

Press Release

Zurich, 7 June 2017, 9.00 a.m.

Digitalisation Has Little Effect on Employment Review of digitalisation in the Swiss economy

In the period 2013 to 2015, staff numbers at Swiss companies hardly changed as a result of digitalisation. Over one third of the companies managed to improve their competitiveness. Most popular are technologies raising production efficiency (e.g. ERP), social media and e-procurement. These are the first results of a new survey on digitalisation.

In conjunction with the Chair of Labour and Organisational Psychology at ETH Zurich and the School of Applied Psychology at the University of Applied Sciences Northwestern Switzerland, KOF has conducted a representative survey to assess the state of digitalisation in the Swiss economy. The study, which has recently been published, presents the first results of the survey. Further analyses will follow.

Many companies (close to 60%) believe digitalisation is not affecting their competitiveness. However, 35% reported a better competitive position, while as little as 2% stated that their competitiveness has declined. Particularly companies in the modern services sector reported improved competitiveness. Broken down according to size, especially medium-sized and big companies mentioned an improved market position.

In the period 2013-2015, digitalisation had little effect on employment figures at Swiss companies: 76% of the respondents stated that there has been no change. 12% of the companies reported a decline and 11% an increase in employment due to digitalisation. A glance at qualification requirements shows that certain changes have taken place: in net terms (difference between reported staff increases and staff cuts), companies recorded an increase in graduates from universities of applied sciences/technical colleges and candidates with vocational qualifications. A slightly lower net rise was reported with regard to university graduates. In contrast, the trend among semi-skilled/unskilled workers appears to be negative. These developments are particularly present in large companies, while increased demand for individuals with vocational qualifications is more prevalent among smaller companies.

Of the 24 digitalisation technologies listed in the survey (see table on p. 3), ERP and e-procurement is applied by over half of the companies, followed by CRM tools (47%), social media (45%) and telework (42%). These technologies are most prevalent in large companies which are also more frequently employing complex modern technologies, such as robots (28%), RFID (23%) and the Internet of Things (18%). Although the technologies are applied in all departments, they are more common in administration, marketing and procurement. Between 2013 and 2015, Swiss companies spent over 16% of their investments on digitalisation.

In response to the question about obstacles to the introduction of digitalisation technologies, the respondents predominantly stated lack of available qualifications and too complex work processes. Small companies also mentioned lack of funds. Among big companies, another obstacle consisted of technological complexity.

In autumn 2016, a representative survey on the diffusion of digitalisation was conducted among close to 4,000 Swiss companies with over 20 employees. More than 1,180 companies in industry, construction and the service sector participated (response rate: 30.1%).

The survey was conducted by the KOF Swiss Economic Institute at ETH Zurich in conjunction with the Chair of Labour and Organisational Psychology at ETH Zurich and the School of Applied Psychology at the University of Applied Sciences Northwestern Switzerland. Initial analysis was carried out on behalf of the State Secretariat for Education, Research and Innovation.

The study (in German) can be accessed on our website:

<https://www.kof.ethz.ch/en/news-and-events/media/press-releases/2017/06/digitalisation-has-little-effect-on-employment.html> →

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In the context of the survey, the term digitalisation referred to the use of 24 technologies or technological elements:	
Technology	Description
ERP (Enterprise Resource Planning)	ERP systems are based on complex application software used to support companies' resource planning.
CRM (Customer Relationship Management)	CRM software supports communication within customer processes by providing figures, data and facts.
SCM (Supply Chain Management)	SCM software records all in/outflows of raw materials, components, semi-finished and finished products as well as information along the value added and delivery chains.
Business Analytics	Computer-aided statistical methods (e.g. report generators, data warehouses, decision trees) employed for the continuous recording and analysis of a company's performance in support of corporate planning. Use of descriptive, predictive and prescriptive methods.
Collaboration Support System (CSS)	Software applications supporting collaboration within a group across time and/or physical distance. Applications contain a divided work environment interface.
Social media	Software applications can have an internal focus (e.g. SharePoint, Lync wiki-based platforms) or an external focus (e.g. online fora, Facebook, LinkedIn, Yammer).
Cloud computing services	Cloud computing refers to the provision of IT infrastructures and IT services (e.g. storage capacities, computing capacities or application software) via the Internet.
E-sales	Sale of goods or services via the Internet
E-procurement	Procurement of goods and services via the Internet
Telework	Remote access work via a company's infrastructure
Computerized automated control systems	Computer-aided control via performance analysis of equipment to achieve optimised performance (control systems engineering).
PLC (Programmable Logic Controllers)	PLCs are digitally programmed devices designed to control or adjust machines or equipment.
CAD (Computer Aided Design)	CAD refers to the computer-aided implementation of constructive tasks in the manufacture of products (e.g. cars, airplanes, buildings, clothes).
CAM (Computer Aided Manufacturing)	CAM involves the use of software that is independent of the CNC machine and fulfils a control/regulatory function in the work preparation process.
Rapid prototyping, simulation	Rapid prototyping refers to techniques used to quickly fabricate scale models based on construction data.
CNC (Computerized Numerical Control / Direct Numerical Control) machines	CNC is an electronic method of controlling machine tools; DNC refers to direct numerical control using a communication network to transfer sub-programmes from a computer to a numerical controller (NC).
Robot	Including robotic technologies
Autonomous cars	Including partially automated cars
3-D printing	Controlled by computers, 3D printers use one or several liquid or solid materials to build up three-dimensional workpieces in layers according to specified measurements.
RFID (Radio Frequency Identification)	RFID refers to transceiver system technology based on radio waves that is used for automated, contact-free identification and localisation of inanimate objects and animate beings.
Internet of Things	Autonomous recording, processing and transfer of data via objects (things) or exchange of data and autonomous organisation between objects (things).

Source of definitions: Wikipedia