



TURKISH STATISTICAL INSTITUTE

DATA COLLECTION
INDUSTRIAL TURNOVER INDEX

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Source of Data

- ➔ **Monthly Industrial Production Survey**
 - ➔ **Industrial Turnover and**
 - ➔ **Industrial Production Indices**
- ➔ **Results of SBS is used to determine sampling frame**
- ➔ **Source of weights is from SBS turnover data**
- ➔ **But for domestic and non-domestic turnover weights, STS data is used**

Mode of Collection

- ➔ **Monthly Industrial Production Survey**
 - ➔ asking turnover (D & n-D) and production information
 - ➔ Before 2014 survey is conducted by paper or excel sheet base
 - ➔ Harzemli web has been used since 2014
 - ➔ Establishments has entered own data through the web program

Mode of Collection

- ➔ **TurkStat has 2 tool to collect business survey**
- ➔ **1. Harzemli Web based survey**
 - ➔ **All STS surveys are developed by Harzemli Web**
- ➔ **2. e-Vt**
 - ➔ **SBS surveys use this method**

HARZEMLİ

The DDI-based statistical production platform

- ✓ Metadata-driven, dynamically created web-based surveys
- ✓ Shortened and standardized IT processes with respect to metadata
- ✓ Metadata is actively used in production, analysis and data dissemination
- ✓ Standard names of all the variables in terms of data integrity
- ✓ Shortened duration for data collection, more time to analyze
- ✓ Easy integration for compilation of private sector data in related surveys
- ✓ Similar database tables whose structures are generated automatically



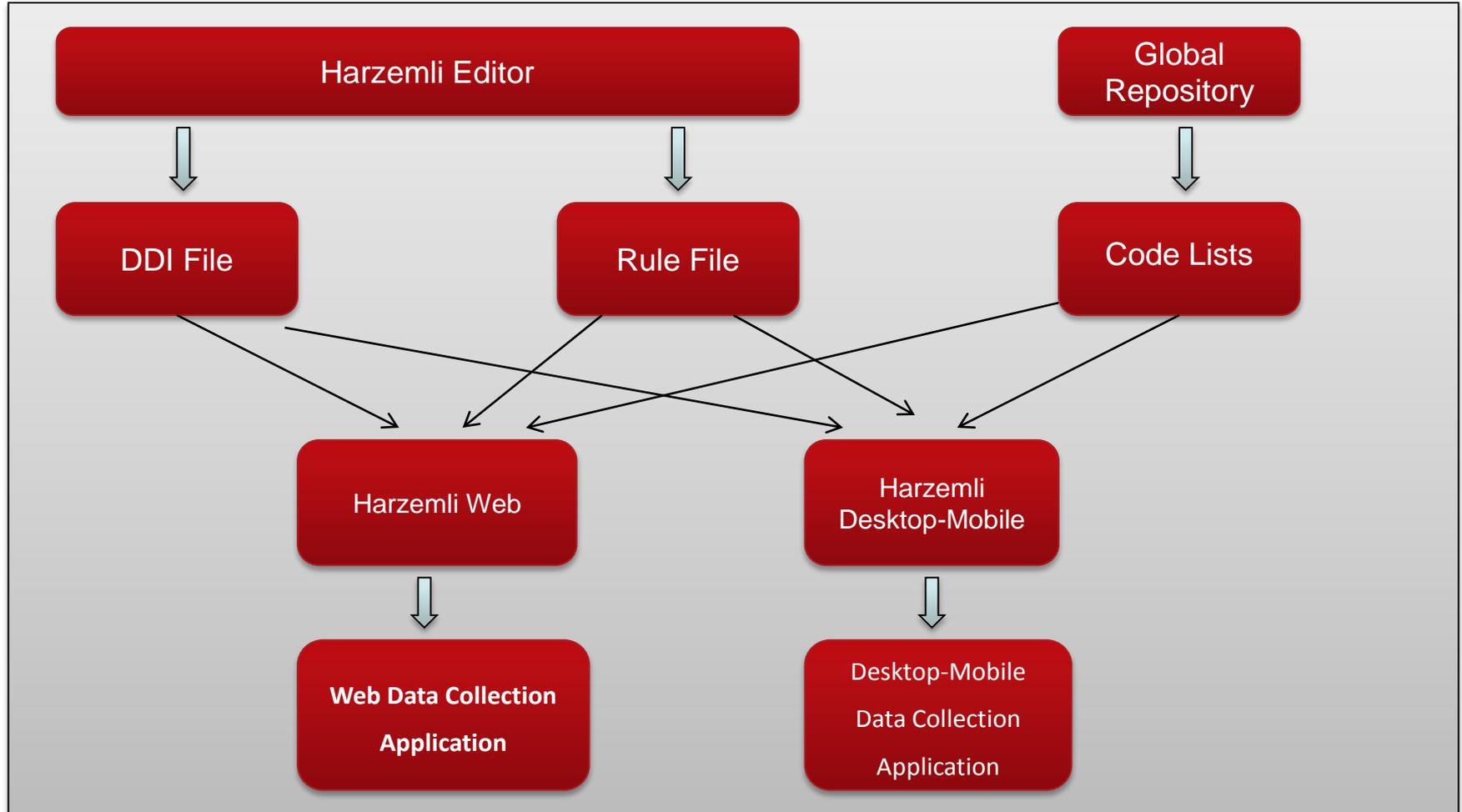


HARZEMLI (SURVEY PART)

- ❖ Through the guidance of MetaData Department and Information Technologies Department, the production units(departments) are fairly involved in the design of the layout and appearance of their respective surveys.
- ❖ Harzemli Web dynamically generates the survey web pages at run-time through processing DDI and Rule XML files
- ❖ Production units can decide the design of the webpages through designing these files. Units can decide how many pages the survey should take, how many parts it will involve, the length of textboxes, usage of radio buttons and so on.
- ❖ They may change the base files and see the results on the screen immediately on a test platform



Harzemli Process





What is the e-Vt system?

It is a machine to machine data collecting system.

Send this XML file to TurkStat Servers by webservice



Accountants generate questionnaire data by using

account programmes in

XML data format

Stakeholders of the project

Issue	% Port	Market Price	Market Value
CMA Account	12.75	\$1.00	\$28,401
green	9.47	\$34.98	\$30,989
gn & Cox Seco	7.74	\$18.47	\$14,270
gn	7.74	\$18.47	\$14,270
ires S&P MidCap	6.53	\$98.00	\$14,549
mis S&P MidCap	6.45	\$14.38	\$14,380
guard Sh-Tm Tts	6.09	\$10.85	\$13,562
guard EM St Id E	5.75	\$42.69	\$12,807
ry-davidson_In	5.01	\$37.18	\$11,154
(Shares S&P Small C	4.92	\$64.49	\$10,983
Rismed Inc.	4.75	\$30.21	\$10,573
L-3 Communications	4.43	\$65.76	\$9,864
	4.20	\$23.38	\$9,352
	3.99	\$87.78	\$9,697

TURMOB (Union of Chambers of Certified Public Accountants Turkey)

YASAD (Turkish Software Industrialists Association)



Software Developers

Purposes of the e-Vt

- Reducing the burden on respondents
- Reduction data entry time
- Minimizing data entry error
- Not using paper questionnaire any more
- Ensuring saving time and resources
- More technology-intensive systems
- More user-friendly applications
- Transition from traditional methods to more innovative systems

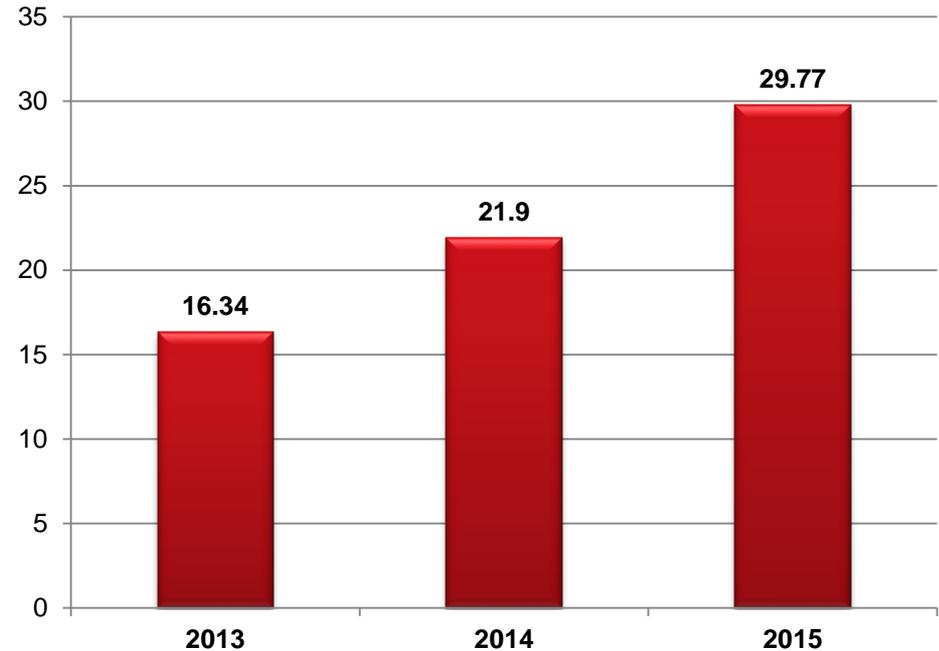


What are the advantages for SBS survey with e-Vt Project?



- The data collection time is shortened from 9 months to 1 month
- Response time has reduced from 4 hours to 10 - 15 minutes
- Data quality has increased
- The timeliness of the research was improved from t+36 to t+12
- Overall cost of survey is decreased and also efficiency of human recourses is increased

Use of the e-Vt by year (%)*



*Percentage in the answered SBS surveys

Sampling

- ➡ **SBR and SBS don't have information on domestic & non-domestic turnover in detail**
- ➡ **Cut-off method is used for selecting sample enterprises in the industrial production survey frame**
- ➡ **Industrial Turnover Index (ITI) is calculated with 4,815 enterprises while compiling approximately 12,000 ent.**

Sampling

- ➔ **Sampling Industry is composed of**
 - ➔ **Sections B : Mining an quarrying (200)**
 - ➔ **Section C : Manufacturing (4615)**
- ➔ **Enterprises representing 80% of total value added and 80% of total turnover in SBS and with 20 or more employees.**

Editing, validation and imputation

- ➔ Harzemli web based program has two perspective
 - ➔ Standard perspective for Respondents: Hard rules active for internal consistency
 - ➔ Analysis perspective for regional and center staffs: Hard and soft rules active for consistent and clean data

Editing, validation and imputation

- ➡ After respondent entering data, regional office staff check data via Harzemli web based program with the rules written by Industrial Statistics Group (ISG) staff.
- ➡ If something seen as suspicious or wrong, regional office staff ask to respondent to correct data

Editing, validation and imputation

- ➔ ISG staff analyze and control micro data with SAS program
- ➔ Box method, max-min, forecasts, TSW TERROR
- ➔ Impact of low level indices to high level indices

Editing, validation and imputation

- ➡ For missing total turnover data, 2-digit monthly change ratio is used for imputation
- ➡ For non-domestic turnover value; the previous ratio of non-domestic turnover is used
- ➡ Model based imputation will be used 2015 base year indices

THANK YOU