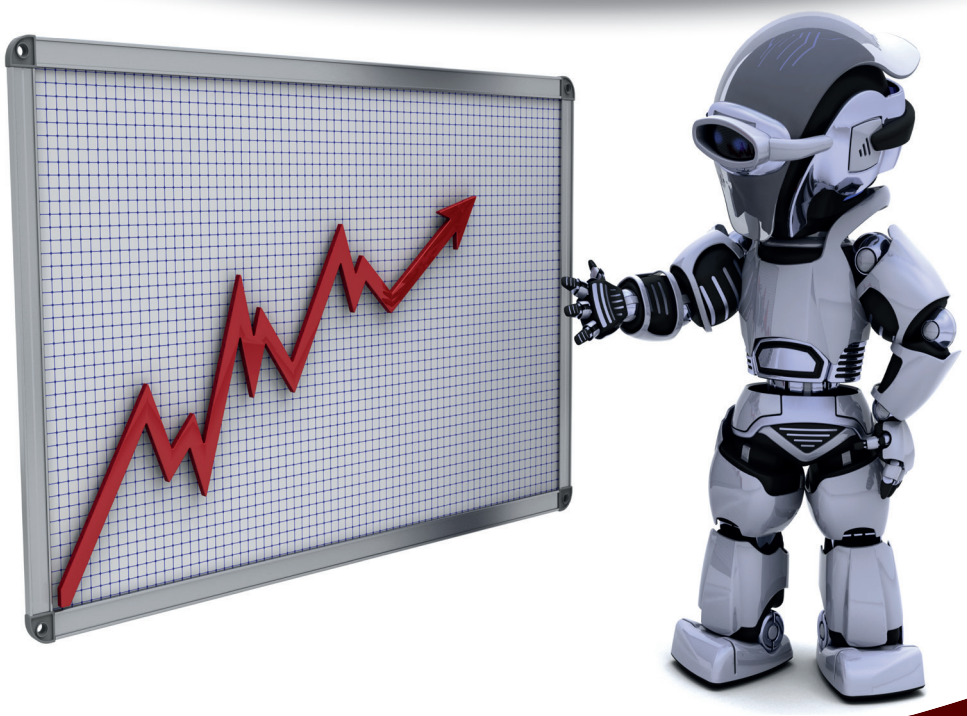
TÜRKİYE İSTATİSTİK KURUMU
Turkish Statistical Institute

YENİLİK ARAŞTIRMASI MİKRO VERİ SETİ

Innovation Survey Micro Data Set 2020



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Innovation Survey Micro Data Set, 2020

Previously Published Micro Data Sets

2004 2006 2008 2010 2012 2014 2016 2018

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Innovation Statistics

Innovation statistics have been compiled about not only for innovative activities of enterprise's but also for strategies and sources of information used for these activities, co-operation, costs, factors hampering the implementation of innovation activities and so on issues by using Community Innovation Survey questionnaire which is based on the Oslo Manual in accordance with OECD methodology and compiled for biennial for three year observation periods.

The survey has undergone various changes over the years with the effect of the modules; no major radical changes have been observed until CIS-2018. In this study, significant changes have been made in the definitions and design of the questionnaire with the effect of the 4th edition of the Oslo Manual (OM4). As a result of these changes, there were breaks in time series.

Under the change of the Oslo Manual and therefore the questionnaire, it is now more important for the decision-makers to see how an enterprise can be an innovative rather than whether it is an innovator or not. The main objective is to identify the profiles in the field of innovation.

One of the most basic definitions used in the research, the definition of innovation concept has been added to the enterprises engaged in innovation activities (marketing) and organizational innovation activities. It is noteworthy that the design concept, which was previously under marketing innovation, is put under product innovation. In addition to this, one of the most radical changes is that process innovation is transformed into business process innovation and the questions increase from 3 to 7 questions. Business process innovations relate to basic business functions as mentioned in OM4.

1. Agreement

- The micro data were prepared according to the Regulation named "Regulation of Procedure and Principles of Data Confidentiality and Confident Data Security in Official Statistics" which was issued by the Article 13 of Statistics Law of Turkey No: 5429 and entered into force with the date of June 20, 2006, following that of its publication in the Official Journal No: 26204.
- The micro data given shall not be copied or released to any other person or organization according to the Statistics Law of Turkey No 5429 and Article 14.
- Instruction for using the micro data is given in "Data Guide" section.
- Researchers should indicate the “Turkish Statistical Institute” and “Innovation Survey" for data source while publishing the results of the studies on journals or other publications.
- Researchers should also send a copy from these publications to the library of TurkStat.
- When using this micro data, the aim of study, scope and reliable estimation level should be considered.

2. Data Guide

The survey has undergone various changes over the years with the effect of the modules; no

major radical changes have been observed until CIS-2018. In this study, significant changes have been made in the definitions and design of the questionnaire with the effect of the 4th edition of the Oslo Manual (OM4). As a result of these changes, there were breaks in time series.

It is possible to produce cross tables of the variables in the data set and perform various statistical analyses and modelling studies by using the microdata of Innovation Survey.

Variables in Micro Data

NAME	TYPE	LENGTH	EXPLANATION
GIRISIM_NO	Number	8	Statistical unit number
REFERANS_YIL	Number	8	Reference year
NACE	Character	2	Main economic activity of the enterprise
BUYUKLUK	Character	2	Size group considering average number of employees
FAKTOR	Number	8	Number of enterprises represented by each respondent from the field in their own sector and number of employees
ODAK_MEVCUT_MAL_HIZMET	Number	8	Focus on improving enterprise's existing goods or services
ODAK_YENI_MAL_HIZMET	Number	8	Focus on introducing new goods or services
ODAK_DUSUK_FIYAT	Number	8	Focus on low-price (price leadership)
ODAK_KALITE	Number	8	Focus on high-quality (quality leadership)
ODAK_MAL_HIZMET_YELPAZE	Number	8	Focus on a broad range of goods or services
ODAK_ONEMLI_MAL_HIZMET	Number	8	Focus on one or a small number of key goods or services
ODAK_MUSTERI_MEMNUN	Number	8	Focus on satisfying established customer groups
ODAK_YENI_MUSTERI	Number	8	Focus on reaching out to new customer groups
ODAK_STAND_MAL_HIZMET	Number	8	Focus on standardised goods or services
ODAK_MUSTERI_COZUM	Number	8	Focus on customer-specific solutions
PATENT_BASVURU	Number	8	Apply for a patent
FAYDALI_MODEL_BASVURU	Number	8	Apply for EU Utility Model
END_TAS_TESCIL	Number	8	Register an industrial design right
TICARI_MARKA_TESCIL	Number	8	Register a trademark
TELIF_HAKKI	Number	8	Claim a copyright
TICARI_SIR	Number	8	Use trade secrets
KULLANILAN_TEKNOLOJI_ALIM	Number	8	The same or improved technology used in your enterprise before
YENI_TEKNOLOJI_ALIM	Number	8	New technology that was not used in your enterprise before
GELIS_YENIMAL	Number	8	Introducing new or improved goods
GELIS_YENIHIZMET	Number	8	Introducing new or improved services
RAKIPTEN_ONCE_MAL_HIZMET	Number	8	Not previously offered products by any of competitors
PAZARDA_MAL_HIZMET	Number	8	Identical or very similar to products already offered by competitors
RAKIPTEN_ONCE_MAL_HIZMET_PAY	Number	8	Share of products introduced that were not previously offered by any of your competitors in total turnover
PAZARDA_MAL_HIZMET_PAY	Number	8	Share of products introduced that were identical or very similar to products already offered by your competitors in total turnover
YENILIKSIZ_MAL_HIZMET_PAY	Number	8	Share of Products that were unchanged or only marginally modified in total turnover
YENIURUN_KENDI_GRUPICI	Number	8	Product innovations developed by enterprise by itself
YENIURUN_BASKA_GIR_ORTAK	Number	8	Product innovations developed by enterprise together with other enterprises or organisations
GIRTRF_DGRGIR_UYRLM_URUN	Number	8	Product innovations developed by enterprise by adapting or modifying products originally developed by other enterprises or organisations
YENIURUN_DIGER_GIR_TARAF	Number	8	Product innovations developed by other enterprises or organisations
ISSUREC_MAL_HIZMET_YONT	Number	8	Methods for producing goods or providing services (including methods for developing goods or services)
ISSUREC_LOJISTIK_DAGITIM_YENI	Number	8	Logistics, delivery or distribution methods
ISSUREC_BILGI_ISLEM	Number	8	Methods for information processing or communication
ISSUREC_MUHASEBE	Number	8	Methods for accounting or other administrative operations
ISSUREC_IS_UYG	Number	8	Business practices for organising procedures or external relations
ISSUREC_IK_ORG	Number	8	Methods of organising work responsibility, decision making or human resource management
ISSUREC_PAZR_YONT	Number	8	Marketing methods for promotion, packaging, pricing, product placement or after sales services

ISSUREC_KENDI_GRUP_GELISTIRILN	Number	8	Business process innovations developed by enterprise by itself
ISSUREC_BASKA_GIR_ORTAK_GELIS	Number	8	Business process innovations developed by enterprise together with other enterprises or organisations
ISSUREC_YNLK_UYARLAMA	Number	8	Business process innovations developed by enterprise by adapting or modifying Business processs originally developed by other enterprises or organisations
ISSUREC_DIGER_GIR_TARAF_GEL	Number	8	Business process innovations developed by other enterprises or organisations
GIR_BUNYESINDE_ARGE_HRC_DRM	Number	8	In-house research and development (R&D) activities
SIKLIK	Number	8	Did your enterprise perform in-house R&D during the three years 2018 to 2020?
DISARIDAN_ARGE_TEMIN_HRC_DRM	Number	8	Contract-out R&D to other enterprises (include enterprises in own group) or to public or private research organisations)
YENILIK_DEVAM_HRC_DRM	Number	8	Ongoing innovation activities at the end of 2018
VAZGECILMIS_YENILIK_HRC_DRM	Number	8	Abandoned innovation activities
TMM_YENILIK_FAALIYET_HRC	Number	8	Completed activities on product or process innovation
GIR_BUNYE_YAPILAN_ARGE_HRCM	Number	8	Expenditures for R&D performed in-house
DISAR_ARGE_TEMINI_HARCAMA	Number	8	Expenditures for R&D contracted out
DIGER_YENILIK_HARC	Number	8	Expenditures for all other innovation expenditures
TOPLAM_HARCAMA	Number	8	Total expenditure
OZKAYNAK_FINANSMAN	Number	8	Equity finance used for innovation
OZKAYNAK_FINANSMAN_ARGE_YNLK	Number	8	If enterprise obtained equity funding, was this partly or fully used for R&D or other innovation activities?
BORC_FINANSMAN	Number	8	Debt finance used for innovation
BORC_FINANSMAN_ARGE_YNLK	Number	8	If enterprise obtained debt funding, was this partly or fully used for R&D or other innovation activities?
FINANS_DEST_YRL_BELED_VALI	Number	8	Financial support from local or regional authorities for innovation activities
FINANS_DESTEK_KAMU	Number	8	Financial support from national government for innovation activities
AB_HORIZON_PROG	Number	8	Financial support from EU Horizon 2020 Programme for innovation activities
DIGER_AB_DESTEK	Number	8	Other financial support from a European Union institution for innovation activities
ARGE_YENILIK_VERGI_ISTISNA	Number	8	Tax credits or allowances for R&D or other innovation activities
DIGER_VERGI_ISTISNA	Number	8	Tax credits or allowances for all other types of activities
ARGE_ISBIRLIK	Number	8	Co-operation with other enterprises or organisations on R&D
ARGESIZ_YENILIK_ISBIRLIK	Number	8	Co-operation with other enterprises or organisations on other innovation activities (excluding R&D)
DIGER_ISBIRLIK	Number	8	Co-operation with other enterprises or organisations on any other business activities
ISBIRLIK_GIRISIM_GRUP_DISI_TR	Number	8	Co-operate with private business enterprises outside enterprise group (TR)
ISBIRLIK_GIRISIM_GRUP_DISI_AB	Number	8	Co-operate with private business enterprises outside enterprise group (EU)
ISBIRLIK_GIRISIM_GRUP_DISI_DGR	Number	8	Co-operate with private business enterprises outside enterprise group (All other countries)
ISBIRLIK_GIR_DANISMAN_TR	Number	8	Co-operate with consultants, commercial labs, or private research institutes (TR)
ISBIRLIK_GIR_DANISMAN_AB	Number	8	Co-operate with consultants, commercial labs, or private research institutes (EU)
ISBIRLIK_GIR_DANISMAN_DIGER	Number	8	Co-operate with consultants, commercial labs, or private research institutes (All other countries)
ISBIRLIK_GIR_MAK_TEC_SAG_TR	Number	8	Co-operate with suppliers of equipment, materials, components or software (TR)
ISBIRLIK_GIR_MAK_TEC_SAG_AB	Number	8	Co-operate with suppliers of equipment, materials, components or software (EU)
ISBIR_GIR_MAK_TEC_SAG_DIGER	Number	8	Co-operate with suppliers of equipment, materials, components or software (All other countries)
ISBIRLIK_GIR_MUSTERI_TR	Number	8	Co-operate with the enterprises that are clients or customers of enterprise (TR)
ISBIRLIK_GIR_MUSTERI_AB	Number	8	Co-operate with the enterprises that are clients or customers of enterprise (EU)
ISBIRLIK_GIR_MUSTERI_DIGER	Number	8	Co-operate with the enterprises that are clients or customers of enterprise (All other countries)
ISBIRLIK_GIR_RAKIP_TR	Number	8	Co-operate with the enterprises that competitors (TR)
ISBIRLIK_GIR_RAKIP_AB	Number	8	Co-operate with the enterprises that competitors (EU)
ISBIRLIK_GIR_RAKIP_DIGER	Number	8	Co-operate with the enterprises that competitors (All other countries)
ISBIRLIK_DIGER_GIRISIM_TR	Number	8	Co-operate with other enterprises (TR)
ISBIRLIK_DIGER_GIRISIM_AB	Number	8	Co-operate with other enterprises (EU)

ISBIRLIK_DIGER_GIRISIM_DGR	Number	8	Co-operate with other enterprises (All other countries)
ISBIRLIK_GIR_GRUP_TR	Number	8	Co-operate with enterprises within enterprise group (TR)
ISBIRLIK_GIR_GRUP_AB	Number	8	Co-operate with enterprises within enterprise group (EU)
ISBIRLIK_GIR_GRUP_DIGER	Number	8	Co-operate with enterprises within enterprise group (All other countries)
ISBIRLIK_GIR_UNIVERSITE_TR	Number	8	Co-operate with universities or other higher education institutions (TR)
ISBIRLIK_GIR_UNIVERSITE_AB	Number	8	Co-operate with universities or other higher education institutions (EU)
ISBIRLIK_GIR_UNIVERSITE_DIGER	Number	8	Co-operate with universities or other higher education institutions (All other countries)
ISBIRLIK_GIR_KAMU_ENS_TR	Number	8	Co-operate with government or public research institutes (TR)
ISBIRLIK_GIR_KAMU_ENS_AB	Number	8	Co-operate with government or public research institutes (EU)
ISBIRLIK_GIR_KAMU_ENS_DIGER	Number	8	Co-operate with government or public research institutes (All other countries)
ISBIRLIK_MUSTERI_KAMU_TR	Number	8	Co-operate with clients or customers from the public sector (TR)
ISBIRLIK_MUSTERI_KAMU_AB	Number	8	Co-operate with clients or customers from the public sector (EU)
ISBIRLIK_MUSTERI_KAMU_DIGER	Number	8	Co-operate with clients or customers from the public sector (All other countries)
ISBIRLIK_KAR_AMACI_OLM_TR	Number	8	Co-operate with non-profit organisations (TR)
ISBIRLIK_KAR_AMACI_OLM_AB	Number	8	Co-operate with non-profit organisations (EU)
ISBIRLIK_KAR_AMACI_OLM_DIGER	Number	8	Co-operate with non-profit organisations (All other countries)
ENGEL_KAYNAK_YETERSIZ	Number	8	Lack of internal finance for innovation
ENGEL_SERMAYE_KREDI	Number	8	Lack of credit or private equity
ENGEL_DESTEK_ALMA	Number	8	Difficulties in obtaining public grants or subsidies
ENGEL_YUKSEK_MALIYET	Number	8	Costs too high
ENGEL_NIT_PERS_YETERSIZ	Number	8	Lack of skilled employees within enterprise
ENGEL_ISBIRLIGI_ORT_BULAMAMAK	Number	8	Lack of collaboration partners
ENGEL_DISSAL_BILGI_ERISIM	Number	8	Lack of access to external knowledge
ENGEL_TALEP_BELIRSIZ	Number	8	Uncertain market demand for ideas
ENGEL_PAZAR_REKABET	Number	8	Too much competition in market
ENGEL_GIRISIM_FARKLI_ONCLK	Number	8	Different priorities within enterprise
CALISAN_YUKSEKOGRETIM	Number	8	Percentage of the persons employed in the enterprise in 2018 had a tertiary degree

In order to see the meaning of codes for the variables specified above, please click the links below to enter the Global Repository Codes or Standard Code List (developed for TurkStat).

Global Repository Codes (developed for TurkStat):

https://biruni.tuik.gov.tr/DIESS/SiniflamaSurumListeAction.do?turId=52&turAdi=15.%20Global%20Repository%20Codes&guncel=Y

Standard Code Lists (developed for TurkStat):

https://biruni.tuik.gov.tr/DIESS/SiniflamaSurumListeAction.do?turId=50&turAdi=13.%20Standard%20Kod%20Listeleri%20(T%C3%9C%C4%B0K%20i%C3%A7in%20geli%C5%9Ftirilmi%C5%9Ftir)%20*Kullan%C4%B1ma%20A%C3%A7%C4%B1kt%C4%B1r*&guncel=Y

3. Meta Data

3.1 Purpose

Innovation statistics have been compiled about not only for innovative activities of enterprise's but also for strategies and sources of information used for these activities, co-operation, costs, factors hampering the implementation of innovation activities and so on issues by using Community Innovation Survey questionnaire which is based on the Oslo Manual in accordance with OECD methodology and compiled for biennial for three year observation periods.

This survey collects information about the innovations and innovation activities of the enterprises for the three-year period. The results of this study will provide a better understanding of innovation and its relationship with economic growth. In addition, decision-makers will be informed about science policy, industrial policy, and the factors that influence the innovation capacity of enterprises in the formulation of general economic policies, and will have the opportunity to make international comparisons on similar issues.

3.2 History

The survey is carried out in accordance with the standard Oslo methodology and the Community Innovation Survey (CIS) implemented by Eurostat. Historical background can be summarized as follows:

- CIS-Light in 1993 having limited questions,
- CIS-1999 for the observation period of 1995-1997,
- CIS-3 for the observation period of 1998-2000 on March 2002,
- CIS-4 in comply with the third version of Oslo Manual,
- CIS-2006 for the observation period of 2004-2006,
- CIS-2008 for the observation period of 2006-2008 including eco-innovation module,
- CIS-2010 including creativity and skills module,
- CIS-2012 including strategies, obstacles and procurement modules,
- CIS-2014 including eco-innovation module,
- CIS-2016 for the observation period of 2014-2016,
- CIS-2018 for the observation period of 2016-2018 (With the publication of the 4th edition of the Oslo Guidelines in 2018, there have been radical changes in the types of innovation and the application principles of questionnaires).

In Turkey, Innovation Survey was firstly carried out in parallel with CIS-2 in compliance with OECD and Eurostat methodology. From onwards, the survey has been conducted regularly biennial for three year observation periods.

3.3 Coverage

Community Innovation Survey is planned to provide an estimation for the size and economic activity of the enterprises.

Statistical Classification of Economic Activities in the European (NACE) Rev 2. is based on for the distribution and main activities shown below were taken into account.

Industry: Mining and quarrying (NACE-B: 05-09), Manufacturing (NACE-C: 10-33), Electricity, gas steam and air conditioning supply (NACE-D: 35), Water supply; sewerage, waste management and remediation activities (NACE-E: 36-39).

Service: Wholesale trade, except of motor vehicles and motorcycles (NACE-46), Transportation and storage (NACE-H: 49-53), Information services activities (NACE-J: 58-63), Financial and insurance activities (NACE-K: 64-66), Architectural and engineering activities; technical testing and analysis (NACE-71), Scientific research and development (NACE-72), Advertising and market research (NACE-73).

Sectoral coverage is the enterprises with ten or more employees.

3.4 Method

Method of sampling: Sampling for 10-49 and 50-249 size groups, census for enterprises with 250+ persons employed.

Frame: TurkStat Business registers system are used as a framework.

Statistics unit: Enterprise is a statistical unit for this research.

Data collection method: The data is compiled from enterprises via web-based electronic questionnaire. User name and password is assigned to each user by TurkStat for the web-based electronic questionnaire. Information entered by the enterprises in the web environment is first examined by the regional offices of TurkStat. After the control and consistency analyses carried out at the micro level, more detailed and macro analyses are made by the Central Organization and a return to the Regional Organizations for the suspicious registers and the give the final state.

3.5 Definitions and Concepts

Enterprise: The enterprise is an organisational form that produces goods and services using decision autonomy at first degree. An enterprise carries out one or more activities at one or more locations. The relation between enterprise and legal unit is directly stated by this definition:" An enterprise corresponds to a legal unit or combination of legal units."

Main activity: If the activity of the enterprise is more than one, the main activity is the activity where the gross sales revenue is created the most. If the gross sales revenue of more than one activity of the enterprise is equal, then the main activity of the employee is the main activity.

Innovation: The term 'innovation' can signify both an activity and the outcome of the activity. The general definition of an innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process).

Innovation activities: These include all scientific, technological, organisational, financial and commercial activities, undertaken by a firm, which are intended to or result in an innovation.

- Research and experimental development (R&D) activities
- Engineering, design and other creative work activities
- Marketing and brand equity activities
- Intellectual property (IP) related activities
- Employee training activities
- Software development and database activities
- Activities related to the acquisition or lease of tangible assets
- Innovation management activities

Innovation is tried to be realized with one or more of these activities. Activities can result in three ways during the observation period as follows:

- Completed innovation activities
- Ongoing innovation activities
- Abandoned innovation activities

Research and Development (R&D): It comprises creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge.

Product innovations: Product innovations must provide significant improvements to one or more characteristics or performance specifications. This includes the addition of new functions and improvements to existing functions or user utility. Relevant functional characteristics include quality, technical specifications, reliability, durability, economic efficiency during use, affordability, convenience, usability, and user friendliness.

Product innovations do not need to improve all functions or performance specifications. An improvement to or addition of a new function can also be combined with a loss of other functions or a decline in some performance specifications.

New designs or design features are significant improvements when they affect influence usability or utility of the product, for example if the appearance or 'look' of a product and enhances the user's utility and creates a positive emotional response.

A product innovation must be made available to potential users, but this does not require the innovation to generate sales.

Product innovations can use new knowledge or technologies, or be based on new uses or combinations of existing knowledge or technologies.

Business process innovation: It is a new or improved business process for one or more business functions that differs significantly from the firm's previous business processes and which has been implemented within the firm. They are summarised as follows:

- Methods for producing goods or providing services (including methods for developing goods or services)
- Logistics, delivery or distribution methods
- Methods for information processing or communication
- Methods for accounting or other administrative operations
- Business practices for organising procedures or external relations
- Methods of organising work responsibility, decision making or human resource management
- Marketing methods for promotion, packaging, pricing, product placement or after sales services

3.6 Classification

Statistical Classification of Economic Activities in the European Community, Revision 2

https://biruni.tuik.gov.tr/DIESS/SiniflamaSurumDetayAction.do?surumId=191&turId=1&turAdi=%201.%20Activity%20Classifications

The enterprises with ten or more employees and operating in the following NACE Rev. 2 classes:

- Mining and quarrying (NACE B: 05-09)
- Manufacturing (NACE C: 10-33)
- Electricity, gas steam and air conditioning supply (NACE D: 35)
- Water supply; sewerage, waste management and remediation activities (NACE E: 36-39)
- Wholesale trade, except of motor vehicles and motorcycles (NACE 46)
- Transportation and storage (NACE H: 49-53)
- Information and communication (NACE J: 58-63)
- Financial and insurance activities (NACE K: 64-66)
- Architectural and engineering activities, technical testing and analysis (NACE 71)
- Scientific research and development (NACE 72)
- Advertising and market research (NACE 73)

International Standard Classification of Education (ISCED 2011)

https://biruni.tuik.gov.tr/DIESS/SiniflamaSurumDetayAction.do?surumId=237&turId=39&turAdi=%207.%20E%C4%9Fitim%20S%C4%B1n%C4%B1flamalar%C4%B1

3.7 Questionnaire

The model questionnaire that the European Union made up with the National Statistics Offices of Member and Candidate Countries and OECD is the basis of our national questionnaire.

3.8 Data Information

According to the results of Community Innovation Survey 2020, 10 849 questionnaires were performed to the enterprises.

4. Data Set

The data set was created in CSV format, a file type that can be used in all statistical package programs. In this format, a comma (,) is used as the "Delimiter" in each column. When the data set is transferred to the package programs, the "Open" or "Import Data" submenus can be used under the "File" menu.

YENILIK_MIKROVERI_2020.CSV

5. Links

Press Release

https://data.tuik.gov.tr/Bulten/Index?p=Innovation-Survey-2020-37457

Statistical Tables

https://data.tuik.gov.tr/Kategori/GetKategori?p=bilgi-teknolojileri-ve-bilgi-toplumu-102&dil=2

Info Request

https://www.tuik.gov.tr/Kurumsal/Bilgiye_Nasil_Erisilir