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DOES COMPANY'S GROWTH INFLUENCE DISCLOSURE OF COMPANY'S SEGMENT INFORMATION?

In the present study the conduct ("disclosure practice") of companies' management in relation to the disclosure of segment information in companies' annual report is studied. Management conduct regarding segment disclosures has been analysed on a sample of 252 Slovenian large companies. The results reveal that only a quarter of companies disclose segment information, the analysis reveals that the extent of disclosed segment information is not influenced by a company's growth.

Key words: *segment information disclosure; company's growth; disclosure policy; disclosure practice; management conduct.*

JEL classification: M41.

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ЧИ ВПЛИВАЄ РОЗШИРЕННЯ КОМПАНІЇ НА РОЗКРИТТЯ ІНФОРМАЦІЇ ЗА СЕГМЕНТАМИ

У статті вивчено поведінку ("практику розкриття") керівництва компанії у розкритті інформації за сегментами у річному звіті компанії. Управління компанії щодо розкриття інформації за сегментами проаналізовано на прикладі 252 великих словенських компаній. Результати свідчать, що тільки чверть компаній розкривають інформацію за сегментами. Аналіз показує, що розмір розкритої інформації за сегментами не залежить від розширення компанії.

Ключові слова: *розкриття інформації за сегментами; розширення компанії; політика розкриття; практика розкриття; проведення управління.*

Форм. 1. Рис. 1. Табл. 3. Літ. 25.

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ВЛИЯЕТ ЛИ РАСШИРЕНИЕ КОМПАНИИ НА РАСКРЫТИЕ ИНФОРМАЦИИ ПО СЕГМЕНТАМ

В статье изучено поведение ("практика раскрытия") руководства компании в раскрытии информации по сегментам в годовом отчете компании. Управление компании относительно раскрытия информации по сегментам проанализировано на примере 252 больших словенских компаний. Результаты свидетельствуют, что только четверть компаний раскрывают информацию по сегментам. Анализ показывает, что размер раскрытой информации по сегментам не зависит от расширения компании.

Ключевые слова: *раскрытие информации по сегментам; расширение компании; политика раскрытия; практика раскрытия; проведение управления.*

1. Introduction. Segment disclosures have simultaneous possible positive and negative consequences for a company. When choosing to disclose segment information, potential advantages are shown in the form of a lower requested rate of return

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on capital, lower financing costs, rise in a company's management reputation etc. One potential disadvantage is shown in the form of endangering (possible) company's growth. Segment disclosures as a part of company's disclosures ensure to its users an alternative indicator for a company's success on various areas of company's activities (segments).

Due to possible negative consequence on company's growth when disclosing segment information, it can be expected that companies' managements will not choose to disclose segment information entirely. Companies' managements often disclose only some segment information (Healy and Palepu, 2001), even though managements could disclose more information that generally exists and is not all regarded proprietary. However, it must be added that the possibility of discretionary decision-making of companies' managements is limited by generally accepted accounting principles (GAAP). Nevertheless, as various studies show (Herrmann and Thomas, 2000; Street, et al. 2000; Berger, and Hann, 2003, 2007, etc.), nowadays the number of disclosed segments, compared to previous periods is significantly increased and that the extent of information on segments increased. But irrespectively of the requirements of various GAAP, management is independent when taking a decision to disclose (or not) any type of information. The conduct ("disclosure practice") of managements of Slovenian companies in relation to the disclosure of segment information is unknown. More accurately, it is unknown which segment information is disclosed by these companies, if any. Furthermore, it is unknown whether company's growth influences the disclosure of segment information.

The remainder of the paper is organised as follows. In chapter two a literature review is given and consequently, in chapter three – a methodological overview (including sample data and variables). An analysis of our results is provided in chapter four, including a discussion of results. Chapter five summarises our research findings.

2. Literature Review. Disclosed segment information have important influence on a market (Deppe and Omer, 2000; Ettredge et al., 2005; Berger and Hann, 2003). Furthermore, it is shown that segment information disclosures are not complete (Harris, 1998; Botosan, and Stanford 2005; Berger and Hann, 2007). This fact indicates the potential presence of a company's motive not to disclose segment information due to the existence of one or more proprietary costs. Managements of companies have different approaches to realizing a discretionary decision about the disclosure segment information, due to potential existence of a company's proprietary costs (Harris, 1998; Prencipe, 2004; Botosan and Stanford, 2005; Berger and Hann, 2007). Therefore, management will less likely disclose segment information, which is going to enable for a long time or was enabling profits above the average (Harris 1998). This is one of the factors that influence the decision-making of a company's management regarding the definition of segments. Furthermore, management chooses the highest level of aggregation of information related to segment disclosures (Berger and Hann, 2007). Therefore, large companies which have more competition and operate in a number of different segments, try to conceal information about profitable activities of companies by disclosing only one segment (Hayes and Lundholm, 1996, referring to Troberg et al., 2010, 49). Additionally, company's managements hide segment information which is going to or was enabling achievement of profits below the average (Berger and Hann, 2007).

Segment information disclosure can have one or many harmful consequences on a company's growth (i.e., if competition exploits the potentially detected weaknesses and/or opportunities of a company etc.). An aggravated competitive environment can lead to problems related to company's growth. Growth of a company is in fact often connected with entrance on one or many (profitable) markets or/and existence of one or many expanding markets. For a company that devotes its available resources to operation at these markets – thus, for a company's growth, the emergence of (potential) proprietary costs represents a bigger burden than to a company which does not devote its available resources for activities at these markets (Prencipe, 2004). Segment information disclosures to the competition can decrease the potential economic benefits of a company that discloses this information (and at the same time increases proprietary costs), because of which a growing company is going to disclose less segment information. Based on this foundation, the hypothesis is: The higher a company's growth, the smaller extent of segment information is disclosed by it.

3. Methodology. Dichotomous "pointing" procedure is widely used when researching disclosure of (partial) information (that is disclosure items under observation) in the companies' annual reports (Hossain and Hammami, 2009). In the dichotomous "pointing" procedure a disclosure item is attributed the value of 1 if this disclosure item is disclosed; if it is not disclosed it is attributed the value of 0. Based on the "evaluated disclosure items" a disclosure index is formed. It is determined as the ratio between the actual extent of disclosure and the entire possible extent of all disclosures. When calculating the unweighted disclosure index each disclosure item, included in the disclosure index, is attributed equal importance. The unweighted disclosure index is independent from the expectations of individual users (Chow and Wong-Boren, 1987, referring to Hossain and Hammami, 2009, 259). To achieve unbiased results and because of the problems related to determination of different levels of importance of disclosure items (their weights), included in the disclosure index, it is recommended to use the unweighted disclosure index (Chavent et al., 2006, 184).

The disclosure index shows the extent of disclosure of a company. However, multiple regression analysis, where the disclosure index as a set of many different information disclosures represents a dependent variable, does not give an answer to the question whether an individual factor influences the disclosure of individual components of the disclosure index and if there is possibly even a disclosure pattern, which is reflected in the conduct of the companies' managements when disclosing information. Therefore, all disclosed information must be studied with the use of the divisive clustering method (DIV), which determines simultaneously the clustering tree structure of the classification of companies into clusters and gives a monothetic definition for each of the groups in the clustering tree structure (Chavent, 1998). The cluster method is a method where the starting group is split in each following step into two or more (monothetic and as homogeneous as possible) clusters, which are – considering the data comprised in the starting group – as different as possible (Urban, 2004, referring to Chavent et al., 2006, 195). In each step the "splitting" is carried out on the basis of one of the selected variables and on the basis of the value of the selected variable (Chavent et al., 2006).

Sample data on segment information disclosures were hand-collected from the annual reports of companies (published in 2010, for year 2009) that have their headquarters in Slovenia and can be defined as large[3]. It is reasonable to assume from the selected group of companies, that they have a sufficient extent of activities, that their segments will be determined and that it is more likely they will disclose segment information. According to the criteria of Paragraph 5 from Article 55 of the CA-1, there were 255 large companies in Slovenia on 31 December 2009. Out of the 255 companies, two companies had special legal organisational forms (cooperative and branch of a foreign company using specific legal and accounting pronouncements) and one company did not have an annual report at disposal. In total, there is a sample of 252 large companies. The results of the hand-collected data from annual reports in this sample of 252 examined group of companies show that there are 63 companies that disclose segment information in accordance with pronouncements which are in force in Slovenia (Slovene accounting standards, SAS onwards, or IFRS, endorsed by EU, IFRS onwards), while the remaining 189 companies do not disclose any type of segment information in their annual reports as required by Slovenian pronouncements (out of these 189 companies, 23 use the IFRS, while 166 companies use the SAS). Out of 63 examined companies which disclose segment information, 20 use the IFRS, while 43 companies use the SAS. 20 companies which use the IFRS, were excluded from the final sample of totally 63 companies that disclose segment information in accordance with the Slovenian pronouncements. Exclusion of 20 companies that use IFRS is taken because a generalization of the results to companies that use the SAS would not be possible in this research if these 20 companies, which use the IFRS, were included.

The SAS describe in detail preparation and disclosure of segment information. A company must disclose the following: the profit or loss results by business and geographical segments; revenues by business and geographical segments; the criteria for allocation of revenues and expenses by business and geographical segments; methods in determining costs by business and geographical segments; revenues of the segment from transactions with other segments and a basis for determining intersegment prices in these transactions; assets and liabilities which are allocated by business and geographical segments and in what amounts; changes of a company's adopted accounting policies for segment reporting and which have a material effect on a segment information; and a recommendation that companies can disclose cash flows deriving from its activities, by business and geographical segments. The disclosure index aggregates these 14 disclosure items required by the SAS.

The following were included in this research as possible factors related to companies managements when disclosing segment information: a company's growth rate, company size, financial leverage, profitability, and the primary industry sector. The variables are:

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[3] In accordance with Article 55 of the Companies act (CA-1), large companies are the ones that fulfil at least two criteria out of the following: 1) they have more than 250 employees, 2) they have more than 8.8 million of net turnover from sales in the financial year and/or 3) have a state of assets of at least 17.5 million. The companies that are large according to other (qualitative) measures from Article 55 of the CA-1 (banks, insurance companies etc.) but not according to quantitative criteria defined by Paragraph 5 of Article 55 of the CA-1 are not regarded as large in this research. The data on the companies were acquired from the GVIN.com database.

- the natural logarithm of the value of the total net turnover of a company was used to measure company size (Hermann and Thomas, 1996);
- financial leverage presented as the ratio between the value of total debts and the value of all company's liabilities (sum of capital and debt) (Leuz, 2004; Barako, 2007);
- profitability as the basic earning power coefficient, which is the ratio between earnings before interests and taxes and the average value of a company's assets (based on the company's data for the last two years);
- a company's growth rate of assets, which is the ratio between the difference of the value of all assets in the current and the previous year and the value of all the assets in the previous year (Prencipe, 2004).

Multiple regression was used with the use of the ordinary least squares method. Multiple regression was used in a number of earlier studies, related to the research on information disclosure (compare, i.e., Herrmann and Thomas, 1996; Harris, 1998; Prencipe, 2004; Berger and Hann, 2007; Hossain and Hammami, 2009). The regression model is

$$r_i = \alpha + \beta_1 \cdot [\text{Size\_ln\_Revenues}] + \beta_2 \cdot [\text{Financial\_leverage}] + \beta_3 \cdot [\text{Profitability}] + \\ + \beta_4 \cdot [\text{Growth\_rate}] + \sum_{l=1}^{5} \beta_{5,l} \cdot [\text{Industry\_dummy}_l] + \varepsilon_i, \quad (1)$$

where the following are: r_i – unweighted disclosure index, α – regression constant, β_j – regression coefficients (j = 1, 2, 3, 4, 5) and ε – an error term in the model. The dummy variable 'Industry_dummyl' is valued with the value of 1, if a company is classified in the energetic, construction, production, transport or commerce sector, while it is valued with the value of 0 otherwise.

4. Results. The results of the regression analysis are presented in Table 1. Multicollinearity does not represent any major problems, considering that the variance inflation factor does not exceed 10 (Chavent et al., 2006). A model with all included variables is statistically significant (at F=2.205 the p-value is lower than 0.05). The determination coefficient is 0.439, whereas the adjusted determination coefficient is 0.240. All variables, with the exception of the (dummy) variable that shows if a company is classified in the production sector, are statistically non-significant. The companies disclose a larger extent of segment information if they are classified in the production sector (the variable is statistically significant at 10%). Because there is some uncertainty with the form of relationship, another analysis is carried out with the ranked variables of the model. The results were not different from the analysis on the unranked data (results are not shown here).

Table 1. **Multiple regression results**

	Unstandardized coefficients	Statistical significance	Variance inflation factor
PANEL A			
Size_ln_Revenues	.011	.759	.082
Financial_leverage	-.139	.359	.166
Profitability	-.678	.180	.331
Growth_rate	-.016	.945	.493
Energetics_industry_dummy	.037	.789	.319
Construction_industry_dummy	.001	.997	.363

Continuation of *Table 1*

	Unstandardized coefficients	Statistical significance	Variance inflation factor
Production_industry_dummy	-.198	.052*	.002
Transport_industry_dummy	.085	.530	.358
Commerce_industry_dummy	.009	.945	.279
Constant	.341	.576	1.574
PANEL B			
Dependent variable	Unweighted disclosure index		
Number of large companies included in the studied sample	43		
F-statistics	2.205		
p-value	.041		
Determination coefficient R^2	.439		
Adjusted determination coefficient R^2	.240		

Notes: * Statistically significant at 0.10. ** Statistically significant at 0.05. *** Statistically significant at 0.01.

The results of the regression analysis did not reveal any statistically significant economic factors which are supposed to influence the conduct of companies' managements in the segment information disclosure. Therefore, there should be further research of whether individual factors influence the disclosure of partial segment information, whether there is a disclosure pattern reflected in the conduct of companies' managements in disclosing segment information, and whether the companies can be classified into clusters in accordance with their disclosure pattern. The DIV method is used (SODAS programme).

The number of clusters must be determined in advance (Chavent et al., 2006), where parameters, such as the sample size of collected data and the requirements of statistical methods in analysing data, are taken into consideration. Figure 1 shows the classification of companies into 3 clusters in accordance with the segment disclosures (on the collected sample data; based on preliminary tests as the most adequate number of clusters is 3, as the number at which there would be at least 14 companies in the cluster at an even division of groups into clusters) and that two important facts are whether a company disclosed its segment liabilities and whether a company disclosed its segment revenues.

Table 2 shows the descriptive statistics of the companies' disclosed segment information in accordance with the classification of companies in all 3 clusters with the use of the DIV method. The composition of business segments is disclosed by 84.21% of all the companies, classified in cluster 1; 94.12% of all the companies, classified in cluster 2, and 28.57% of all the companies, classified in cluster 3 etc. The companies classified in cluster 2 disclose the most segment information (the average cluster's disclosure index is 0.5336) and the companies classified in cluster 3 disclose the least (0.0613). Cluster heterogeneity is also shown by the result of the chi-square test for segment disclosures, considering that the extent of disclosures – in the majority of disclosures – is statistically significantly different (see Table 2) among the clusters.

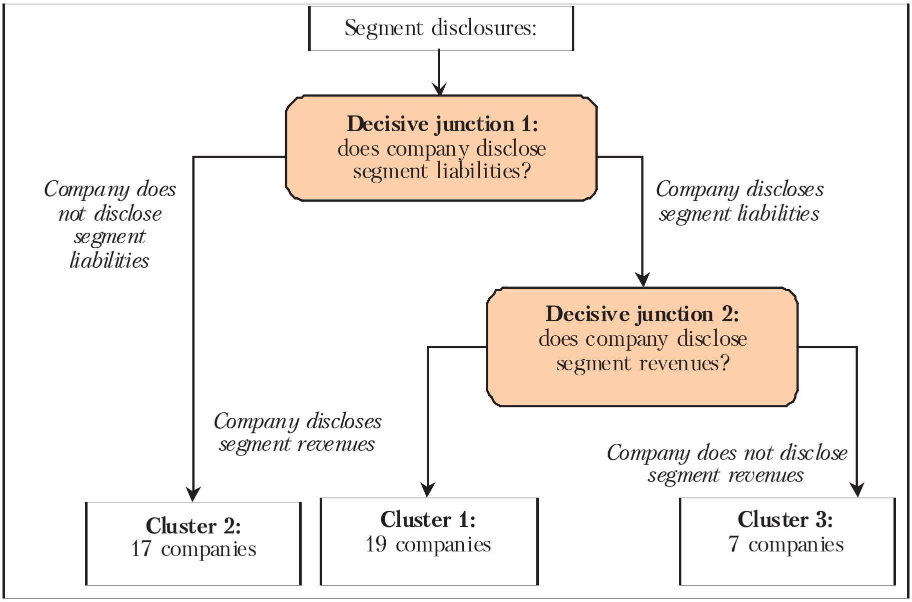

Figure 1. **Clustering tree**

Table 2. **Descriptive statistics of segment information disclosures in accordance with the classification of companies in to 3 clusters**

	Disclosure of ...	Share of companies disclosing information within each cluster			*p*-value (χ^2-test)
		Cluster 1	Cluster 2	Cluster 3	
1	... business segments composition	84.21	94.12	28.57	.000***
2	... geographical segments composition	52.63	23.53	14.29	.047**
3	... profit or loss results by segments	21.05	82.35	.00	.286
4	... revenues by segments	100.00	94.12	.00	.000***
5	... by segments in table form	100.00	94.12	.00	.000***
6	... assets by segments	5.26	100.00	14.29	.446
7	... liabilities by segments	.00	100.00	.00	.170
8	... method for determining costs by segments	5.26	29.41	14.29	.000***
9	... allocation measures of revenues and expenses by segments	5.26	41.18	.00	.000***
10	... method of pricing intra-segment transfers	.00	.00	.00	.000***
11	... adopted accounting policies for segment reporting	15.79	70.59	14.29	.093*
12	... cash flows by segments	.00	5.88	.00	.000***
13	... segment reconciliations	.00	5.88	.00	.000***
14	... segment profitability ratios	.00	5.88	.00	.000***
	All companies (43)	19	17	7	
	Average disclosure index per cluster	.2781	.5336	.0613	

Notes: * Statistically significant at 0.10. ** Statistically significant at 0.05. *** Statistically significant at 0.01.

Considering individual segment disclosures, the classification into 3 clusters indicates 3 different disclosure patterns of companies when it comes to the conduct of a company's management when disclosing segment information. Even the results of the Kruskal-Wallis test on the collected data indicate there are 3 different disclosure patterns when it comes to the conduct of companies' managements (see Table 3). The results for the dependent variable show there are statistically significant differences among the clusters (at the 1% confidence level). The companies classified in cluster 2 disclose the most segment information. The disclosure of information about segment liabilities has influence on a disclosure pattern of a company when it comes to the conduct of the company's management in disclosing segment information.

Table 3. **Kruskal-Wallis test of difference between clusters**

Rank average >	Cluster 1	Cluster 2	Cluster 3	χ^2-test	Statistical significance
All companies (43)	19	17	7		
Unweighted disclosure index	17.11	34.18	5.71	31.128	.000***
Size ln Revenues	21.05	26.53	13.57	5.474	.065*
Financial leverage	25.79	18.12	21.14	3.388	.184
Profitability	22.63	20.18	24.71	.734	.693
Growth rate	19.84	25.24	20.00	1.867	.393

Notes: * Statistically significant at 0.10. ** Statistically significant at 0.05. *** Statistically significant at 0.01.

The results of the disclosure pattern analysis and the regression analysis show that a company's growth rate is not a (statistically) significant factor which would have influence on the extent of disclosed segment information or on the type of disclosed segment information. The hypothesis that the higher a company's growth rate, the lesser is the extent of disclosed segment information, is not valid considering the results of this research. A reason for this can be the fact that growth can be the indicator of investment quality (Prencipe, 2004). Thus, it is true that companies with growth have higher proprietary costs, due to the disclosure of segment information, compared to the companies without growth, but their motive to disclose segment information is greater, for example, because of the minimisation of risk connected to possible negative public reputation ("publicity") in future, adverse market selection etc.

Furthermore, considering the results of the regression analysis company size, financial leverage and company's profitability as control variables are not (statistically) significant factors, which would influence the extent of the disclosed segment information or the type of disclosed segment information. The theoretical generally accepted "belief" that the larger a company is, the greater is the extent of its disclosed segment information, is not valid. The non-significance of the company size factor is unusual in comparison to other studies (see, i.e., McKinnon and Dalimunthe, 1993; Prencipe, 2004; Leuz, 2004; Barako, 2007). A possible reason for the non-significance can be the fact that the subject of the present research are Slovenian companies, which are in majority unlisted companies, whereas the subject of other studies are generally listed companies. Furthermore, in earlier studies the subject of research were companies that were larger in size than the companies in this study. And secondly, in the majority of previous studies, the object were companies, which operate and have their headquarters on the territory of the U.S.A. (i.e., Ettredge et al., 2002; Herrmann and Thomas, 2000; Berger and Hann, 2003, 2007, etc.).

Regarding the financial leverage variable, the "belief" generally accepted in advance, based on a number of different theories (i.e., the agency theory etc.), that the more a company is in debt, the greater is the extent of disclosed segment information, is not valid. The financial leverage non-significance is at least partly unusual in comparison to some other studies (i.e., Prencipe, 2004; Barako, 2007), but nevertheless its non-significance is in line with some segment reporting studies (i.e., Mckinnon and Dalimunthe. 1993; Leuz, 2004). One or many possible reasons for the financial leverage not being a (statistically) significant factor can be the same as the reasons presented among the possible reasons for the statistical non-significance of the company size factor. Furthermore, due to a small Slovenian economic environment, a possible reason can also be that companies do not disclose segment information in their annual reports, because they disclose segment information privately between two parties. Considering the results of the disclosure pattern, even the type of individual disclosures is not influenced by a company's financial leverage.

Regarding company's profitability, there usually is no general expectation about a sign of the variable. The negative sign indicates that more profitable companies do not disclose a greater extent of segment information compared to less profitable companies. Statistical non-significance of the profitability factor is in accordance with the findings of some previous studies (i.e., Prencipe, 2004, Hossain and Hammami, 2009). A possible reason for the non-significance of profitability can be the fact that profitability can be an indicator that shows the below-average or above-average company's profitability in relation to other competitors. Additionally, information disclosure can have harmful consequences for a company, because of which management discloses less segment information. The results of the disclosure pattern analysis show that the type of disclosed information is not influenced by profitability.

Considering the results of the regression analysis in regard to industry sector variable, it is significant whether a company is classified in the production sector. The latter means that if companies are classified in the production sector, management at these companies will disclose more segment information, compared to those classified in other sectors. If a company is classified in any other sector as the primary activity of a company, it is – in accordance with the results of the regression analysis – non-significant.

5. Conclusion. The aim of the research was to determine the conduct of managements of Slovenian large companies when it comes to disclosing segment information and whether company's growth influences the decision of companies' management to disclose segment information. The results of the regression analysis show that for companies, which disclose segment information, company's growth rate and none of other expected factors are identified as a significant factor, which would influence the decision of a company's management about the extent of disclosed segment information. The reasons why these factors are non-significant are different. It can be true that the companies with growth have higher proprietary costs, due to the disclosure of segment information, compared to the companies without growth, but their motive to disclose segment information is greater, for example, because of the minimisation of risk connected to a possible negative public reputation in future, adverse market selection etc. Considering the research design, other possible reasons for the decision of companies' management about the disclosure of segment information cannot be determined.

It is unusual that all the factors, with the exception of one, are non-significant. Company size, financial leverage and profitability of a company are factors which were often significant in most of the earlier studies in the field of segment reporting. One possible reason for these factors being non-significant is that in this study, as opposed to earlier ones, the subject of research were companies that are in majority unlisted, smaller than companies studied in the previous studies and/or have their headquarters in Slovenia. Surprisingly, the only significant fact is whether a company is classified in the production sector as the basic activity of a company, which means the company will disclose more segment information compared to a company classified in another sector.

Nevertheless, the study reveals the management conduct at Slovenian large companies when it comes to disclosing segment information in the companies' annual reports. In regard to management conduct it is important whether a company disclosed its segment liabilities and whether a company disclosed its segment revenues. None of the factors was significant in regard to management conduct when disclosing individual types of information.

The present research is the first research that studies the conduct of management when it comes to the segment information disclosure on a sample of Slovenian large companies. However, one characteristic of the research should be emphasized. The results show that three fourths of large Slovenian companies do not disclose segment information. The reasons for the decision of companies' management not to disclose segment information in accordance with GAAP can be various. This situation, where three fourths of the companies do not disclose segment (mandatory required) information indicates at least a problem in the currently established conduct of companies' managements in Slovenia. A possible course for further research can be a further study of this problem.

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