

Information systems in the adaptation process of the Euro currency in Slovakia

Informačné systémy v procese adaptácie euromeny na Slovensku

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Abstract: On the 1st of January 2009, the Slovak Republic should implement the Euro currency and enter the European Monetary Union. The implementation of the Euro currency is in currently the most important theme in our country. Business companies will benefit most, but they will also bear most of the single-shot costs. Up to 80% of the costs are constituted by the adaptation of information systems (IS). At the end of the year 2007, only 14% of Slovak companies were prepared in the terms of the Euro adaptation in IS. This condition of the business sector is very important and also alarming. Accelerated preparations of the changes in IS are needful, but this project is highly complicated, primarily in big business organizations. The quality of the realized project and the continuous transmission of IS will be a critical point of the firm success on the Slovak and European markets.

Key words: information systems, Euro, adaptation process, European monetary union

Abstrakt: Od 1. januára 2009 zavedie Slovenská republika jednotnú menu Euro a stane sa tak súčasťou Európskej monetárnej únie. Implementácia Eura je v súčasnosti najdôležitejšou témou v našej krajine. Najväčší podiel zo všetkých prínosov bude čerpať podnikateľský sektor, no zároveň bude znášať aj najväčšie jednorazové náklady v súvislosti so zmenou meny. Až 80 % týchto nákladov bude pravdepodobne tvoriť prestavba a adaptácia informačných systémov (IS) spoločností. Ku koncu roka 2007 iba približne 14 % podnikov vykazovalo pripravenosť svojich IS na euro. Táto situácia v podnikateľskom sektore je teda veľmi závažná a alarmujúca. Skorá príprava zmien v IS je nevyhnutná a jej náročnosť stúpa s veľkosťou organizácie, pričom najkomplikovanejšie sú prestavby vo veľkých organizáciách. Kvalita realizovaného projektu a plynulý prechod IS bude kritickým bodom úspechu podnikov tak na slovenskom ako aj jednotnom európskom trhu.

Kľúčové slová: informačný systém, Euro, proces adaptácie, Európska monetárna únia

Slovakia is currently in a state of the intensive expectations of the fulfillment to the efforts in the context of meeting the conditions for the entry into the European Monetary Union and the related adoption of the single currency, Euro that is the Community currency for 325 million citizens in 15 countries of the European Union. Concerning the increasing chance of meeting this goal, there arises the question what will the new currency and the new style of monetary policy handling bring for the country.

We already know that this step will considerably influence the Slovak economy, which will be immediately and also in the long term reflected in a variety of

advantages, but also costs and risks that are thoroughly described in the work of DeGrawe (2004). Most of the advantages of the introduction of the Euro will be realized in the field of the national economy. At the same time, it needs to be mentioned that the business sector will carry the major part of the single-shot costs related with the adoption of the single currency.

The issue of redesigning the IS in the terms of adaptation for the Euro opens a wide space for special and scientific discussions concerning solutions of this problem in the scope of their modification as well as in the scope of time and the technical strictness quantification. This issue is analyzed in the works

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of Jankovič (2007), Kohútiková (2007), Fiľa (2007), Škorecová (2005), Ubrežiová and Bujňáková (2007), Softec (2007) and others.

MATERIAL AND METHODS

The irreversible progress of events in the field of the common preparations for meeting established terms of taking up the single European currency urges the business sector to start serious considerations about the sound preparation for this step. As we currently live in the so-called information era, the sufficiency, timeliness and accuracy of information is ultimate for achieving success. For this reason, we can consider the redesign of the IS as crucial. The goal of this paper is therefore to point out the current state of readiness of the Slovak business information systems for adopting the Euro, to underscore the inevitability of such modifications and the suggestion of the strategies how to handle the IS redesign. At the same time, it is necessary to advertise in roughcast the possible time, technical and financial strictness as well as the possible risks of this process. To meet the stated goals, it is necessary to:

- summarize the background materials in the field of IS and Euro,
- analyze the current state of the readiness of businesses,
- analyze the common principles of the IS operation and reevaluate the needed changes in terms of the dual display and currency change,
- evaluate the possible risks in terms of the IS redesign and propose the final strategy in a rough time, technical and financial quantification.

The background material and data needed to solve this problem were obtained through personal contacts with the representatives of the NBS and commercial banks, the ECB and the highly specialized companies oriented to IS and IT, advisors, and economical analyses. Mostly analytical methods, interview management, synthesis and comparison of data are used.

RESULTS AND DISCUSSION

On the basis of the analyzed information, it is possible to conclude that the present state of readiness of the Slovak businesses for the adoption of the Euro is unsatisfactory. Especially the small and medium sized businesses with up to 250 employees underestimate the set up processes in IS disregarding the high probability of their heavy share in the single-shot costs. Several questionnaire surveys mapped the readiness of the IS in businesses in the relation with Euro during the year 2007. The outcomes suggest that by the end of the year 2007, only about 14% of Slovak companies had the operational IS. Nearly 22.5% have not even begun their preparations, though the simultaneity is crucial for these companies. The best situation prevails in large companies, mostly due to foreign capital and the cooperation with the countries that have already adopted the Euro. A very good situation is also in the banking sector, where the appropriate information systems are being tested. With regard to the regions, the Bratislava and Banská Bystrica regions are best prepared. On the other hand, the worst situation is in the Trenčín, Žilina and Nitra regions.

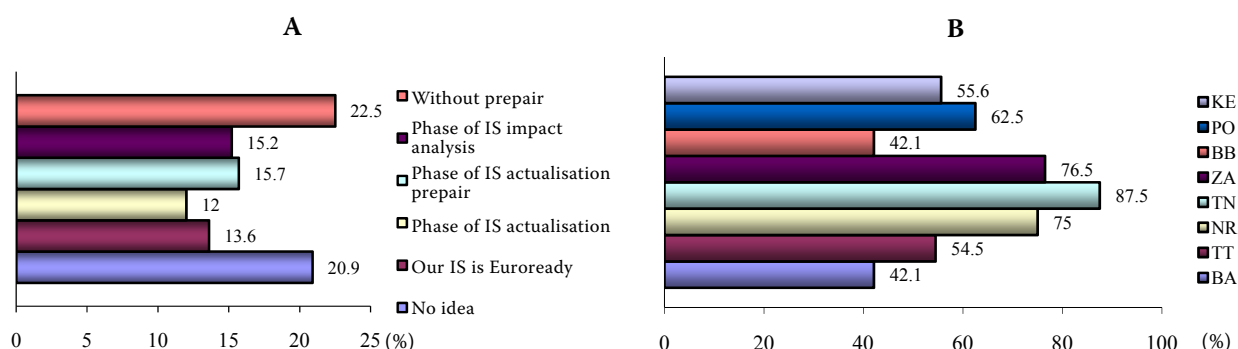


Figure 1. Readiness of company information systems in aggregate and per region

A – Euroready of IS in Slovak business companies

B – Companies, witch have not began with preparations, or are in the stage of preparing the IS for the Euro

Regions: KE = Košice, PO = Prešov, BB = Banská Bystrica, ZA = Žilina, TR = Trnava, NR = Nitra, TT = Trenčín, BA = Bratislava

Source: TNS

The process of information system modification

Formation of a coordinating council for the IS adaptation of the Euro

The organization management in itself is a highly important step, which can already at the beginning decide about the success of the whole project. It is important to name a project manager, who will lead and coordinate the whole process. He/she will consequently appoint a coordination commission, whose constitution is to be assessed mainly due to the orientation of the company. In large companies, it is recommended to nominate the Euro-team with a segment manager, which will be directly affected by the adoption of the Euro, and also with internal or external consultants from the IT and IS sphere or from the advisory sphere.

Audit of the currently used IS

The audit of the IS can be executed by internal employees of the company or the company can leave this task to software or consultant companies. The responsibility of the audit rests on the project manager. The following base steps need to be taken within the audit:

- *inventory control of used IS,*
- *Euro sensitiveness of the IS,*
- *identification of technical and nontechnical risks of the IS adaptation.*

The result of the audit should be a complex elaboration of all obtained data into the final report that states the requests and specific processes of IS adjustments including a time table to ensure a smooth and fluent adoption of the Euro. It is important to leave a sufficient time for testing. The results of the audit are then presented by the project manager to the company leaders, who will consider the results and can implement changes or complements into the presented processes and demands for IS transforma-

tion. Audit results also contain a calculation of the preliminary costs of the changes.

Realization of the necessary changes and the IS testing

IS modification can be divided into the following parts:

- *standard programs and modules,*
- *data interfaces and databases (their mutual linkages and synchronization),*
- *graphical interface (output line-up, user environs, screen),*
- *Euro-functionality (data conversion and their automatic initialization).*

After the finalization of the necessary modifications and the preliminary tests, it is important to execute deep examinations of the systems in the test run, where all modifications and altered processes will be tested. The priority rests on:

- *unit module testing,*
- *integration testing of internal systems and the linkage to external organizations,*
- *conversion data testing and fluency system transition testing,*
- *system efficiency testing (load testing).*

The problem grade of the respective data parts can be characterized by Figure 2.

Stepping into the real operation

This occurs in the moment of the implementation of specific solutions into the real operations of the company IS. This stage runs according to the key events related to the adoption of the Euro, according to the analytical division of three base stages of the adoption (introduced in the Figure 1.) The key events related to the IS will be:

- *launch of the dual display in the pre-transitional stage,*

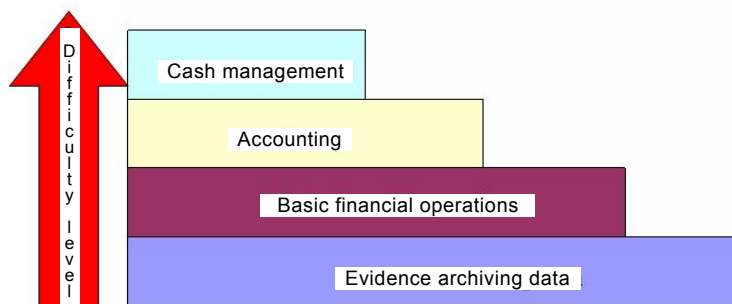


Figure 2. Sensitivity grade of financial operations on the Euro adaptation

Source: SOFTEC

- account balance and cash-desk initialization,
- securing of the pre-supply with Euro currency,
- automatic IS transition to the “€ day” – online conversion of data,
- dual circulation and termination of the SKK reception,
- termination of the dual display after the transitional stage.

Especially this part of the process can be seen as crucial in terms of a real test, if the individual processes of the IS modification have been set up correctly and if the realization of the Euro IS project runs coordinated in time and with the minimum of errors.

Stabilization and completion of the project

The terminal stage of the project involves testing of the impacts of the transition to the European single currency on the company IS and the solution of the potential corrections. There can be mentioned especially:

- solution of specific cases that occurred in the company,

- evaluation of the technical impacts of the IS adaptation to the Euro,
- system optimization and the HW/SW modification,
- removal of the unnecessary IS components or the HW/SW.

After the finalization of the currency conversion and stabilization of all necessary processes, it is appropriate to work out a final report that reflects the realized changes, their course and the impact on the IS, costs, and the company as an entity. The evaluation of the success and the critical error analyses must be included as well. The report is presented to the company management by the project manager and the management will decide on the stand-point.

Time and cost demands of the IS adaptation

The opinion of experts and businessmen on the IS adaptation differs. As businessmen consider it inevitable to address this process only few months

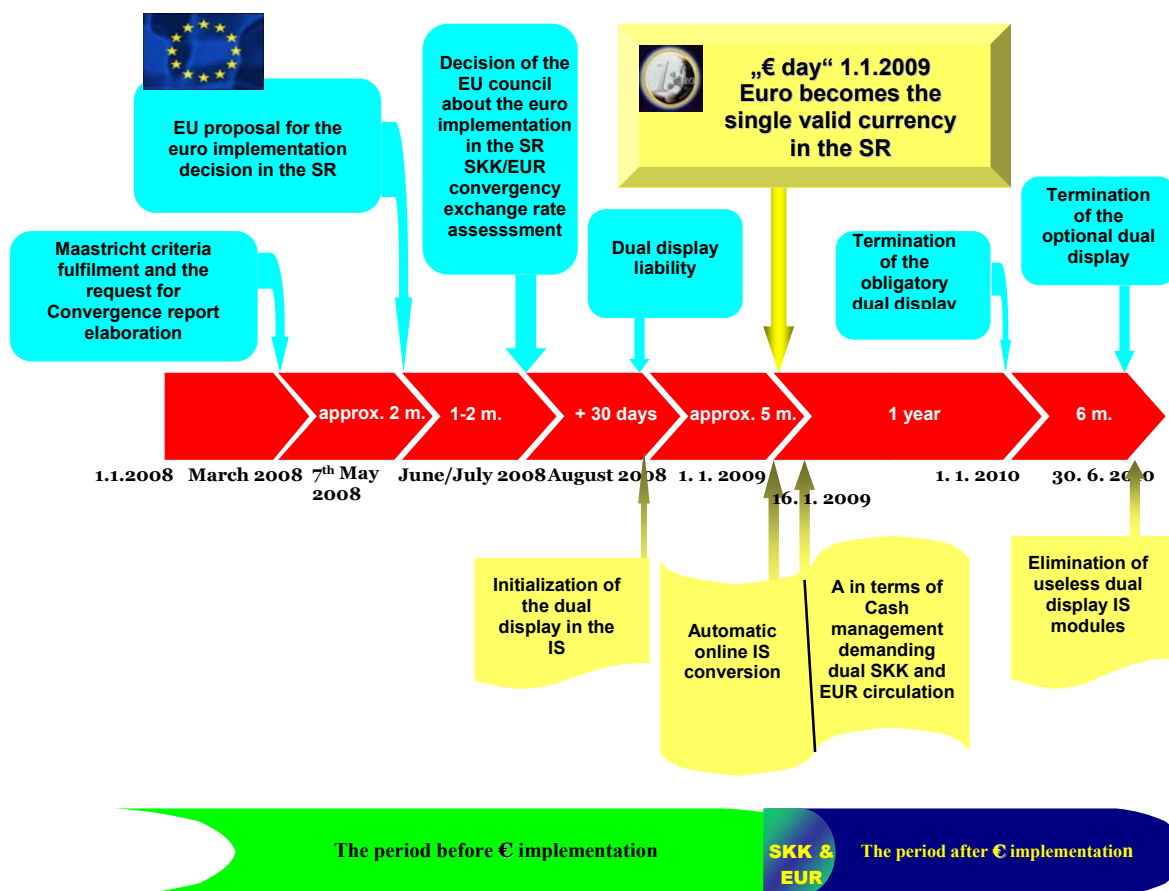


Figure 3. The expected timetable of the Euro adoption and the necessary measures in the IS

Source: NBS & internal research

before the currency conversion, experts warn that this process might in some companies last as long as two years. Despite the fact that Slovakia has less than one year to the Euro adaptation, many companies highly underestimate this fact. They also forget that the IS must be ready a long time before that. One of the reasons is the dual pricing that will probably begin in the middle of the year 2008. The Figure 3 displays a graphical depicting of the expected timetable of the particular steps.

Within the specific solutions, three periods will be considered during the implementation stage of the IS redesign. Those will need to be shifted into real operations on various occasions, which noticeably complicates the situation. It concerns:

- *the period before the Euro implementation (the period before the € day)*
 - the period of the Slovak crown IS (approximately until July 2008)
 - the period of dual pricing with a SKK base (approximately August–December 2008)
- *the € day – the main conversion of the system (1. 1. 2009)*
- *the period after the Euro implementation (the period after the € day)*
 - the period of dual pricing with the withdrawal of the SKK (1. 1.–16. 1. 2009)
 - the period of dual pricing with the EUR base (1. 1.–31. 12. 2009)
 - the period of the Euro IS (after 30. 6. 2010)

The studies of the possible impacts of the Euro implementation on the Slovak business sector have estimated that the costs related to the IS adaptation represent 60–80% of all single-shot costs related with the Euro, moreover, they make up only 0.2–1.26% of the companies' turnover. This fact is supported also by the managers of the software companies. The impact of the Euro adaptation on the economy of companies or business branches is also described by the Department of Research of the National Bank of Slovakia (2006), Ubréžiová (2007), Bielik et al. (2001) and also Škorecová (2007), Šuster et al. (2006). The bigger part of the software of a company needs to be updated in consideration of a constantly changing legislation; therefore also the upgrade involving the Euro adaptation will be often the part of the prepaid update packages. There can occur a special situation concerning the special integrated IS, created especially for a specific company, where the respective company will have to go through the contracts to determine the terms of software updates. Specific requests will have to be consulted in advance to determine the supply conditions. Also the mismanagement of the IS Euro

transition needs to be considered. It could influence the competences, costs, even the very existence of a company. Furthermore, the final result can require additional costs, if the IS redesign was too hasty. We can observe this on the example of Slovenia, where in the first months many companies had problems with the new currency after the adaptation.

Crisis scenario

From the objective point of view, we cannot exclude the possibility that Slovakia will not meet the Maastricht criteria, even if the possibility was only 28% at the beginning of the year 2008. In this case, it needs to be ensured that the IS will continue working under the conditions of the Slovak crown. The Euro adaptation can be on the background of the processes. In this case, the automatic conversion of the system needs to be avoided on the "€ day". Dual pricing can be retained as an informative item with a market exchange rate.

From subjective reasons, there is a need to embrace the measures that are resulting from the inadequate preparation of the adaptation of the IS or the failure of preparation. The solution can be the employment of the additional labor force that will manually correct and input the necessary data related to dual pricing and the actual currency conversion.

IS adjustment in agriculture

Considering the theoretical and empirical studies, we can state that agriculture will not belong to the sectors with high costs for the IS adaptation related to the Euro transition. The estimation predicts only 0.2% of the yearly turnover. However, the risks come with the high inactivity of companies, insufficient preparations, and above all from the aged hardware and software, which in the case of mishandling of the updates related to the Euro adaptation will need to be replaced.

The successful IS adaptation on the Euro is one of the crucial conditions of the future success of a company, and its smooth managing can be the foundation of a competitive advantage. As it is a rather time-consuming process that can be also money-demanding, it is recommended not to underestimate it. The experience from Slovenia, which already implemented the currency conversion, proves the expert right. The underestimation and the late execution of changes markedly increased the costs of many companies in the first months after the conversion and lowered their

competitive abilities. Their IS redesign was insufficient and the revision required additional costs.

CONCLUSION

Slovakia is on the way to fulfill the plan of the Euro adoption in Slovakia and to become a member of the European Economic and Monetary Union, which incorporates the adaptation to the single currency Euro. The implementation of the Euro is one of the most discussed topics in the country. Most of the benefits will be on the side of businessmen and the business sphere as a whole. However, they will also carry the highest part of the single-shot costs. The redesign of the information system to the single currency will make up to 80% of all costs. At the end of the year 2007, less than 14% of companies were ready for this change. This state can therefore be taken as alarming. Timely and sufficient preparations of the required changes are imperative. The complicity of this project grows proportionately with the size of the company. The domestic success of a company as well as the success in the European market can depend on the execution and timely handling of the transitional process of its information systems.

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