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COMPUTER AIDED SUSTAINABLE DEVELOPMENT REPORTING - INTEGRATION WITH ERP PACKAGES

11.1   INTRODUCTION

The notion of corporate social responsibility (CSR) and reporting practices are complex and multidimensional. There exists many different approaches, standards and guidelines and consequently indicators to be reported which makes it not easy to prepare such report not to mention about its comparability. In order to support and facilitate reporting practices it can be applied computer programs enabling partial automation of the reporting process. In this paper an analysis of functioning of this kind of software was conducted with drawing the attention to the effects in the field of CSR reporting which can be achieved in this way. The purpose of this paper is to present a comparison of different approaches and solutions in the field of computer assisted sustainability reporting with a special focus on ERP software. In this paper the authors use the terms of sustainability reporting and CSR reporting interchangeable.

11.2   CORPORATE SOCIAL RESPONSIBILITY REPORTING– THE BASE OF THE ISSUE

Implementation of Corporate Social Responsibility (CSR) principles into economic practice is a difficult task. On the one hand, the concept of CSR is not easy to explain and contains the entire range of issues. In the narrow sense according to some experts the concept focus mainly on social issues and in a wide sense, which is compatible with the views of the authors of this paper, reflects the idea of sustainable development concept at the enterprises level [8, 13]. So different meaning of CSR concept caused that emerged a number of standards relating to the issue. The problem is not only the implementation of the principles and requirements of corporate social responsibility in the organization but also a matter of measuring the extent to which an organization is in the issues involved. To do this, using the appropriate indicators, measure the involvement of specific organizations into CSR concept. To make such comparison had a sense the data must be complete and compatible. Achieving this requires the creation of reporting systems of corporate social responsibility actions undertaken by the individual companies. Each country creates its own systems enabling to look at this problem from a different point

of view (detailed information on system solutions of sustainability reporting in different countries can be found in the). In terms of community involvement activities often are divided into obligatory and voluntary activities. In this case, the area of mandatory activities include basic economic activity of the organization. And the area of the voluntary activities consists of three groups of actions [4]:

- projects in a commercial environment,
- investments into local communities,
- philanthropic activity.

Organization to demonstrate that the above examples of activities have been implemented must somehow prove that they took place and in an appropriate manner communicate about their results, for example by means of CSR report.

Speaking of sustainability we can distinguish two approaches. The first approach is based on the requirements of the specific norms and standards, and the second rely on entirely voluntary approach to the concept of corporate social responsibility and the reporting process. It is worth noting that the CSR reporting process is not easy because of the different solutions used in each country and a plurality of used indicators. In the literature, the following are the most important issues in this field [7]:

- the problem with defining key performance indicators,
- sensitive of the information for different audiences,
- non-financial information have a smaller value in many cases and they are irreverent,
- CSR reporting is expensive,
- there is too little knowledge about the companies reporting,
- problems with continuation of corporate social responsibility reporting.

The major international guidelines on corporate social responsibility reporting include the Global Reporting Initiatives (GRI) guidelines. Particular countries often refer to the guidelines by creating local solutions in this area. The popularity of these solutions contained in the GRI are confirmed by the fact that till June 2011 up 2889 organizations around the world have developed sustainability report prepared in accordance with these guidelines. These guidelines in a very detailed manner regulate the content of the report, which should include the following elements [9, 10]:

- strategy and profile – a description of the organization strategy with reference to the sustainable development issue, a review of the structure of the organization and scope of the report,
- approach to the management – contains a description of the organizational structure, policies, management systems and efforts to involve stakeholders,
- performance indicators included in the three areas – economic, environmental and social.

11.3 PHASES ORGANIZATIONS ADVANCEMENT IN THE IMPLEMENTATION OF INFORMATION SYSTEMS FOR REPORTING ON CORPORATE SOCIAL RESPONSIBILITY

To be able to prepare good and credible reports in the field of corporate social responsibility organization shall ensure control over all the necessary information. This information should be readily processed and presented in a user-friendly form. Usually, in order to collect, aggregate and present data in terms of corporate social responsibility organizations speak, from the tools, the three solutions, which are to ensure the transparency of the process [11]:

- office software such as word processors and spreadsheets – most companies begin to create their reports using such solutions, because they are simple and require no additional training, or expense, but very quickly, those organizations that engage seriously in the process of corporate social responsibility reporting come to the point where beginning to realize the limitations of this kind of tools;
- software dedicated for reporting corporate social responsibility, it is usually the next step that you take those companies that want to ensure the quality and ease of reporting on corporate social responsibility, including the possibility of aggregating data and convenient charting;
- fully integrated reporting system connected to the ERP, in this case, the reporting of corporate social responsibility at the level of information technology becomes integrated with the management of the entire organization, supply chain management, resource management, quality, safety, finances, etc.

This is consistent with the literature on the subject decrypted in the paper, which also sets out three approaches – the methods of computing systems management [5]. The company, which wants to implement software management support system easy see that this is a serious problem. The basic choice that is in front of the company is the decision whether it would be advantageous to purchase one of the existing programs on the market, or they may want to create own solution. Each of these approaches has its advantages and disadvantages. The company wishing to design own, tailored to the requirements of the software can have them outside (outsourcing) or execute a program within their own company. Similarly to the previous case, each solution has specific advantages and disadvantages.
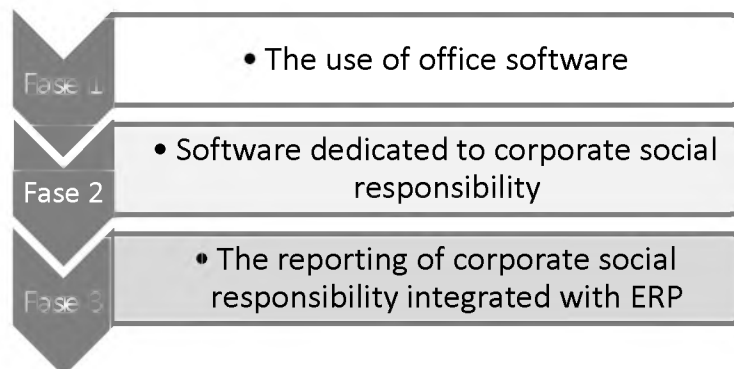
Each of the three possible solutions is worth considering and can be effective or not, depending on many factors. Decision-making process, which is aimed at the selection of one of the solutions is not easy and should include a number of important parameters. Therefore, it is worth to post a few tips to determine in which situations, a specific solution may be the best [5]:

- finished programs are worthy using when: there is need for rapid implementation of the system, we do not have qualified staff specialists, our management system does not differ substantially from the sector standards;
- external outsource company, designing custom systems should be used in the following situations: when there is a good market companies, with experience

in designing custom programs in the industry such as ours and we want to reduce costs but do not have sufficient potential to self-creation system;

- the same value system design when: a management system in the organization essentially differs from the standard, we have a well-qualified team of specialists, we do not have sufficient funds to take advantage of existing solutions, does not depend on us during the implementation.

However, keep in mind that these guidelines are not mandatory, therefore, always planning and designing specific systems must carefully analyze the specificity of the company, the needs, the availability of specific solutions, and available funds, to select the most efficient solution in a given situation. The order of the phases in the implementation of software to support the reporting of CSR is shown in Figure 11.1. Mentioned phases determine the level of organization advancement in this field. In practice, usually the organization initially uses the lower level solutions that lead to a situation in which they are restricted and further development of reporting forces the transition to the next phase.

- The use of office software

Fase 2
- Software dedicated to corporate social responsibility

- The reporting of corporate social responsibility integrated with ERP

Fig. 11.1 Phases of advancement of the organization in the process of corporate social responsibility computerization

Source: on basis [11]

11.4 INTEGRATION OF CORPORATE SOCIAL RESPONSIBILITY REPORTING AND ERP

As was mentioned in the previous section of the paper, the integration of computer aided social responsibility with ERP software is considered the most advanced solution on both the computer and management point of view The organization at the strategic level needs to integrate all kinds of reports that it created. Various reports and various reporting systems may in fact provide different data. It should ensure their compatibility in terms of: completeness, reliability, risk management, business continuity, compliance with relevant standards, etc.

Integrated ERP systems play an important role in aided information technology within modern companies. This class of systems has the ability to support and integrate almost all areas of activity of the company and can significantly support various levels of management reporting, monitoring and analysis of business processes [1]. ERP systems/DEM (Enterprise Resource Planning) are currently the latest developments and MRP systems (Material Requirement Planning) and MRP II (Material Resource Plann-

ing). Those standards are complementation of the earlier standards of financial mana-gement – management accounting, control, liquidity, cost accounting, corporate social responsibility, etc. Among its there are also many additional features included in ERP: supplier chain management and planning activities of the company at various levels – from strategic to operational [12]. ERP systems is a system covering the whole process of supply, production and distribution, which integrates the various sectors of the com-pany, improves the flow of important information on its operation and allows you to instantly respond to changes in market demand. This information is updated in real time and available at the time of the decision. One of the major differences between the speci-fication of the ERP, and the other is the use of constraint-based, bi-directional planning and optimization mechanisms built into the possibility of electronic connections in the supply chain and sales [6].

Given into account the completeness of the solution is certainly the best to fully integrate reporting of corporate social responsibility with the ERP system. However, not in every case, such a solution can be applied. Before an organization to take decisions in this regard, it must consider the possible problems that may relate to matters such as:

- costs – a fully integrated system is costly and for this reason it is not always the optimal solution for small business;
- owned IT infrastructure – extensive systems require modern infrastructure, if the organization does not have any such distributions may result in additional costs.

When these problems appear to be large enough that the organization is not able to implement the reporting system of corporate social responsibility is fully integrated with ERP alternative is the so-called action in the cloud. However, this manner of con-duct will not be in this publication further developed. Made by KPMG to review the exist-ing solutions (their list is shown in Table 11.1) in the field of computer-assisted report-ing of CSR allowed to draw the following conclusions [11]:

- almost 89% of the packages are suitable for small-sized companies (< 25 employees), while 94% of the packages are suitable for 25 - <100 users. All pack-ages are suitable for 100 or more users;
- the packages are applicable within various sectors (e.g. aviation, agriculture, ener-gy, shipping, industry, real estate and transportation);
- more than 82% of the packages have worldwide coverage and all packages offer English language. Nevertheless, packages that do not have worldwide coverage do cover key markets in the Netherlands, UK, North, Central and South America.

Taking into account the functionality of the tested software its concentrates on the most areas that occur in a typical ERP software on the issues that may affect the reporting of corporate social responsibility. In Table 11.2, the most important features of this software together with an indication how often a specific functionality occurs. Data collected using the software can be used by internal and external stakeholders of the organization. External stakeholders may for example be informed of the potential scenarios that may occur at the creation of the data used Corel software.

**Table 11.1 The software which contains modules to support
the reporting of corporate social responsibility**

Manufacturer	Software
CA® Technologies	CA® ecoSoftware
CRedit360 Ltd	CRedit360
CSR Nordic ApS	CSR-System
CSRware,® Inc.	Sustainability Resource Management (SRM)
Dakota Software Corp.	ProActivity Suite
dmStrategists, LLC.	SBP360
e3 Solutions Inc.	Carbon Management Tools – e3CAT, e3Clip and e3 ECM
Enablon®	Enablon SD
Hara Software Inc.	Hara Environmental and Energy Management (Hara EEM)
Locus Technologies	Locus ePortal, Locus RMM (Resource Management Module)
Oracle®	JD Edwards EnterpriseOne Environmental Accounting &Reporting Oracle Environmental Accounting & Reporting Sustainability Reporting Starter Kit for Oracle® Hyperion® Financial Management
SAP®	Sustainability Reporting and Analytics Solutions
SAS®	Sustainability Reporting
Systar Pty Ltd	iSystain™
WeSustain GmbH	WeSustain Enterprise Sustainability Management (ESM)

Source: [11]

**Table 11.2 Functionality of software with modules to support
the reporting of corporate social responsibility**

Functions	The percentage of software in which the function exist [%]
Detailed annual assessment	100
Strategic implementation Monitoring and reporting	94 94
Scenario analysis Projections Decision and engagement tools	82 82 82
Workflow management Risk assessment	78 78
Guidelines and data resource Financial analysis & costing Automatic data collection from meters	70 70 70
Supply Chain analysis Simple estimate	62 62
Guidance Carbon offsetting	50 50
CDM Tools	42
Life cycle assessment	34

Source: [11]

Virtually all ERP programs, which were analyzed in the report, included most of the functionality relating to corporate social responsibility reporting. For example, issues relating to strategy, scenario analysis and decision process occurred in 82% of the programs. Problems occur when we begin to talk about the more specialized functionalities. In such a situation, it turns out that not every program has them, and hence the decision to implement a particular program is not always clear.

Issues such as automated data collection, analysis of the continuity of the analysis of LCA, etc. are only a part of the software and are not always available, even in very complex packages the best companies.

Very important problem associated with corporate system responsibility reporting is the process of preparing reports on corporate social responsibility. Because of that it's significant problem to look into the functionality of the programs in this regard. A reporting format is important when you want to ensure compatibility reports, as well as the information contained directly used in other software, such as statistical analysis, etc. In assessing the software that the organization wants to implement, we must first consider the following five issues:

- Is there a function to administer the external information supply?
- Is there a possibility to graphically display management reports?
- Is there a possibility to create standard management dashboards?
- Does a list or report generator come as standard?
- Can reports be exported to MS Word and MS Excel?

In the process of compiling reports on corporate social responsibility very important step is to identify areas that will be subject to reporting and detailed definition of indicators. These indicators are the most frequently should be consistent with the standards of the GRI and address issues related to: the economy, the environment, social issues, human rights and social responsibility. Most large software packages like ERP, allows you to define indicators in all needed fields of corporate social responsibility areas. As is clear from the quoted KPMG report all analyzed ERP programs allow the reporting of corporate social responsibility in accordance with the guidelines of the GRI tight. In contrast, 53% of packages allow the use of other solutions. Most packages offer a wide functionality in the selection of indicators that can be easily defined.

CONCLUSIONS

Summing up the discussion presented in this paper it can be concluded that for large and medium-sized organizations the implementation of corporate social responsibility reporting is best supported using large ERP software packages. Many companies, especially manufacturing ones, have already have such systems and the issue is only in the use of these features, which relate to corporate social responsibility in terms of the reporting process. There is no problem when an organization wants to prepare standard, typical reports in accordance with GRI methodology because practically all programs of this type have sufficient functionality. Problems can occur only in such situation where we need a very advanced functionality related to, for exam-

ple, the automatic implementation of the data from measurement devices, life cycle analysis, etc. In this situation the organization must carry out a detailed analysis of commercially available software and choose the one that will ensure the best functionality, compatible with the needs of the organization.

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Summary: *The paper presents issues concerning the possible application of computer software in the field of corporate social responsibility reporting. In particular, attention was paid to solutions where the software is part of a large ERP software packages. There is in the article an analysis of the existing ERP software from the perspective of its possible use for reporting corporate social responsibility and the scope of issues that the software includes.*

Key words: *Corporate social responsibility, reporting, ERP, computer aided management*

SPRAWOZDAWCZOŚĆ ZRÓWNOWAŻONEGO ROZWOJU
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Streszczenie. *W publikacji przedstawiono kwestie dotyczące możliwości zastosowania oprogramowania komputerowego w zakresie raportowania społecznej odpowiedzialności biznesu. W szczególności zwrócono uwagę na rozwiązania w przypadku których oprogramowanie to jest częścią dużych pakietów programowych klasy ERP. W artykule przeanalizowano istniejące oprogramowanie ERP z perspektywy jego możliwości wykorzystania do raportowania społecznej odpowiedzialności biznesu i zakresu zagadnień, które dane oprogramowanie obejmuje.*

Słowa kluczowe: *Społeczna odpowiedzialność biznesu, raportowanie, ERP, komputerowe wspomaganie*

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