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IT Systems Supporting Finance and Accounting

The paper contains a description of IT needs of mid-sized companies in the area of financial and accounting software. Activities undertaken on particular stages of acquiring new IT system and associated problems and the most relevant requirements, which should be met by financial and accounting software used to keep the books of accounts, were also discussed. These requirements are strictly defined in the Accounting Act, however a transcription on the IT language and adjustment of created software reveal many unexpected problems. The most common difficulties are discussed in this paper.

Описаны информационные технологии (ИТ), необходимые для финансового и бухгалтерского программного обеспечения компаний среднего размера. Описаны мероприятия, проводимые на определенных этапах приобретения новых систем ИТ, и сопутствующие проблемы. Проанализированы наиболее важные требования к программному обеспечению финансового и бухгалтерского учета. Эти требования определены в «Законе о бухгалтерском учете», однако при их записи на языке ИТ и адаптации к созданному программному обеспечению обнаруживается много неожиданных проблем. Рассмотрены наиболее общие из них.

Key words: books of accounts, IT system, implementation.

When do we buy an IT system? Nowadays, companies which do not rely more or less on IT solutions can be hardly found. However, once the system is bought, it does not perform well with the passage of time, because it is not adjusted to current activity (character, size) of the company and then, the need for modernization shows up. Therefore, important questions associated with changing the IT system that is currently used or extending its functionality need to be answered by managers. This framework supports the decision-making process by providing discussion and analysis of this subject. The first question which appears is – why the system needs to be changed or extended?

Every IT system used in the company has its own life cycle, which consists of the following stages: system acquirement, implementation, exploitation, improvement, further exploitation and system liquidation (a change for another system).

In spite of differences in the method, time and cost of acquisition, implementation or exploitation of particular classes of software (large/small), the life cycle is typical both of large, extended and custom-made systems of enterprise management and of small, ready-made, and relatively inexpensive standard programs. Only during two first stages of the life cycle the system will not be changed. The purchaser believes, that he has chosen and bought the IT system which satisfies his needs in the best way, the supplier assures, that the system is optimal for the buyer, and the implementing company (it may be the same company as the supplier) argues that the system will meet all expectations of the user. Unfortunately, sometimes the user learns rather soon that the system does not meet his expectations. Although, the system has been finally accepted, protocols of installation/implementation have been signed, it realizes only partially the strategic targets, does not perform many functions as expected, and is difficult to manage. Users are not educated very well, which delays full implementation and service and is a source of failures and crashes. System provider or service company promise adjustments permanently, the IT system is turned off almost every day in order to introduce subsequent changes and conduct tests. The company relatively quickly, although harmfully, matures for the change of the software.

Even if the IT system was appropriately chosen and successfully implemented, and the usage was performed according to accepted assumptions, the company should seek for the improvement of its functionality. It is forced by a developing market, changes in legal regulations, expectations of users, and also development of information technologies. The reasons for change may be among others: implementation of new sales forms, e.g. via Internet, lack of communication with banking system in currently exploited software, a need for multi-currency function because of extending foreign business relations, a target of decrease in employment costs thanks to a more automatic administration and office activities, or simply a need for purchase of a system enabling cooperation with modern operational systems. Some of the systems working in outdated Disc Operating System (DOS) environment cannot be used if programs are managed with Windows XP system.

The purchase and implementation of new computer solution should improve firm's management, make it more effective and less expensive. It is worth to do it while the company is in good operational and financial condition, and the market situation is favourable. The better the management process, the better the firm's competitive position, which may be valuable in tougher times. However, managers face a question: whether buy a new system, or modernize the existing one?

The system should be changed when necessary functions do not work in the existing software or some limitations in its activity that are impossible to over-

come by producer/supplier/implementation company are present. The software change can be caused by a serious change of user's requirements associated with details of currently used program, lack of software producer's reactions for changes in regulations, or insufficient capabilities of the system to provide management with data necessary for reporting and analysis. Liquidation of the company servicing existing software or very troublesome experience from recent cooperation are often reasons for the software change.

On the other hand, the system should not be always changed for a new one, especially when the software supports firm's business activity, and cooperation with software provider seems to be satisfactory. In such situations it is possible with the consent of and in consultation with the software producer/supplier or implementation company, to make more efficient and rework existing system because of:

- current needs of users;
- necessity to transfer data between particular programs (for instance salaries — costs) and implement new versions of the system;
- extension of the system with new modules adjusted to company's needs;
- eliminate errors and causes of failures during usage;
- changes in tax and accounting law (financial and accounting programs, materials management, sales), norms (system of production support) or internal firm's regulations (bonuses regulations, company norms, chart of analytical accounts, changes in responsibilities and competences etc.).

Additionally, it is worth remembering that implemented IT systems, even those which take into consideration the most advanced options, will not meet expectations with regard to firm's management without constant modification that enable to adjust to changing conditions. Regardless of a kind of the IT system, it is necessary to constantly and regularly adjust it to changing reality. An IT system does not reach an optimal, invariable «target state», but undergoes permanent changes, therefore it is good to ensure an appropriate system elasticity and relatively low costs of potential alterations even in the beginning of system acquisition.

Which system should be chosen? A purchase of a new IT system or a significant rework of existing one, should bring concrete and tangible benefits. The system choice is not a straight-forward decision. An accurate choice will lead to improvement of basic business processes, better management, increase in sales or decrease in costs, a mistaken one will cause a confusion among business partners, turbulence in book-keeping, disruptions in firm's management and financial losses in consequence. Therefore, the second question appears – which program among many available on the market should be chosen. It is a difficult task, because the scope of functions fulfilled by most of systems (consisting of integrated programs) is similar.

Financial/book-keeping program responsible for accounting represents a relevant part of a computer system. In market economy it is impossible to overestimate the importance of the books of accounts for effective and efficient activity of the company. A good book-keeping provides quickly reliable and comprehensible information firstly required by legislator in order to thoroughly present firm's financial and operational condition for external entities and tax authorities, and finally, which is also relevant, provides information necessary for employees for everyday operation activities, and managers with analysis that supports the decision-making process.

Among programs available on the market for entities which conduct business activity, one can find relatively straight-forward systems which are made to execute basic registry functions. Because of that, these systems are simple in service and do not require an expensive hardware. They are competitively priced and mainly used for unsophisticated features by people running their businesses individually. It is also possible to buy a more developed system supporting sales, business partners contacts, warehouse organization or human resources management. Usually, they are ready-made, integrated and cooperating with each other programs. What is important, their producers offer also assistance in program's implementation, training in software usage and also after-sales service usually reduced to adjustments of the program to formal and legal requirements.

The third group of programs is connected with class ERP (Enterprise Resource Planning) solutions, destined mainly for production and retail but also service companies. ERP is a set of programs embracing all production and trade processes, which enable to integrate company's activities on different levels of management. It guarantees an optimal use of resources and clarity and efficiency of internal processes, and improvement in the flow of information crucial for its activity. It also enables to instantly react to changes of demand.

However, before choosing one of available solutions, it is worth considering seriously, what do we really need, and try to analyze products offered on the market from this point of view. The final decision should be preceded by an analysis of potential benefits offered by a given product. From the one hand, it is important to avoid a poor software, but on the other hand, if there are too many dispensable (in a particular case) functions, the program will be overly developed, and in consequence overly complex.

For example if the software is used by employees of accounting office, modules of reporting and ability to perform complex analysis will be not necessarily most important, whereas simplicity and short time of entering the data to the system are fundamental. Majority of programs offer generally accessible demonstration versions that can be used to assess usefulness before making a final decision to purchase a system.

In companies, especially in smaller ones, apart from financial/book-keeping programs the most commonly used software supports sales, warehouse organization (retail), human resources management and fixed assets records.

It should be emphasized that financial/book-keeping programs should conform mainly to the Accounting Act and tax legal regulations currently in force. Additionally, the program should be adjusted to other regulations concerning such areas as salaries or insurance of workers. The Accounting Act of 29 September 1994 [2] hereinafter referred to as «the Act» clearly defines requirements for the books of accounts, also those kept in electronic way. These requirements concern the books of accounts, however do not interfere neither in methods nor in technology of book-keeping. Some regulations of the Act are formulated in not fully understandable language; thus it should not be a surprise, that IT specialists have problems with appropriate translation of accountancy principles to algorithms of data processing, although it may negatively affect the quality of the books of accounts serviced by the particular program.

Responsibility for adopting the relevant accounting (policy) principles and supervising fulfillment of accounting obligations is held by entity's manager (article 4a of the Act). It is beyond any doubt that a choice of appropriate system considerably determines a method of book-keeping and quality of records, and may significantly influence its clarity, reliability, readability and completeness. Therefore, it is worth indicating here several requirements set for financial/book-keeping IT programs on the basis of the Act regulations. Knowledge of solutions applied in programs produced for realization of these requirements should facilitate making an accurate decision when choosing appropriate software.

Requirements of the Accounting Act for financial/book-keeping systems. A central part of financial/book-keeping system is usually a general ledger accounts, which include all items mentioned in article 13 of the Act: a journal, a general ledger, subsidiary ledgers, trial balances of general and subsidiary ledger accounts, a list of items of assets, liabilities and equity (inventory).

The module is supplied with information necessary to guarantee completeness of the books of accounts from all other modules in the system. At the same time, the books are also represented by IT sets, which collect data entered in the system on the basis of approved accounting documents, and also above-mentioned data sets preserved in the form of print-out or on the other IT carriers. The books of accounts may be kept as files recorded on computer data media, provided that they are printed or stored with the use of damage-resistant and durable data media.

The main target of financial/book-keeping program is to process registered information about business events of the company in a way guaranteeing that the books of accounts are reliable, error-free, verifiable and prepared on a current basis representing features described in article 24 of the Act.

Manual data implementation to the system of single accounting document can be performed in two ways:

after introducing complete data to the system, a user must immediately verify and record them, otherwise he will lose this part of data;

registration of data is executed in stages; accounting document during subsequent steps of its elaboration represents a version: initial, verified, posted and entered.

The document becomes available for edition no sooner than the accounting document is entered, that qualifies it to become an accounting entry as defined in the Act. The first of the two above-mentioned possibilities allows at any time, with no reservations, to treat electronic sets as the rightful books of accounts. Every entry qualifies instantly for all features determined in article 24, paragraph 1 of the Act [3].

Accountants prefer the second possibility, because it is more convenient. However, acting in this way without enforcing requirement of entering registered accounting documents on a current basis while all necessary and proper data are collected in the system but available for modification results in a risk, that the system sets may not be treated as correct books of accounts. Therefore, when deciding to use a program which enables registering with delayed entries, one should check, how the program supports the user in recording data entered in the system on the time required by regulations. One example of supporting solutions often contained in programs is a possibility of including registered data only in two adjacent reporting periods or before the new month begins, the books of accounts for previous month are to be closed.

A large part of accounting documents is created automatically on the basis of data uploaded from other modules of the system (e.g. exchange rate differences) or from other external systems (e.g. sales records). Similarly, in this case, there are two methods of processing in books:

manual modification of uploaded data is impossible, which means that simultaneously data are recorded upon an upload;

uploaded data have a status of draft entry; information is to be finally entered and recorded after verification and possible correction or modification of posting.

In the case of automatic data uploading to the books, the program should allow identification of a source of data origin, and simultaneously support processing with reports necessary to identify its completeness. A possibility of storing accounting documents both entered and those not entered (stored in a buffer/temporary journal) in the sets of the system creates various problems when resulting information is created. Usually, trial balances of accounts are individually determined on the basis of sets of entries gathered in the moment of

start-up of resulting information. A decision whether consider data from all accounting documents, or only from a subset which meets certain criteria (for instance only final entries), is made by a user through filling a list of print-out parameters and indicating chosen ways of data filtering.

Parametrization. In order to find a lot of clients, producers equip their programs with more parameters, which allows to flexibly modify programs which in effect can be adjusted to specified needs of the company. However excessive freedom in using various parameters generate a danger of introducing by a user changes to rules of data processing, inconsistent with legal regulations and accounting principles (policy) adopted by the company. It can decrease credibility of the books of accounts or even cause contesting the correctness of the books. When using parameters a certain order should be applied. It must guarantee invariability of relevant principles of keeping the books of accounts through full financial year. It is worth distinguishing three groups of parameters:

- constant and unchanged from the beginning of using the system (for instance the basic currency used for bookkeeping, variant of costs account);

- constant and unchanged during a particular financial year (for instance division of financial year on reporting periods, method of keeping a journal: one common or according to the topic, method of inventory valuation);

- available for constant modification (e.g. names and definitions of automatic posting, classification of business partners, codes of special accounts, codes of currencies, place of the costs origin, value added tax rates).

Some programs register values of parameters in distinguished sets, that facilitates recording the history of changes and preparation of summary of current or historical value of the given parameter. The documentation of the system instruction for use (manual) should contain sufficient information about the scope and rules of calculation of the given parameter and possibilities of control.

According to article 9 of the Act the books of accounts shall be kept in the Polish language and currency. Pursuant to this article, one should remember to verify whether programs created by foreign producers are adjusted to specific requirements of Polish legal environment and tax regulations. Adjustment of human resources and salaries modules to Polish legal system and automatization of records of accounting Polish value added tax seem to be the most difficult part.

Accounting entry. Accounting entry is a fundamental component of the books of accounts. As a result of processing data covered by a book entry, one can obtain specifications presenting numerical data in chronological order (journal) or systematic order (accounts). In order to obtain specifications presenting appropriately data recorded in the books it is necessary to ensure:

- completeness of information representing single accounting entry;

- creation of accounting specifications exclusively on the basis of verified and recorded accounting documents;

an effective way of linking accounting entries with underlying source of documents.

Criteria for evaluation of information completeness, which are a basis for a single entry, are determined by article 23 paragraph 2 of the Act. The Act indicates three dates, which should be registered in the frames of each accounting entry: the date of business transaction, the date of accounting document, the date of entry, which seems to be the most troublesome. This date has often two interpretations in computer programs: according to this date, accounting documents are matched with reporting period, in accordance with matching principle, on the other hand, this date is a basis for the chronology of entries in the journal. An accounting entry is synonymous with final acceptance of the entry and if the system requires initial data registration in the buffer, the order of these two actions (entry in the journal, matching to the reporting period) will be not always consistent.

Programs, which accept a possibility of delayed entry should also contain one information – the date of actual accounting entry, filled automatically with calendar date according to the system clock.

By checking completeness of data from accounting documents that are a basis for entries, regarding certain types of accounting documents, additional registration of payment date or date of receiving a document is necessary for tax reasons – which usually concerns invoices.

In order to remain compliant with article 23 paragraph 3 of the Act which states, that: entries related to transaction expressed in foreign currencies shall be made in a manner allowing the determination of the amount of the transaction in both Polish and foreign currency, the functions of entry registration, which are expressed in foreign currencies should simultaneously guaranty an entry: which identifies appropriate rate for calculations and date of announcement and gives a result of translation to local currency (PLN). Exchange rate can be implemented manually by the operator on the basis of accounting document or automatically by a system on the basis of predetermined parameters of processing entries in foreign currencies.

Journal. Article 14 of the Act determines the content and organization of the journal. In order to present accounting entries in chronological way, algorithms of financial/book-keeping program should contain a fixed expression of chronology. A choice of appropriate method seems to be very difficult for many designers of financial/book-keeping programs. When manual techniques were used, chronology of entries was forced in a natural way. It was impossible to remove or modify subsequent entries recorded in the book (journal), and the date of entry assured at the same time a chronology of records. This method is copied by programs, in which registration of the document is inseparably associated with its entering in the books (without storing records in a buffer/temporary

journal). Still, this solution is nowadays rarely used. Majority of programs determine the sequence of positions in the journal according to the date of entry. Data can be edited or in a particular situation completely deleted from the set until the document is entered by a system. The number of a position in the journal can be finally settled not until the last stage of registration which is not always consistent with the date of entry predetermined by the operator.

The software authors use various solutions for assuring conformity of the date of entry in the books with automatically prescribed number of journal. Some sample solutions are provided below.

Positions in the journal are determined at the first registration of data which facilitates noting in the document a number of position in the journal but does not guarantee full consistency of numbering with the date of entry predetermined by the operator; it does not protect against gaps in numbering in case of removing entry from the system's resources as well.

During the first registration, the program assigns a subsequent number of a journal to documents allowing multiple changes of the number with regard to a date considered in a program as an indicator of chronology up to the closing of reporting period; all gaps in the numbering resulting from the canceling of wrongly registered positions are then eliminated. In this situation, continuity of numbering is preserved, but it is impossible to use a number of a journal position as an identifier which matches IT resources with an archive of source documents.

When the document is registered for the first time, the program sets a subsequent record number of accounting document (the number is blocked from editing), but only after a final acceptance of a record, the proper position number is assigned in the journal. Record number can be noted on the document which helps to link it with appropriate source document; it also guarantees a constant numbering of positions in the journal.

The journal should group business events according to reporting periods (months), which in practice means a possibility of using two types of automatic numbering of entries: separate for every period, or continual (subsequent) during a financial year.

Both solutions are correct, although the first one is more clear and useful in controlling the completeness of entries. Using a continual numbering may cause at the end of a month assignment of subsequent numbers to accounting documents alternately associated with two adjacent reporting periods.

A journal similarly as provided by the Act all other obligatory specifications should be printed with certain frequency or stored in a damage-resistant data media. During execution of this task the list of parameters should not influence the journal content and indicate exclusively a reporting period and journal code, if any partial journals according to the topic are kept.

Trial balance. A structure and frequency of trial balances of general ledger accounts is determined by article 18 paragraph 1 of the Act. The trial balance should obligatorily include a complete list of used parameters, determined before the specification is prepared. If the list is missing, the work can be indeed much more difficult. The trial balance for a particular reporting period should include information whether the books for that period have been finally closed. Otherwise, one cannot be sure, if the balance values in specification are definite or present only a temporary situation.

Finally, it is worth considering a common error, that can be found in trial balances – it is summarizing opening balances in a column destined for presentation of cumulatively year-to-date accounts. Opening balances does not depend on activities in a current year. If they are added to activities numbers, which were noted during a year, it is impossible to agree on cumulative sums of activities accounts with cumulative activities resulting from the journal summary.

General ledger accounts. Specification of entries on the particular general ledger account, commonly called a Ledger Sheet, is obtained by integration of data from appropriate subset of account entries. The account entries should be presented with regard to chronology used in a journal. The list of entries should begin with an opening balance, and finished with a closing balance agreed at the end of a reporting period.

For the controlling purpose, every position of Ledger Sheet should include information placed also in the journal, which enables to find the same entry in both specifications. Because above-mentioned specifications, which by the way represent some part of the books of accounts, need to be prepared on the basis of recorded entries, the position number in the journal assigned automatically by the program and characterized by unique identification features seems to be the most appropriate solution.

Considering article 15 of the Act, one can conclude, that when the double entry principle is used, entry on the Ledger Sheet should contain the code of an opposing account. Nevertheless, specifications rarely contain a column called «code of opposing account». Meanwhile, the double entry principle results in a need of indicating both accounts, which were used for an entry. In practice, in many financial/book-keeping systems, verification of balancing of amounts by sides is performed for the whole document rather than for a particular accounting operation. However, system should in a transparent or default way force a division of document characterized by multiple positions on parts, which includes entries of single business operations, which allows to determine opposite accounts. Described principles should be used both in the case of manual posting, and in the case of determining templates of automatic posting.

Continuity principle. Certain requirements set for systematic functions performed at the end of a financial year are justified by article 5, paragraph 1 of the

Act. In electronic sets, opening the books for a new financial year, depending on the construction of data bases can be summarized in: adding a new financial year periods to the list of financial periods. Alternatively, individual sets for a particular period can be created, if data associated with separate years are gathered in technologically distinguished electronic resources.

Before making the first entry in the books in a new year, the values of systematic parameters which would be in force in a newly opened financial year, need to be determined. Programs most often assume copying values of parameters used in the previous year. If parameters used for running the books change significantly, it is necessary to install the system once more, for a new financial period and set the parameters again. In this situation, the user is fully responsible for complying with continuity principle in running the books, and changes are associated with convincing justification, supplementing principles (policy) of accounting, and comparing results for several years.

Closing the books of accounts for reporting periods and financial year.

Article 12 of the Act (paragraphs 4 and 5) contains several requirements associated with closing the books of accounts for a financial year. Closing a reporting period in computerized accounting is usually connected with changing a status of a period from active (open/working) to closed (blocked). Only users of upper management (or system administrators) are most often authorized to do this. A closing of a period should prevent other users from making new entries in closed books. Some of programs distinguish a temporary and final closing of a period. Temporary closing is used for the time of verification and the books agreement for a closing period. Final closing (irreversible) should come immediately after filing (and auditing if necessary) all statements for a given financial period. Books for the whole year should be blocked for any changes within the time determined in above-mentioned paragraph 3, article 12 of the Act. If such function is not available in the program, the correctness of the books may be contested.

Summary. IT technologies are not developed in market vacuum, but in very tight association with business reality, therefore they should provide solutions adjusted to concrete and real problems. It is not a coincidence that modern development of electronic systems supporting firm management is accompanied by development of corporate market (creation of capital groups) takes into account trends of integration and globalization. Tendencies visible in large companies and business organizations (capital groups), influence programs created by majority of producers, even those which are destined for small and mid-sized companies.

There are several different approaches to the purchase of IT system for mid-sized company. Starting from a purchase of ready-made, standard program, through purchase of the same software and adjusting it by the IT specialist of the

company or implementation company to individual, special needs, and finishing on ordering software adapted to unique circumstances of the company. Each of above-mentioned solutions has its advantages and drawbacks.

The author has tried to describe the most important requirements, which should be fulfilled by financial/book-keeping programs used to book-keeping. Certainly, the subject has not been exhausted. The article has touched issues, which are troublesome even for popular programs that are available on the market.

Majority of programs are comparable with regard to the functions, therefore when choosing the software it would be valuable to thoroughly consider whether applied solutions are compliant with requirements of the Act. Regulations associated with book-keeping, and accounting generally, generate many difficulties, especially in posting and properly classifying documents. The program should at least respect basic rules of correct accounting and during data registration guarantee verification of completeness and correctness. Good financial/bookkeeping system should give a sense of security, and results produced by the system ought to contribute to effective company management and facilitate appropriate preparation of tax declarations.

Описано інформаційні технології (ІТ), необхідні для фінансового та бухгалтерського програмного забезпечення компаній середнього розміру. Описано заходи, що проводяться на визначених етапах придбання нових систем ІТ, а також супутні проблеми. Проаналізовано найважливіші вимоги до програмного забезпечення фінансового та бухгалтерського обліку. Ці вимоги визначено у «Законі про бухгалтерський облік», однак при їх записуванні мовою ІТ і адаптації до створеного програмного забезпечення виявляється багато неочікуваних проблем. Розглянуто найзагальніші з них.

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