ETH zürich KOF

Press Release

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Investment in digitalisation: innovative strength and IT security raise productivity

Companies are looking to increase their productivity by investing in digital technologies. However, this can only happen if firms are innovative, adapt their organisational processes and invest in IT security. A new study shows that Swiss companies generally appear to underestimate the potential of digitalisation.

A company must be innovative to enable investment in digital technologies to increase productivity. In other words, it must be able to develop new products and services and market them effectively. This is the finding of a study carried out by KOF and the Chair of Production and Operations Management (POM) at ETH Zurich on behalf of the Swiss Association for Quality and Management Systems (SQS). The study also shows that the organisational structure of operational processes is key to the productivity of digital investment.

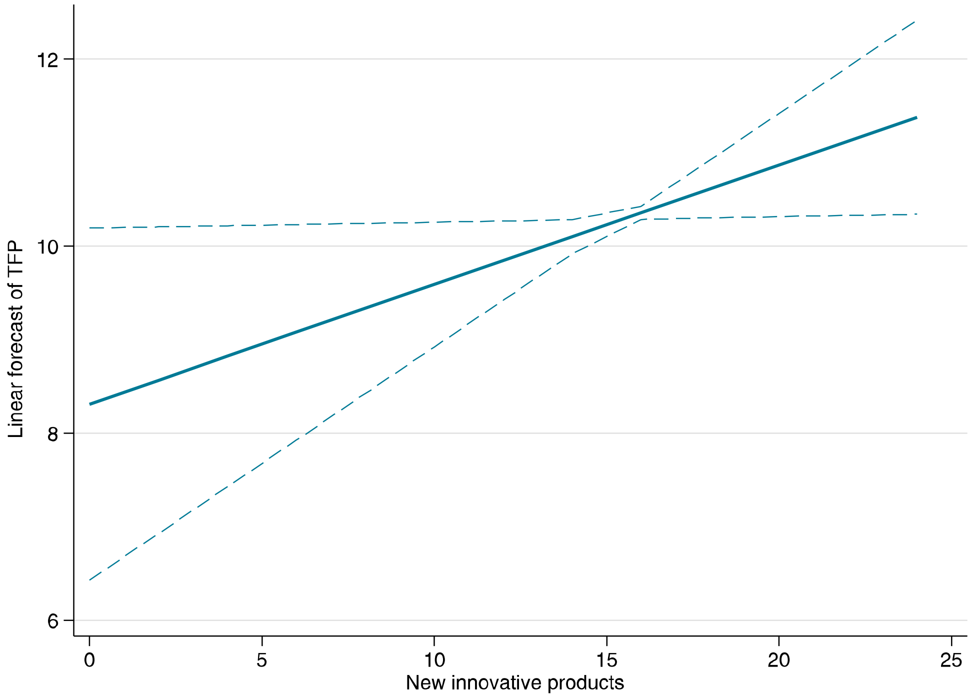
IT security also plays an important role: in order for digital investment to be employed productively, it is essential to invest in the use of security technologies. However, these security efforts must be extensive. The use of basic anti-virus programs or firewalls is not enough.

Swiss companies are not exploiting the full potential of digitalisation

It is clear that Swiss companies are generally underestimating the potential of digitalisation. They are using digital technologies primarily to maintain their competitive position rather than creating ground-breaking innovations or gaining long-term competitive advantages. Large companies and modern service providers are the exceptions here. They use digitalisation to redesign existing business models and reconfigure value chains.

Small and medium-sized enterprises (SMEs), by contrast, use fewer digital technologies than large companies on average. This is because of their restricted innovation potential and limited competitiveness. Other obstacles are their unsuitable workflows, a shortage of qualified staff and their lack of financial resources.

The study is based on data from the KOF Innovation Surveys from 2002 to 2016 and the Digitalisation Survey from 2016. The data from the KOF survey are representative of the Swiss economy and contain information on around 6,500 Swiss companies. The quantitative results are supplemented by ten case studies on technological and organisational transformations at Swiss firms.



Digital investment, innovation and productivity

N.B.: The findings of the study show the productivity-enhancing effect of digital investment by firms that have increasingly managed to commercialise innovative products and services. The chart shows the average marginal value of total-factor productivity (TFP) for all values of new products if the distribution of the other explanatory variables remains constant. The dashed line indicates the 90 per cent confidence interval.

A detailed article on the study can also be found in the latest issue of the KOF Bulletin:
https://kof.ethz.ch/en/news-and-events/news/kof-bulletin.html →

The entire study – including a summary – can be found here:
https://doi.org/10.3929/ethz-b-000432882 →

Contacts

Mathias Beck | beck@kof.ethz.ch
Martin Wörter | woerter@kof.ethz.ch
KOF Corporate Communications | phone +41 44 633 99 48 | kofcc@kof.ethz.ch