, 2018 survey wave, n = 3,376, cross-sectionally weighted and extrapolated results.

Link between education and training orientation and degree of digitalisation

In comparative terms, companies that are oriented toward education and training are more than twice as likely to display a high degree of digitalisation as companies which are less so oriented. Around one fifth of companies that are less oriented toward education and training possess a low degree of digitalisation. This positive correlation between orientation to education and training and digitalisation is not only driven by medium-sized and larger companies. Although larger companies generally tend to be more digitalised, smaller firms have been shown to potentially exhibit a higher level of digitalisation if training of skilled workers is supported (cf. Figure).

Further research is required

The results show a significant positive correlation between training of skilled workers and a company's degree of digitalisation. Companies which are more oriented toward education and training also use more digital technologies. Education and training as well as digitalisation play a particular role within the scope of a company's overall strategy. It should be emphasised that this can be observed both for

small firms and for medium-sized and large companies, albeit to differing degrees. Nevertheless, the influence which education and training exert on each other – i.e. if more training brings higher digitalisation in its wake or vice versa – remains unclear. The relationship between digitalisation and training is also one of the subjects covered in the interview with Professor RICHARD MÜNCH, which was conducted within the scope of the BIBB Polarisation Project.* Further research into these dynamics is required. ◀

(Translation from the German original in BWP 3/2019:
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* Cf. www.bibb.de/de/94825.php (retrieved: 11.04.2019)