Know the times – transforming Hungarian dissemination products from a classic automobile into a dynamic cabRIO

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Abstract

Time is changing faster than ever nowadays, posing significant challenges to official statistical services. In order to meet the expectations of the economic and social environment statistical offices need an accurate knowledge of users’ needs. Finding the way in the labyrinth of user needs Hungarian Central Statistical Office (HCSO) pursued a general user satisfaction survey last year, transforming the knowledge gained over 1600 answers into a new dissemination strategy. Regards to the development of dissemination products a few well-defined areas stood out, such as more intensive needs for electronic publications and interactive visualisation tools as well as using multiple communication channels. According to the international trends and the Hungarian users’ needs the proportion of electronic publications is rising in our publication portfolio. In 2014 an interactive web-based publication was introduced in our website as a new portfolio element, entitled ‘Counties of Hungary in focus’ comparing regions in a number of statistical themes with interactive charts. All data are generated automatically from HCSO’s databank, updated on a quarterly basis. It has been a huge success – more than 10 thousand downloads in a few months – similarly to interactive graphs and maps published on our website, also under continuous development. Wide range of interactive graphs are available on our website, at the moment interactive population pyramids, line, bar, bubble, radar and cycle charts making our statistics more user-friendly and more understandable. Emphasizing the importance of regional and geo statistics over 300 indicators are shown in 56 interactive maps, which can be found in our website. The role of online communication channels besides our website is constantly growing, since, according to surveys, more than seven-tenths of the Hungarian population are internet users and a significant number of them are also very active in the social media. The most popular social media channel is the Facebook in our country, 4.8 million Hungarians have a Facebook profile at the moment, that is, 48% of the whole population. In order to reach more users, getting more feedbacks and expanding statistical literacy and culture, we created an official Facebook account in Hungarian last year. HCSO also joined Twitter community, with both a Hungarian and an English account.

Keywords: electronic publication; visualization; user needs; social media.

Section 1 Introduction

Time is changing faster than ever nowadays, posing significant challenges to official statistical services. In order to meet the expectations of the economic and social environment statistical offices need an accurate knowledge of users’ needs. Finding the way in the labyrinth of user needs Hungarian Central Statistical Office (HCSO) pursued a general user satisfaction survey last year, transforming the knowledge gained over 1600 answers into a new dissemination strategy. Regards to the development of dissemination products a few well-defined areas stood out, such as more intensive needs for electronic publications and interactive visualisation tools as well as using multiple communication channels.

Section 2 Internet as the main publishing channel

According to the international trends and the Hungarian users’ needs the internet became the main publishing channel of the official statistics: the proportion of electronic publications of the HCSO is higher and higher in our publicational portfolio every year. Nowadays over 80% of our publications are on the website in PDF format and most of them can be downloaded for free. In 2014 as a new portfolio element an interactive web-based publication was introduced in our website titled ‘Counties
of Hungary in focus’ comparing regions in many statistical themes with interactive bar and sparkline charts. All data generated automatically from HCSO’s databank updating on a quarterly basis. The illustration of the social-economic situation of the Hungarian regions by interactive visualisation tools has been a huge success – more than 10 thousand downloads in a few months – and will serve as a model for further development of our publication portfolio.

The ‘to print or not to print’ dilemma is constantly present throughout the publication planning process. Some of our publications are available in paper format, but most of them are available as a payable content online as well. In order to expand sales, a new service was introduced in the second half of 2013: our users can view or download electronic publications purchased from HCSO and internet annexes on their own electronic bookshelf (e-Shelf) at any time. After signing in, our registered users can save the publications and annexes they buy on their own e-Shelf by activating the volume identifiers that can be found at the beginning of the volumes, on the imprint page or on the cards of electronic publications.

**Section 3 Taylored visualisation - Interactive visualisation tools**

In order to make our statistics more user-friendly and meaningful, a wide range of interactive graphs are available on our website. One of our quite unique developments is the interactive population pyramid, showing the changes in the population age structure of Hungary by sex from 1870 to 2060. Application of interactive population pyramid of Hungarian regions displays the age structure by sex between 1980 and 2013, not only for the country as a whole, but for the seven Hungarian regions (NUTS2), and Budapest and the 19 counties (NUTS3), making it possible to look at and follow changes in the age structure of different territorial units.

![Interactive population pyramid showing number of Hungarian population by sex and age on 1st January (at this moment in 1991 and 2011).](image)

Another unique interactive graph is the Inflation kaleidoscope, presenting the consumer price changes by the detailed groups of expenditure, also depicting the proportions represented by the groups of goods and services in the total expenditure of households with the help of the surface of the different rectangles. This newly developed graph is a tree map chart, on which the surface of the different rectangles is directly proportional to the weights of the groups of goods or services depicted by them, and their colour is identical to that of the change category compared to the base period selected by the user.
Trends of per capita income deciles are shown by our interactive bubble chart. The average number of household size can be found on the vertical axis of the diagram and income deciles are located on the horizontal axis. Income situation is reflected by the change in the bubble size.

A radar chart is a graphical method of displaying multivariate data in the form of a two-dimensional chart of three or more quantitative variables represented on axes starting from the same point. Among our interactive graphs agriculture, GDP, inflation and environment radar charts are available on the website of the HCSO. Agricultural radar is an interactive octagonal radar chart presenting annual volume changes in the production account of the economic accounts for agriculture (EAA) by main groups of products, between 2000 and 2011. GDP radar shows the direction and extent of the quarterly volume changes of consumption, capital formation and exports, imports as well as their impact on gross domestic product at previous year’s prices compared to the preceding year, from 1995 to present. Inflation radar presents changes in the consumer prices from January 2000 by the main groups of commodities established from the products and services playing an important role in the purchases of the households. Environment radar illustrates the changes of environmental pressure based on data from the last 10 years. A typical indicator has been selected from each chapter of Environmental Report of Hungary, 2013. Changes of indicators were depicted in a way that in the diagram decrease means improvement from the environmental point of view. For example, growth of areas under organic farming is shown as a decrease, this is exemplified with the invert of the original index. The diagram shows the changes of the seven indicators compared to 2000 and demonstrates the effect of human activities on the environment with the change in the polygon’s area.
Macroeconomic trends in Hungary are shown by cycle chart describing the annual changes of macroeconomic trends in agriculture by the main indicators of the economic accounts for agriculture (crop output, animal output, total agricultural output, total intermediate consumption, gross value added at market prices, factor income and entrepreneurial income) between 2000 and 2013.

Emphasizing the importance of regional and geostatistics, 36 interactive maps are available under topics like population, vital statistics, labour market, living conditions, housing, health and social statistics, economy, industry, tourism and environment for Hungary, most of them on territorial level NUTS2 to NUTS5 (from regions to settlements).
For the European Union 20 interactive maps can be found on our website including 273 indicators under topics like population, vital statistics, labour market, macro-economy, high-tech sector and tourism on NUTS1 and NUTS2 level.

Figure 7. Interactive map of the European Union showing the number of population on 1st January (marked with yellow in 2009 Eastern region of the UK).

According to the directive of the European Union and the needs of our professional users the importance of HCSO’s geostatistical project is increasing. At the moment 2 maps are available on our website showing the number of holdings and the amount of annual working unit in the agriculture in 25 km² grid units.

Figure 8. Map of Hungary showing the number of holdings per 25 km² grid units in 2010.

Section 4 New communicational channel : Social media
A key objective of the HCSO is to increase the use and understanding of official statistics for all types of users. The role of online communication channels is constantly growing, since, according to surveys, more than seven-tenths of the Hungarian population are internet user and a significant number of them are also very active in the use of social media. The most popular social media channel is the Facebook in our country, 4.8 million Hungarians have a Facebook profile at the moment, giving 48% of the whole population. In order to reach more users, getting more feedbacks and expanding statistical literacy and culture, we made an official Facebook account in Hungarian language last year having 874 followers in a few months which is a good start comparing to other Hungarian government agencies. HCSO also joined Twitter community having both Hungarian and English account. We have a few dozen followers at the moment, which is a good result considering that it is only 80 thousand Hungarian Twitter users are registered. Youtube is also a good way to reach younger generation: besides census promotional videos, preparation of new statistical themed short videos are in process.
Section 5 Conclusions
In order to be able to provide the user with a better and more complex service, we need to obtain feedbacks from the user. User satisfaction surveys are the best solution to meet the changing needs of users to create new demands and making statistics useful and user-friendly. Based on the results of the survey conducted last year, HCSO was able to start the renewal of its dissemination activity. Expanding the number and share of online publications, using more and modern interactive visualization tools and the possibilities of social media HCSO managed to reach a more wide range of users of official statistics and to contribute to a rising level of statistical literacy and culture. Starting to use infographics during the dissemination process, and expanding English language contents available on our website and social media accounts are the main development trends for the future.

References


