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Corporate reporting and corporate informatics

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Abstract

More and more information in business reality evokes necessity to aggregate it into various messages and reports for supporting managerial activities. This paper aimed to provide basic information about corporate reporting and its significance for business, management and also for corporate business informatics management. There is specified what are reporting, reporting activities, processes and report in this contribution. Further are proposed different groups of business reports, managerial levels of reporting and relations of reporting processes to business intelligence. This contribution also presents the most important trends in the area of reporting, and it provides analyses of them. The most important part of the paper is the description of processes which should be followed when designers are preparing new reports. Contribution analyses the content of new designed reports for western corporate culture, and authors are mentioning the most important faults during designing of new reports and new reporting templates.

Keywords: Reporting, business informatics, company, principles, history

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1. Introduction

The ever-growing quantity and the processing speed of information present organisations and managers with the problem of how to select information for making decisions (Maryska, 2008; Maryska & Novotny, 2013). This difficult task is mainly about the so-called data logistics – to get information at the right time to the right place and the right people. Only then can managers think through and make decisions based on their knowledge and experience and push them ahead and bring them to life, using management mechanisms. Actual reports and especially their design depend, among other things, on the corporate culture, i.e., the environment in which they shall be presented, and on the persons to whom they shall be presented. To understand this issue, we can consult Hofstede's (2002) cultural dimensions theory that analyses the cultural determinations of web elements, i.e., elements used to design documents, including reports. Hofstede's principles of document designing are described in detail (Cermak, 2015).

Individualism and collectivism are the most frequently examined values. Nisbett and Miyamoto (2005) summarise the already conducted studies concerning this topic. This paper shows that the current evidence confirms that perception is influenced by culture. In Western countries, people are inclined towards an analytical perception independent of context and focus directly on the central object without taking into account the context. On the other hand, people from Eastern countries are inclined towards a holistic perception based on context and focus on the context between the object and its surroundings. This paper also shows that participation in a different social practice leads to chronic as well as temporary shifts in perception. These findings establish a dynamic relationship between cultural contexts and perception processes. Therefore, perception should not be considered the same and constant process for all people from different cultures.

The way reports are designed with respect to cultural dimensions can fundamentally affect their usability for managerial decision-making.

The different perception is also confirmed by Chiu (1972). Chinese and American children were asked to choose matching pictures. Chinese children were inclined towards matching them based on the relationship and the context, while American children preferred to match them based on the same features or shared categories. The test in Ji, Zhang and Nisbett (2004) was repeated with the Chinese and American students with the same result. These results indicate that culture affects our perception, here (perceptual) categorisation.

A report can be defined as a document that presents variously detailed information about activities related to a company's economic activity. Information is displayed in the form of tables, charts or other graphical elements as of a certain time. Reports can be generated ad-hoc or on a regular basis in paper or electronic form.

A dashboard is usually defined as a one-page document presenting aggregate information about activities related to a company's economic activity and functioning. Information in a dashboard is displayed in the form of tables, charts or other graphical elements as of a certain time. Dashboards are updated on a regular basis in paper or electronic form. A dashboard is a compilation of select key reports, the data of which are aggregated at the necessary level of detail (Few, 2012).

The role of reporting is to provide information for decision-making at all levels of the organisational structure (Lacko, 2009) in a suitable form, on time and often on a regular basis and to answer such questions as 'How is the firm or its branch doing?', 'Why is it doing like this?' 'Where is certain money?', 'How were these transactions carried out?' and 'What was the outcome of this step?'

Corporate reporting covers all areas of interpretation of information necessary for decision-making as part of corporate communication and communication infrastructure. It can concern, for example, a visualisation of measuring a company's operational and strategic objectives, a presentation of key metrics and trends, a summary of the success of products and services and corporate and in-house

accounting. The essence of reporting lies in communication that is comprehensible to different groups of users (Few, 2012; Hroch, 2008; Maryska, Doucek & Nedomova, 2015; Maryska & Helfert, 2009).

In order to manage companies or their departments, managers need to have information about the quality and quantity of delivered products and services and about changes in demand over time. Corporate informatics often provides company departments with a large quantity of data concerning these departments, but does not deal with the data.

Due to limited funds, employees in corporate informatics are usually pressured into providing more services for less money, while maintaining the same quality of provided services. Therefore, this means 'do more with less'. Corporate informatics must show results in order to prove that it meets the requirements of higher effectiveness and that the money invested into the operation and development of corporate informatics was invested purposefully (Maryska, 2009). Reporting requires regular measuring and creates a set of reports that inform users about results.

Reporting becomes even more important when the first signs of a crisis are identified. In such a situation, it is recommended to increase the frequency of reports on expenses, revenues, profit and other metrics from a monthly basis to example a weekly basis in order to provide the company management with sufficient information, while ensuring room for potential changes in original plans and procedures. It is also important that reporting does not only provide current but also historical values. In this context, historical values can be divided into values comparing current values with historical values (e.g., for the same time period of the previous year) and values comparing the current situation with the situation in the previous report (e.g., changes for the previous week or month).

The goal of this paper is to provide basic information about reporting and its importance for both the management of the entire company and the management of corporate informatics. This paper is also aimed at defining the report date, identifying the basic groups and types of reports, reporting the level and the relationship of reporting to business intelligence. A very important goal of this paper is to identify the processes and procedures that should be observed in designing new reports or changing the content of reports. An important goal of this paper is to identify the main mistakes made in designing reports.

2. Trends in Reporting

In 2010, KPMG (2010) presented a study that analysed reporting solutions and the approach to reporting in 250 firms from Fortune 500 and in the 100 largest firms from 16 selected countries. This study included an analysis of these firms' expectations from reporting.

The survey shows that 77% of the analysed firms implemented, or are implementing, reporting based on the recommendations of the Global Reporting Initiative (GRI) and are considering switching, or have already switched, to integrated reporting.

According to Dragu and Tudor-Tiron (2013), approximately 1,400 firms were using the GRP principles in 2010 and the increase from 2008 to 2010 represented 30%.

The GRI and other similar standards are used more and more because of the reporting requirements laid down in internationally binding regulations, such as Sarbanes-Oxley, Solvenci II or Basel III (Clements & Brown, 2012; Dragu & Tudor-Tiron, 2013).

The reporting development can be divided into the following three phases:

1. Initiatives focused on non-financial reporting that a stakeholder considers as important as financial reporting;
2. Initiatives focused on sustainable development reporting;
3. Initiatives focused on integrated reporting that can be defined as a process integrating different views on a company's results defining the total value of a company and the way this value is communicated. The keystone is how a company's strategy, management, production and

expectations are presented in connection to its surrounding, which affects the value of a company in the short-term, medium-term and long-term (IIRC, 2013).

Each of these phases is affected by different factors that are shown in Figure 1.

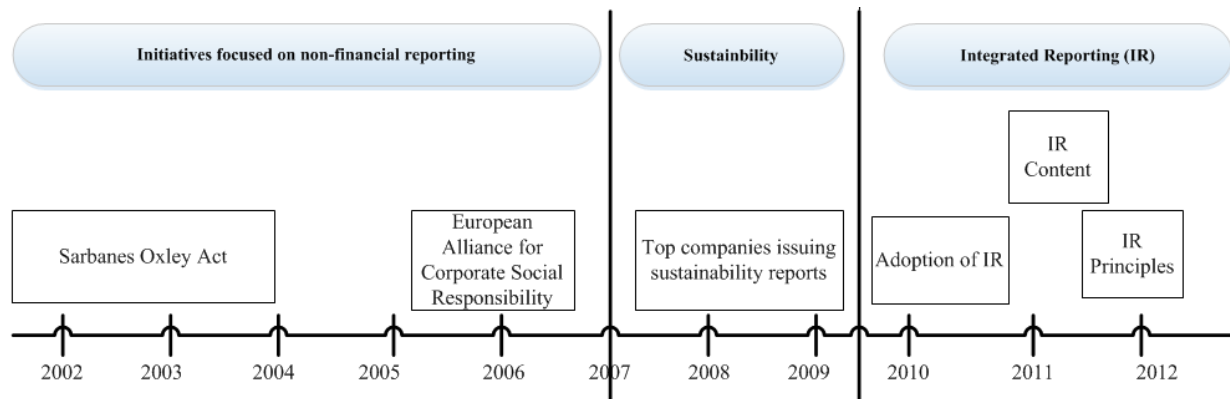


Figure 1. Corporate reporting trends
[Source: Dragu and Tudor-Tiron (2013), author]

The aforesaid trends show that companies' reporting solutions can no longer focus on the graphical display of key performance indicators only. Transnational organisations nowadays strive to expand corporate reporting for other areas that better characterise them for their stakeholders, in particular, for areas showing sustainable development.

3. Types of Reports

Reports are used at all levels of corporate management. They are generated in the form of different types of files that must be distributed to specific users in a certain way, and these users can then use them in one of the client applications.

A report is usually presented in the form of a chart or table, the distribution of which must meet many requirements and conditions. The main requirement for functional reporting is data in optimal form. To meet this requirement, data must be obtained from different data sources in different granularity (primary data sources inside and outside a company, CRM systems, etc.). It is also necessary to transfer and aggregate data and to create suitable data structures with a reporting and analytical layer. Suitable data structures are often represented by independent data marts/warehouses exclusively designated for reporting (this applies to large companies with a large volume of data in particular) or, as the case may be, for the application of select analytical tasks.

Theory and practice use different report classifications.

Pour, Maryska and Novotny (2010) identify two basic groups of reports in terms of how they are created:

- Standard reports that are generated automatically and regularly distributed. They are subdivided into the following:
 - Static reports – pre-prepared and repeatedly generated and distributed in the same form;
 - Dynamic reports – it is possible to change the report form, to perform transactions showing monitored facts with a different level of detail and a different combination of dimensions or it is possible to differently filter displayed data;
- Ad-hoc reports that users create on their own without the support of IT specialists and that cover their current requests beyond standard reporting.

Lakhani (2013) classifies reports as follows:

- Informative reports:
 - Periodical reports;
 - Analytical reports;
- Trend reports;
- Analytical reports.

Barta (2012) classifies the outputs of reporting solutions as follows:

- Dashboards – static reports that provide a summary of key indicators;
- Reports – they describe the status or trend of displayed information. They are subdivided as follows:
 - Static reports – they cannot be modified at all and are usually provided to users in the form of PDF reports (Portable Document Format). Their key element is a chart, to which a table may be added;
 - Dynamic reports – they make it possible to dynamically change the scope and scope depth of information, using filters and drill down/ups. Their key element is a chart, to which a table may be added;
- Cubes – cubes with pre-defined metrics and dimensions are generated for select procedural areas. Cubes are also used for any flexible ad-hoc detailed analysis performed by experienced users with relevant authorisation rights;
- Summaries – extensive tables or lists generated for further processing.

Different types of reports do not usually cover separate areas but areas with extensive interaction and interlinks. These interlinks can be described as a hierarchical cascade (shown in Figure 2) that includes (Barta, 2012):

- A dashboard level (Dashboard Layer) that shows the main types of dashboards that cover the information needs of a select level of management;
- Dashboards are hierarchically arranged as follows:
 - Management (Executive Dashboard) – dashboards for division directors showing select key metrics only (without any further detail – such as trends and the status of individual metrics);
 - Key processes (Core Process Dashboard) – showing the status of metrics for a department's key processes;
 - Other processes (Process Dashboard) – showing the status of metrics for a department's processes;
 - Other dashboards (Supplementary Dashboard) – showing the status of specific events/activities that the department management considers crucial or processes that involve several key processes (e.g., orders, complaints);
- A report level (Reporting Layer) that contains a set of reports for analysing the status/trend of individual processes in terms of their properties;

- An analytical layer (Analytical Layer) that is used for detailed and ad-hoc analyses. For these purposes, cubes allowing quick ad-hoc analyses are ideal, i.e., detailed overviews/summaries (usually extensive) can be used.

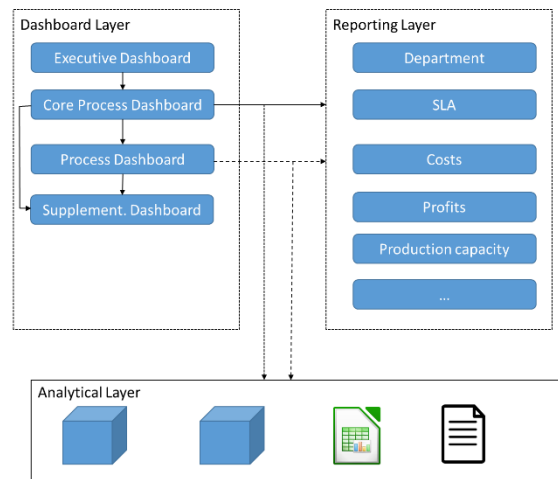


Figure 2. Types of reports
[Source: Barta (2012), author]

Reports can also be classified, using a time factor. The characteristic feature of the aforesaid classifications is their cross-over and the dynamic development of dashboards.

4. Report Design

An optimal report is a report that satisfies users. This means that it is not possible to clearly define an optimal report design since every report design includes a human factor, the expectations and needs of users. An optimal report is a report that

- shows relevant information;
- provides well-arranged information;
- makes it possible to compare data easily and accurately;
- does not make its recipient think and reflect on the way it looks and is presented but makes him think about its content only;
- provides such a level of detail that corresponds to the nature of the report and the expectations of the user;
- interprets data the way requested by the author and limits any wrong interpretation.

Reports and dashboards consist of objects, such as tables, charts, headings, comments and illustrations.

Since reports include different types of objects, it is necessary to observe the basic rule of report designing, which focuses on the proportion of non-data and data objects. The goal is to minimise the number of non-data objects and maximise the number of data objects, while preserving report clarity. Information must be placed on the page based on its importance, and the basic rules are as follows:

- The most important information should be placed in the upper left field or in the middle;
- Important information should be placed in the upper right field;
- Less important information should be placed in the lower left field;
- The least important information should be placed in the lower right field.

If corporate reporting or select corporate reports (corporate informatics reports) are created, it is necessary to take into account the basic rules and procedures that should be observed so that reporting would fulfil its intended purpose. Before a report is designed and developed, it is necessary to keep in mind the following:

- The identification of report recipients;
- The identification of requirements for information that is to be in the report, the form of providing information and the definition of objectives that the report is to achieve;
- The identification of the required frequency of providing information;
- The evaluation of the current situation – whether or not information is already being provided, in what form, in what quality, etc.;
- The analysis of primary data sources, provided that the scope of data is insufficient, and the identification and analysis of the data source that shall provide required data;
- The analysis of a reporting mart (DWH), if used;
- The design of data transformation and processing;
- The design and implementation of reports:
 - Dynamic/static;
 - Structure;
 - Format;
 - Level of detail;
 - Drill up/down;
- The automatisisation of providing reports.

5. Mistakes in Creating Reports

When designing reporting layers and concrete reports, it is necessary to avoid certain mistakes so that the reports would be useable, meaningful and well-arranged.

The following mistakes must be avoided:

- Screen border overflow;
- Inadequate display;
- Use of wrong units or excessive accuracy of presented values;
- Wrong metrics measure (unit vs. percent);
- Too many graphical elements;
- Poor quality graphical elements;
- Too many or not enough colours;
- Visually bad display of data;
- Improper sequence of data displayed in the report;
- Wrong layout of charts, tables and data in the dashboard/report;
- Ineffective or missing highlighting of important data;
- Unattractive design;
- Unnecessary decorations providing no information.

When creating reports, it is necessary to identify why a report is not used as originally planned. It can be because:

- The report is not designed or distributed to the right users;
- The report is not provided when needed (frequency, topicality);
- The report contains incorrect information;
- The report format is incorrect in terms of the level of detail and selected graphical interface;

The report is distributed via an unsuitable medium (e-mail, corporate portal and social network).

6. Conclusions

This article identifies the current main trends in reporting solutions. It also identifies the key factors in designing reports that are acceptable, easy-to-understand and well-arranged for end users and shows the main mistakes made in designing reports.

An optimal report shows relevant information, provides information in a well-arranged manner, makes it possible to compare data easily and accurately and does not make its recipient think and reflect on the way it looks and is presented but makes him think about its content only, etc.

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