

Documentation of the research paper „Does Social Media Increase Labour Productivity“, (Author: Miruna Sarbu, JBNST.2017.0104)

Which documents are provided?

- Description of the database used for this study (general description of the ZEW ICT Survey of the years 2010 und 2007), number of observations, description of the variables/variable list)
- STATA program code used for data management, descriptive analyses and estimations
- Description of the process of how to get data access at the ZEW

Which data/documents cannot be provided?

- Database of the ZEW ICT Survey of the years 2010 and 2007 due to data privacy protection

Description of the database

a. General description of the ZEW ICT Survey

The ZEW ICT Survey is a representative survey among German firms on the diffusion and use of information and communication technologies (ICT). The computer-aided telephone survey is conducted in cooperation with the Institute of Applied Social Sciences (INFAS), Bonn. The survey contains around 4400 German firms. The ICT Survey comprises the manufacturing sector as well as selected service branches. The industry classification is based on the WZ 2008 classification system of the Federal Statistical Office.

The manufacturing sector comprises: consumer goods (WZ 10-17), chemical and pharmaceutical industry (WZ 20-21), raw materials (WZ 22-23), metal industry (WZ 24-25), electrical engineering (WZ 26-27), machine construction (WZ 28), automobile (WZ 29-30) and medical engineering, construction of furniture, toys, etc. The following service sectors are also included: retail trade (WZ 45, 47), wholesale trade (WZ 46), transportation services (WZ 49-53, 79), media services (WZ 18, 58-60), computer and telecommunication services (WZ 61-63), financial services (WZ 64-66), management consultancy and advertising (WZ 69, 702, 73), technical services (WZ 71-72) and services for enterprises (WZ 74, 78, 80-82).

The sample is stratified according to the population of German firms belonging to the respective industry sectors and with at least five employees. The stratification characteristics are industry and firm size (number of employees). The information on the whole population of German firms are based on a special evaluation of the German business register of the Federal Statistical Office, the statistical evaluation of employees who are subject to social insurance contribution and own calculations of the ZEW.

All shares which refer to the share of firms are dominated by small and middle-sized firms due to their relatively high number in the sample. In contrast, big firms dominate the shares which refer to the share of employees also due to their big capacities.

Further information on the ZEW ICT Survey as well as all ICT reports can be accessed on the project homepage of ICT Survey at the ZEW homepage:

<http://www.zew.de/en/forschung/zew-ict-survey-diffusion-and-use-of-information-and-communication-technologies/?cHash=e0ea30b2f58b405f66e21e678ab289a4>

b. Description of the used database and variables

For the research paper „Does Social Media Increase Labour Productivity“ the ICT Surveys of the years 2010 and 2007 were merged and used as a complete database for the descriptive analyses and regressions. The total number of observations is 907.

The following variables were used from the ICT Survey of the year 2010:

1. Sales of firms in mio in the year 2009
2. Number of employees in the firms in the year 2009
3. Labour productivity in the year 2009 (calculated as sales in 2009/number of employees in 2009)
4. Gross investments of firms in mio in the year 2009
5. Use of official firm wiki in the year 2009 (Dummy Variable)
6. Use of official firm blog in the year 2009 (Dummy Variable)
7. Use of official firm profiles in social networks in the year 2009 (Dummy Variable)
8. Use of collaboration platforms in the year 2009 (Dummy Variable)
9. Social Media usage of firms in general in the year 2009 (either wiki or blog or social network or collaboration platform; Dummy Variable)
10. Social Media-Intensity of the firms in the year 2009 (number of all social media applications hosted by the firms (0-4 possible))
11. Firms located in Eastern Germany in the year 2010 (Dummy Variable)
12. Industry sector of the firm in the year 2010 (Dummy Variables) for the following sectors:
consumer goods, chemical industry, other raw materials, metal and machine construction, electrical engineering, precision instruments, automobile, retail trade, wholesale trade, transportation and postal services, media services, computer and telecommunication services, financial services, real estate and leasing services, management consultancy and advertising, technical services, services for enterprises

The following variables were used from the ICT Survey of the year 2007:

1. Number of employees in the firms in the year 2006
2. Gross investments of firms in mio in the year 2006
3. Share of employees working with a personal computer in the year 2007 (values from 0 – 100 rescaled to 0 - 1)
4. Share of export sales related to all sales in the year 2006 (values from 0 – 100 rescaled to 0 - 1)
5. Share of highly qualified employees (university degree or university of applied sciences) in the year 2006 (values from 0 – 100 rescaled to 0 - 1)
6. Share of medium qualified employees (vocational education) in the year 2006 (values from 0 – 100 rescaled to 0 - 1)
7. Share of low qualified employees (no degree) in the year 2006 (values from 0 – 100 rescaled to 0 - 1)
8. Share of employees younger than 30 years old in the year 2006 (values from 0 – 100 rescaled to 0 - 1)
9. Share of employees between 30 and 50 years old in the year 2006 (values from 0 – 100 rescaled to 0 - 1)
10. Share of employees older than 50 years old in the year 2006 (values from 0 – 100 rescaled to 0 - 1)
11. Firms using B2B E-Commerce in the year 2007 (Dummy Variable)
12. Firms using B2C E-Commerce in the years 2007 (Dummy Variable)
13. Firms with employees who participated in training measures in the year 2006 (Dummy Variable)

14. Firms which used general consultancy services in the year 2006 (Dummy Variable)

2. Access to the databases of the ZEW ICT Surveys

The ZEW ICT Survey is a computer-aided telephone survey, which is subject to very strict data privacy protection. External researchers can work with the data only at a local workplace at the ZEW. Therefore, a provision of the database is not possible for the data archive of the Journal of Economics and Statistics. But there is the possibility to get access to the database of the ICT Survey through the ZEW Research Data Centre in order to work and do research with the data at the ZEW. It is obligatory to complete a contract for the data use with the ZEW. You can order this contract after consulting the chief of the ZEW Data Research Centre, Dr. Sandra Gottschalk (email: gottschalk@zew.de; Tel.: +49 (0)621 1235-267). For further information on the ZEW Data Research Centre and the opportunity to use the data, please visit <http://www.zew.de/en/forschung/zew-forschungsdatenzentrum-zew-fdz/>