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Topic III: Innovations in data collection and exchange

**ELECTRONIC DATA INTERCHANGE (EDI) METHODS IN DATA COLLECTION**

**Contributed paper**

Submitted by the Hungarian Central Statistical Office<sup>1</sup>

**SUMMARY**

**Introduction**

1. In the Hungarian Central Statistical Office (HCSO), the development of electronic data interchange (EDI) began in 1997. As a result, three different software products may be used for sending and receiving electronic messages in the institute. Two of these have been operating already for more than a year as a subsystem of live applications. The third one is in the pilot project stage.

2. The purpose of this paper is to give a brief overview of the EDI systems in HCSO, and the plans to develop an EDI centre adapted to the needs of HCSO based on the experience gained in using the current systems.

**Mandatory Private Pension Fund System (MPPFS)**

3. By appointment of the Hungarian State Private Fund Supervision, the HCSO processes the messages received in an EDI format from the Mandatory Private Pension Funds (MPPF) and in electronic form from the employers through the national HCSO network. HCSO forwards the messages to the State Private Fund Supervision. The replies to the processed messages are sent back to the pension funds in an EDI format.

4. One of the data collection channels of this system is EDI-based, collecting 5 different types of messages, i.e. more than 2 million EDIFACT messages from 50 data providers.

5. The employers submit forms to the regional offices of HCSO on paper or on floppy

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disk. The regional offices of HCSO forward these data in electronic format through the national network of HCSO. This data collection channel can be easily integrated into the planned EDI centre of HCSO.

#### **Data collection using the UN/EDIFACT RDRMES message (EDISC)**

6. For the EDISC management, it has been a fundamental requirement that:

- the developed system should be generally applicable for preparing statistical reports;
- the data collection environment should be independent from the annual modification of the statistical reports;
- those clients who do not possess their own EDI system should still be able to provide the data from their internal system;
- sending EDI messages should be possible through different communication channels (X400, direct line connection).

7. The need for big data providers in Hungary to send statistical data in electronic form as an EDI message is increasing. Data collection is implemented through the HCSO EDI system for statistical data collection. The standards used are the UN/EDIFACT RDRMES message and its RDRHUN subset taking into account the special needs of Hungary. The system receives monthly and quarterly statistical reports from three big data providers.

8. The data collection process is essentially the following:

- ♦ The data providers enter or import their data into the Excel files received from the HCSO, or if they have their own EDI system, they implement the RDRMES based statistical data service module;
- ♦ If these data are entered in an Excel file, an EDI conversion programme converts the data to a standard EDI message;
- ♦ The message is transmitted to HCSO through a communication channel (X400).

#### **Statistical EDI pilot project (SEPP)**

9. In this pilot EDI application, HCSO is primarily a data provider. The system is implemented as a pilot project in the following two areas:

- ♦ Domestic EDI-based data exchange between the National Bank of Hungary and HCSO for some statistical time series;
- ♦ EDI-based data provision to international statistical institutions (Eurostat, UN).

10. Within the framework of the pilot project, the domestic data exchange uses the UN/EDIFACT GESMES/ECOSER standard message. The time series are tables containing aggregated statistical data available in electronic form in the statistical information system STADAT of HCSO.

11. At the international level, HCSO publishes data for Eurostat in the quarterly PRODCOM table which is suitable for sending quarterly industrial statistics data.

12. With regard to the increasing participation of Hungary in the provision of data for European institutions, the third application provides the greatest impetus for developing uniform EDI applications in HCSO, and ensuring that the Office can work as an EDI centre in the coming years.

#### **EDI development plans**

13. From the experience gained in the management of the applications already operating in HCSO, and from the increasing use of electronic data exchange, we may

draw the conclusion that EDI development in HCSO must be carried out within a unique system.

14. Almost all requirements from the system to be designed can be found in the working systems (EDIFACT standard, authentication, encryption, safety, client software, collaboration with other EDI systems etc.). Hence from a methodological viewpoint, the solutions can be taken over from the existing systems with very little change. In addition, the new system should be capable of receiving, processing and forwarding any kind of data, and should be able to manage a safe, controllable data communication between the data providers, the HCSO and the institutions receiving the processed data.

15. The general requirements for the system are the following:

- it must be based on UN/EDIFACT standards;
- it should secure the authenticity, safety and secrecy of EDI messages;
- users of electronic data communication should be able to change smoothly to the new system;
- it should be capable of cooperating with other standardised EDI systems;
- it should be possible to integrate it in the internal electronic data processing system of HCSO;
- it must possess client software.

16. The list of general, server and client-side requirements can at no time be complete, since the growth of customer demand and technological developments can necessitate methodological changes to satisfy both the operators' and the users' needs.