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SEGMENTAL REPORTING IN RESPONSIBILITY ACCOUNTING UNDER INTERNATIONAL FINANCIAL REPORTING STANDARDS

Summary: The paper presents the problem of segmental reporting in responsibility accounting in the context of international financial reporting standards. In the first part of the article the managerial approach to reporting was described on the basis of variable costing and the contribution income statement. In the second part of the paper the financial approach based on international financial reporting standard 8 "Operating Segments" was depicted. It is argued in the paper that nowadays there is increasing integration between the managerial approach and mandatory requirements of financial reporting. The considerations in the paper are illustrated by means of an example.

Keywords: managerial reporting, financial reporting, operating segments.

1. Introduction

Taking into account information needs of various stakeholders, reporting financial results of a company as a whole is insufficient any longer. Due to the fact that modern enterprises are often very complex and diversified; moreover, they offer a lot of products and services, operate in different markets and supply many groups of customers, the aggregated approach to preparing income statement does not satisfy information needs of internal and external users of information. Both investors and managers require information on profitability across various objects, such as products, customers, distribution channels, strategic business units, divisions, departments, etc. This means that there is a strong need for segmental reporting, where a segment may be perceived as an object for which financial data is collected relating to revenues, costs, operating income, assets employed. Consequently, it will be possible to assess the profitability as well as to compute a lot of financial ratios for each segment individually. In practice segmental reports may be prepared, on the one hand, to satisfy information needs of internal users for decision making purposes, on the other hand, for external users according to financial reporting standards.

The purpose of this paper is to explain the linkage between the managerial view of segmental reporting based on responsibility accounting and international financial reporting standards. The argument of the article is that nowadays external reporting of segmental information is closely aligned to internal managerial reporting. The considerations in the paper support the thesis that contemporary financial reporting is influenced by managerial accounting. The methodology adopted in the paper includes the analysis of the international financial reporting standard 8 "Operating Segment", as well as deductive reasoning and a case study approach.

2. Brief overview of responsibility accounting in the context of segmental reporting

According to Hilton et al. [2008, p. 757], a responsibility accounting system is aimed to ensure that each manager and employee in an organization is striving to meet the overall goals set by top management. Thus, the basis of a responsibility accounting system is the designation of each subunit in an organization as a particular type of responsibility centre. Preparing internal reports for profit centres is based on the contribution income statement consistent with variable costing.[1] Variable costing includes only variable production costs in product costs. Under variable costing direct materials, direct labour and variable manufacturing overhead costs would be included in product costs. Fixed manufacturing overhead is not treated as a product cost according to this approach, but accounted for as a period cost and is charged against income each period. The operating income according to variable costing may be computed in the following way:

Revenues from sales

– Variable costs:
- Variable manufacturing cost of goods sold
- Variable non-manufacturing costs (period costs)

= Contribution margin

– Fixed period costs:
- Fixed manufacturing costs
- Fixed non-manufacturing costs

= Operating income

In order to assess various profit centres and build segmental reports, it is possible to identify more than one level of contribution margin. The managerial need to calculate the margin implies fixed costs to be broken down into traceable fixed costs

[1] Variable costing is widely described in managerial accounting literature. See for example: [Jaruga, Kabalski, Szychta 2010, pp. 130–161].

Table 1. Segmental profitability report

<table>
<tr><th rowspan="4">No.</th><th rowspan="4" colspan="2">Specification</th><th colspan="8">Distribution channel I</th><th rowspan="4">Distribution channel II</th></tr>
<tr><th colspan="4">Group of customers X</th><th colspan="4">Group of customers II</th></tr>
<tr><th colspan="2">Order 1</th><th colspan="2">Order 2</th><th colspan="2">Order 3</th><th colspan="2">Order 4</th></tr>
<tr><th>Product A</th><th>Product B</th><th>Product A</th><th>Product B</th><th>Product A</th><th>Product B</th><th>Product A</th><th>Product B</th></tr>
<tr><td>1</td><td>Revenues from sales</td><td></td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>××××××××</td></tr>
<tr><td>2</td><td>Variable product costs (manufacturing and selling expenses)</td><td></td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>××××××××</td></tr>
<tr><td>3</td><td>Contribution margin I</td><td>[1] – [2]</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>××××××××</td></tr>
<tr><td>4</td><td>Fixed product costs</td><td></td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>××××××××</td></tr>
<tr><td>5</td><td>Contribution margin II</td><td>[3] – [4]</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>××××××××</td></tr>
<tr><td>6</td><td>Sum of the contribution margins II</td><td></td><td colspan="2">×</td><td colspan="2">×</td><td colspan="2">×</td><td colspan="2">×</td><td>××××</td></tr>
<tr><td>7</td><td>Variable costs of orders</td><td></td><td colspan="2">×</td><td colspan="2">×</td><td colspan="2">×</td><td colspan="2">×</td><td>××××</td></tr>
<tr><td>8</td><td>Contribution margin III</td><td>[6] – [7]</td><td colspan="2">×</td><td colspan="2">×</td><td colspan="2">×</td><td colspan="2">×</td><td>××××</td></tr>
<tr><td>9</td><td>Sum of the contribution margins III</td><td></td><td colspan="4">×</td><td colspan="4">×</td><td>××</td></tr>
<tr><td>10</td><td>Customers costs</td><td></td><td colspan="4">×</td><td colspan="4">×</td><td>××</td></tr>
<tr><td>11</td><td>Contribution margin IV</td><td>[9] – [10]</td><td colspan="4">×</td><td colspan="4">×</td><td>××</td></tr>
<tr><td>12</td><td>Sum of the contribution margins IV</td><td></td><td colspan="8">×</td><td>×</td></tr>
<tr><td>13</td><td>Costs of distribution channels</td><td></td><td colspan="8">×</td><td>×</td></tr>
<tr><td>14</td><td>Contribution margin II</td><td>[12] – [13]</td><td colspan="8">×</td><td>×</td></tr>
<tr><td>15</td><td>Sum of the contribution margins II</td><td></td><td colspan="9">×</td></tr>
<tr><td>16</td><td>Fixed costs of the entire company</td><td></td><td colspan="9">×</td></tr>
<tr><td>17</td><td>Operating income</td><td>[15] – [16]</td><td colspan="9">×</td></tr>
</table>

Source: [Nita 2012, p. 371].

that can be directly allocated to specified objects and common fixed costs (indirect), which cannot be directly attributed to objects. This allows managers to identify not only the profitability of an entire company, but also profitability of various segments provided that costs and revenues are assigned to them. The segments identified for the purposes of segmental reporting may be determined depending on the type of business and individual managerial needs. In practice, most profitability analyses concentrate on products, services, customers, distribution channels (sales area) and various organizational units.

Table 1 shows the example of managerial report prepared under variable costing to analyse profitability across four segments. The first-level contribution margin is computed to assess the ability to cover all fixed costs and generate profit. The second-level contribution margin allows assessing the profitability of products; the third-level margin is aimed to evaluate profitability across contracts; the margin on the fourth level assesses profitability of customers, and finally the fifth-level contribution margin is supposed to evaluate distribution channels and cover non-assigned higher-level fixed costs. This approach to preparing segmental reports under variable costing has a lot of applications:

- assessment of the profitability for each segment in absolute and relative terms by means of profitability ratios,
- assessment of the contribution of individual segments against the profitability of an entire company,
- use of appropriate pricing policies in different segments,
- managing costs incurred in particular segments,
- benchmarking of segments within a company and making relevant decisions aimed at increasing the profitability of a company as a whole,
- planning and control of activities carried out in various segments (of products, sales areas, etc.).

Profitability reports prepared according to the presented approach is basically a reporting tool that supports the operational management of a company. The use of segmental reporting may encourage managers to analyse costs broken down into fixed and variable and assess identified segments to support decision-making process.

3. Segmental reporting under IFRS 8 "Operating Segments"

Segmental reporting in the area of management accounting is optional, but nowadays more and more often information needs of external stakeholders influence financial reporting. According to P.M. Fisher et al. [2012, p. 675], aligning external reporting of segmental information with internal reporting helps users view an entity in a way that will allow them to better anticipate and understand the actions of management. The symptom of this way of thinking is the publication of the International Financial Reporting Standard 8 "Operating Segments", which replaced the International

Accounting Standard 14 “Segment Reporting” and is applied to separate financial statements of an entity or individual financial statements for reporting periods beginning on or after 1 January 2009 and later. The main reason for the issuance of IFRS 8 is a need to define the requirements for disclosures about segments of an entity of its products and services, geographic areas and clients. The basic principle of the standard states that an entity shall disclose information to enable users of its financial statements to evaluate the nature and financial effects of the business activities in which it is involved and the economic environments in which it operates.

The standard “Operating Segments” applies to separate or individual financial statements of an entity as well as consolidated financial statements of a group with a parent:

- whose debt or equity instruments are traded on a public market (a domestic or foreign stock exchange or an over-the-counter market, including local and regional markets), or
- that files, or is in the process of filing, its financial statements with a securities commission or other regulatory organisation for the purpose of issuing any class of instruments in a public market.

IFRS 8 represents in the area of financial reporting the adoption of the managerial approach, which requires the identification of operating segments and the identification of reportable segments on the basis of information collected in the internal reporting system.

According to the standard (IFRS 8.5), operating segment is a component of an entity:

a) that engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the same entity),

b) whose operating results are regularly reviewed by the entity’s chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance, and

c) for which discrete financial information is available.

An operating segment may engage in business activities for which it has yet to earn revenues, for example, start-up operations may be operating segments before earning revenues. A segment operating business activities may include those which have not yet obtained regular income. For example, business start-ups may be operating segments before obtaining regular income.

Operating segments should therefore be identified according to the rules that are used for internal reporting in accordance with the managerial accounting approach. This approach enables users of financial statements to analyse the activities of an entity in a manner similar to managers. Ultimately, this increases the level of integration between the financial and the managerial accounting.

In the definition of the operating segment the term “chief operating decision maker” appears. According to IFRS, this term identifies a function, not necessarily a manager with a specific title. That function is to allocate resources and assess the performance of the operating segments of an entity. Often the chief operating decision maker of an entity is its chief executive officer or chief operating officer but, for example, it may be a group of executive directors or others (IFRS 8.7).

After the identification of operating segments one has to determine in relation to which segments the disclosure of detailed information is required. It involves the identification of reportable segments. The process of identification of reportable segments is shown in Figure 1.

An entity shall report separately information about each operating segment that (IFRS 8.11):

a) has been identified in accordance with the rules of identification of operating segments, and

b) exceeds quantitative thresholds.

Due to the fact that the operating segments can have similar economic characteristics and, as a consequence, similar long-term financial performance, the segments can be aggregated. According to the standard (IFRS 8.12), two or more operating segments may be aggregated into a single operating segment if aggregation is consistent with the core principle of this IFRS, the segments have similar economic characteristics, and the segments are similar in each of the following respects:

a) the nature of products and services;

b) the nature of production processes;

c) the type or class of the customer for their products and services;

d) the methods used to distribute their products or provide their services; and

e) if applicable, the nature of the regulatory environment, for example, banking, insurance or public utilities.

These principles clearly indicate that the segments can be aggregated if they exhibit similar economic characteristics. IFRS 8 does not specify what is meant by “similar economic characteristics”. It only indicates that the segments with similar economic characteristics should have similar long-term average gross margins.

According to the standard, an entity shall report separately information about an operating segment that meets any of the following quantitative thresholds (IFRS 8.13):

a) Its reported revenue, including both sales to external customers and intersegment sales or transfers, is 10% or more of the combined revenue, internal and external, of all operating segments.

b) The absolute amount of its reported profit or loss is 10% or more of the greater, in absolute amount, of the combined reported profit of all operating segments that did not report a loss and the combined reported loss of all operating segments that reported a loss.

c) Its assets are 10% or more of the combined assets of all operating segments.

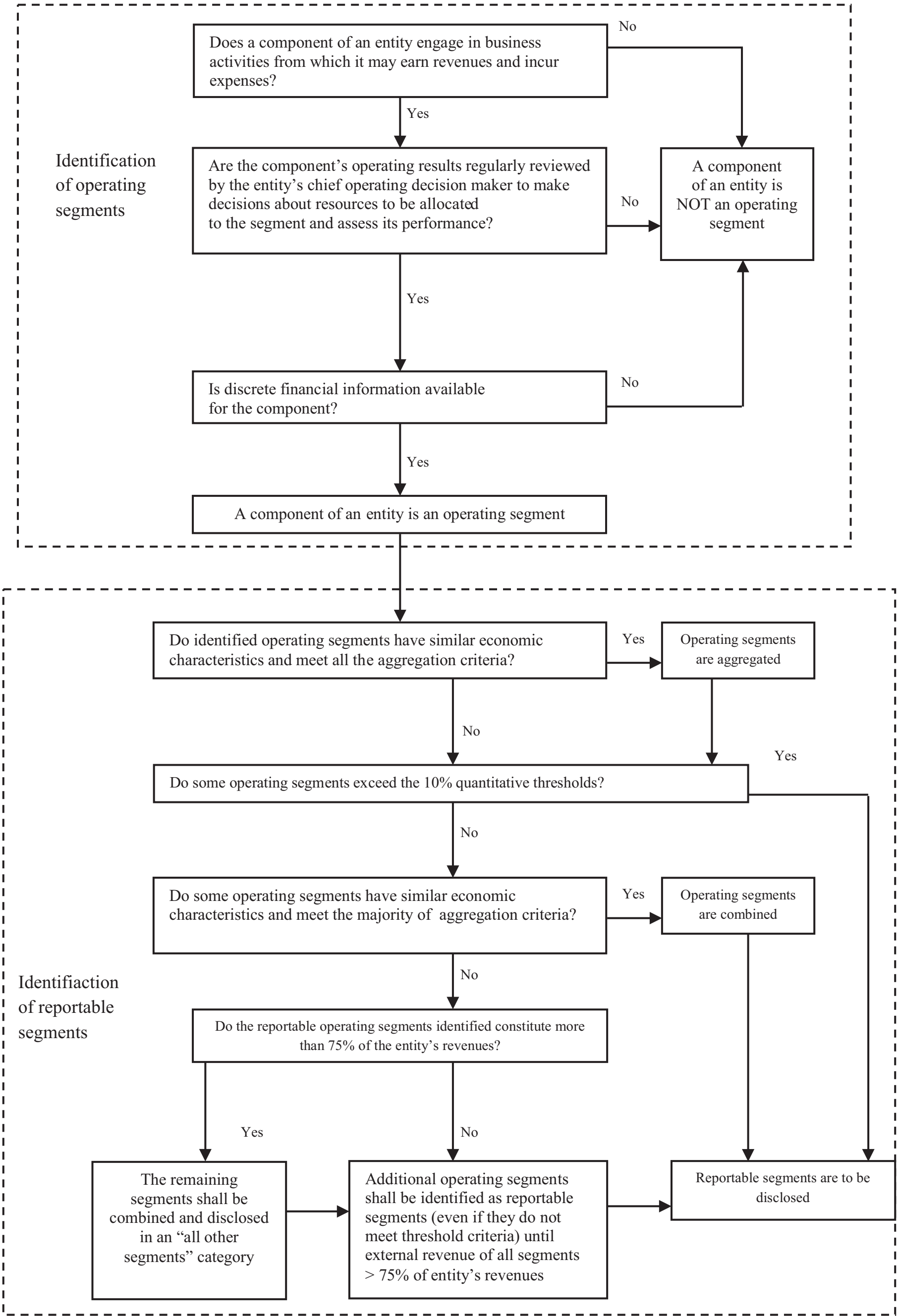

Figure 1. Identification of operating segments and reportable segments

Source: own elaboration on the basis of IFRS 8 "Operating Segments".

Operating segments that do not meet any of the quantitative thresholds may be considered reportable, and separately disclosed, if management believes that information about the segment would be useful to users of financial statements.

The standard requires (IFRS 8.15) that if the total external revenue reported by operating segments constitutes less than 75% of the entity's revenue, additional operating segments shall be identified as reportable segments (even if they do not meet threshold criteria for reportability) until at least 75% of the entity's revenue is included in reportable segments.

If an operating segment is identified as a reportable segment in the current period in accordance with the quantitative thresholds, segment data for a prior period presented for comparative purposes shall be restated to reflect the newly reportable segment as a separate segment even if that segment did not satisfy the criteria for reportability in the prior period, unless the necessary information is not available and the cost to develop it would be excessive (IFRS 8.18).

Given the fundamental principle of IFRS 8, on the usefulness of the information contained in financial statements to evaluate the nature and financial effects of economic activities, the standard requires an entity shall disclose the following for each period for which a statement of comprehensive income is presented [IFRS 8.21]:

a) general information,

a) information about reported segment profit or loss, including specified revenues and expenses included in reported segment profit or loss, segment assets, segment liabilities and the basis of measurement, and

b) reconciliations of the totals of segment revenues, reported segment profit or loss, segment assets, segment liabilities and other material segment items to corresponding entity amounts.

General information to be disclosed encompasses factors used to identify entity's reportable segments, including the basis of organisation and types of products and services from which each reportable segment derives its revenues.

4. Example

The objective of the example is to show how to determine in practice which segments are reportable and how to reconcile reportable segments to the entity's consolidated revenue and profit. Table 2 presents basic financial data in respect of costs and revenues for a company that consists of five segments.

Table 3 includes total revenues, assets and the absolute amount of reporting profit for each segment in order to check, according to IFRS (8.13), quantitative thresholds.

An entity shall report separately information about an operating segment if any of the three quantitative thresholds is met or exceeded. Therefore, in Table 4 it is checked whether the three criteria are satisfied. It turns out that all the segments are reportable except for segment D, because this segment does not meet any criteria.

Table 2. Financial data for segments (in PLN)

Specification	Segment A	Segment B	Segment C	Segment D	Segment E	Entire company
Intersegment revenues	1 970 000	6 220 000	1 380 000	1 290 000	1 780 000	14 900 000
External revenues	181 000	1 108 000	0	0	95 200	0
Costs	635 000	2 060 000	2 142 000	1 720 000	1 200 600	7 642 000
Assets	1 600 000	6 420 000	1 102 000	1 210 000	1 870 000	13 670 100

Source: own elaboration.

Table 3. The computation of reported profit

Segment	Total revenues	Total costs	Reported profit	Assets	Absolute amount of profit
Segment A	2 151 000	635 000	1 516 000	1 600 000	1 516 000
Segment B	7 328 000	2 060 000	5 268 000	6 420 000	5 268 000
Segment C	1 380 000	2 142 000	−762 000	1 102 000	762 000
Segment D	1 290 000	1 720 000	−430 000	1 210 000	430 000
Segment E	1 875 200	1 200 600	674 600	1 870 000	674 600
Total	14 024 200	7 757 600	6 266 600	12 202 000	6 266 600

Source: own elaboration.

Table 4. Test for quantitative thresholds

Segment	Is segment's revenue 10% or more of 14 024 200 PLNPLN?	Is segment's profit 10% or more of 7 458 600 PLNPLN?	Are segment's assets 10% or more of 12 202 000 PLNPLN?	Is the segment reportable according to IFRS?
Segment A	yes (2 151 000 PLNPLN > 1 402 420 PLNPLN)	yes (1 516 000 PLNPLN > 745 860 PLN)	yes (1 600 000 PLN > 1220 200 PLN)	yes
Segment B	yes (7 328 000 PLNPLN > 1 402 420 PLNPLN)	yes (5 268 000 PLN > 745 860 PLN)	yes (6 420 000 PLN > 1220 200 PLN)	yes
Segment C	no (1 380 000 PLN < 1 402 420 PLN)	yes (762 000 PLN > 745 860 PLN)	no (1 102 000 PLN < 1220 200 PLN)	yes
Segment D	no (1 290 000 PLN < 1 402 420 PLN)	no (430 000 PLN < 745 860 PLN)	no (1 210 000 PLN < 1220 200 PLN)	no
Segment E	yes (1 875 200 PLN > 1 402 420 PLN)	no (674 600 PLN < 745 860 PLN)	yes (1 870 000 PLN > 1220 200 PLN)	yes

Source: own elaboration.

According to the reporting standard (IFRS 8.15), it should be also checked if the total external revenue reported by operating segments constitutes less than 75% of entity's revenue. It this is true then additional operating segments shall be identified as reportable segments. Consolidated revenue of the entire company is 14 900 000 PLN, thus 75% of the company's revenue equals:

$$0.75 \times 14\,900\,000 \text{ PLN} = 11\,175\,000 \text{ PLN}.$$

Due to the fact that external revenue of all reportable segments amounts to 11 350 000 PLN, the revenue of the reportable segments (A, B, C and E) stand for more than 75% of the entire company's revenue. According to IFRS (8.16), information about other business activities and operating segments that are not reportable shall be combined and disclosed in the "all other segments" category separately from other reconciling items in the reconciliations required by the standard. The sources of the revenue included in the "all other segments" category shall be described.

Total consolidated revenue of a company amounts to 14 900 000 PLN and it may be reconciled in the following way:

Total revenues for reportable segments	12 734 200 PLN
+ Revenues of non-reportable segments	1 290 000 PLN
= Total revenues	14 024 200 PLN
– Elimination of intersegment revenue	1 384 200 PLN
= Total external revenues	12 640 000 PLN
+ Revenues at company level	2 260 000 PLN
= Total consolidated revenues	14 900 000 PLN

Total consolidated income is the difference between consolidate revenues and total costs, and thus amounts to 7 258 000 PLN (14 900 000 – 7 642 000 PLN) and may be reconciled as follows:

Total profit of reportable segments	6 696 600 PLN
+ Loss of non-reportable segment D	– 430 000 PLN
= Total reported profit	6 266 600 PLN
+ Revenues at company level	2 260 000 PLN
– Cost at company level	– 1 268 600
= Total consolidated income	7 258 000

The cost incurred at the company level of 1 286 600 PLN was computed as the difference between total costs of the entire company of 7 642 000 PLN and costs after eliminating intercompany costs of 6 373 400 PLN. The latter was obtained as a difference between costs incurred in all segments of 7 757 600 PLN and intersegment revenues of 1 384 200 PLN.

5. Conclusions

Reporting financial performance of various segments identified in a company determines, on the one hand, the ability of managers to make appropriate decisions and, on the other hand, investment decisions made by external users of financial statements. In large enterprises in order to satisfy the needs of various stakeholders, such as: owners, potential investors, creditors, and finally management, it is required to align managerial accounting with external financial reporting. This is why the use of IFRS 8 "Operating Segments" represents the management approach to defining segments within a company. Mandatory financial reporting therefore requires disclosure of information traditionally collected and processed in the internal management reporting system. According to IFRS 8, operating segments are reportable if the specified criteria involving revenues, costs, and assets are met. Furthermore, a lot of disclosures must be made for reportable segments; thus, IFRS 8 is consistent with the managerial approach to financial performance assessment. Bringing together some aspects of managerial accounting and financial accounting enables external users of financial statements to analyse the financial performance of a company across particular segments in a similar manner as managers do.

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RAPORTOWANIE SEGMENTOWE W RACHUNKU ODPOWIEDZIALNOŚCI WEDŁUG MIĘDZYNARODOWYCH STANDARDÓW SPRAWOZDAWCZOŚCI FINANSOWEJ

Streszczenie: Opracowanie przedstawia problem raportowania segmentowego w rachunku odpowiedzialności w kontekście międzynarodowych standardów sprawozdawczości finansowej. W pierwszej części artykułu opisano podejście zarządcze oparte na rachunku kosztów zmiennych i sporządzaniu rachunku wyników z uwzględnieniem wielostopniowości marż. W drugiej części wyjaśniono podejście finansowe oparte na Międzynarodowym Standardzie Sprawozdawczości Finansowej 8 „Segmenty Operacyjne". W opracowaniu argumentuje się, że współcześnie następuje coraz silniejsza integracja podejścia zarządczego z obligatoryjnymi wymaganiami sprawozdawczości finansowej. Prowadzone rozważania zilustrowano przykładem.

Słowa kluczowe: raportowanie zarządcze, sprawozdawczość finansowa, segmenty operacyjne.