

Veronika FENYVES,  
Tibor TARNÓCZI

*Faculty of Economics and Business, University of Debrecen, Debrecen, Hungary*

# ANALYSIS OF MEMORANDUM ITEMS IN THE NOTES TO FINANCIAL STATEMENTS BASED ON IT SERVICE PROVIDERS

Review  
Article

---

## Keywords

*Giving information  
Account,  
Text mining,  
Information,*

---

## JEL Classification

*M41*

---

## Abstract

*Only enterprises with adequate information and ability to convert them into organizational knowledge are able to comply with the challenges in our globalized and accelerated world. Account has paramount importance in economic links between enterprises. It is divided into 2 sections: balance sheet and profit and loss account. Access to information is possible if the notes to financial statement include information that contribute to the better interpretation of the other part of the account. Decision-making based on unadequate knowledge further increases the otherwise not low economic risks. In the research we look into whether the notes to financial statements conducted by the enterprises include information that facilitate the collection of necessary financial knowledge for partner enterprises. Notes to financial statements of enterprises with NACE Code 62 – IT services as their principal activity were used in the analysis. The use of text mining helps us to reveal to what extent notes to financial statements comply with the Act on Accounting.*

## INTRODUCTION

Even competition among enterprises has been enhanced in our globalized and accelerated world. Regarding decision-making 2 factors have paramount importance: information, knowledge and promptness. Being informed is an indispensable condition of the successful operation of an enterprise. It means only enterprises with adequate information and ability to convert them into organizational knowledge are able to comply with the challenges. For being informed and the ability to assess and evaluate an enterprise, a reliable and coherent information system is necessary for both the enterprise and its environment. Accountancy at enterprises satisfies the need above that appears in the Act C of 2000 on accounting in Hungary. On one hand accountancy is an information system; on the other hand its main role is to provide information in line with legal provisions (Kerezsi, 2017). Act on Accounting defines the accounting and reporting obligations of enterprises under the Act, the overriding principles in accounting and conducting accounts, rules based on the above, disclosure, publication and audit obligations under the Act (Böcskei, 2014). These provide market players with reliable account with real image on the asset position, assets and liabilities and their changes, financial and profitability position and future plans (Musinszki, 2016). Act C of 2000 on Accounting in Hungary defines that those quantitative data and text information shall be included in the notes to financial statements that:

- are stipulated in the Act on Accounting,
- are necessary for the shareholders, investors and creditors to receive reliable and real view about asset and financial position and the operation of the entrepreneur, in addition to information in balance sheet and profit and loss account.

Act on Accounting includes information that shall be introduced in the notes to financial statements, but it does not classify them. Information in each part regarding the data content of the notes to the financial position is listed in a mass of text in the Act on Accounting. As for the structure of the notes to financial statement, the Act stipulates that the order of introduction shall be in line with the structure of balance sheet and the profit and loss account (Fridrich-Simon, 2018). In case of the annual account, information should be divided into 3 large parts in a practical point of view (Filyó, 2014). These 3 parts are described as follows:

- general part, that basically provides better understanding of data in the account ( Fridrich-Simon, 2018)

- specific part, where information is in connection with quantitative data in the balance sheet and profit and loss account and introduces the details and explanations
- memorandum part that links to the operation of the enterprise, facilitates the better understanding of the position of the enterprise, it links indirectly to the balance sheet and the profit and loss account – as 2 parts of the account (Kántor, 2016).

Competitiveness of enterprises strongly depends on the effectiveness of their decision-making process and information at the suitable place and time. In addition to reporting economic events in line with accounting rules, accounting information system can satisfy the information needs of internal and external stakeholders. It can be concluded that the financial statement - as an information source - plays significant role in the economic relationships between enterprises (Musinszki, 2012). On the other hand the necessary information and knowledge can be gained if the third part of the financial statement, notes to the financial statement contains information that may facilitate the better understanding of the other 2 parts of the financial statement due to the 2 basic parts (balance sheet and profit and loss account) and their aggregated nature. Without notes to financial statement including the necessary information, efficient use of the balance sheet and profit and loss account may become problematic. According to Ferencz, notes to financial statement should facilitate the interpretation of data, but it does not necessarily take place in practice (Ferencz, 2013). Kántor's study suggests that there are still enterprises that apply superficial introduction of the value in their balance sheets and profit and loss accounts (if they introduced them at all) because they are afraid that their competitors may gain information about their activities and efficiency.

Under the legislation in force, notes to financial statement is mandatory, apart from some parts, its data and information content is regulated therefore to carry out notes to financial statement and to share information require sufficient time and energy by the management and personnel dealing with accountancy (Kántor, 2016). Mrs. Tóth suggested that quality of notes to financial statement should be corrected (Tóthné Szabó, 2012).

## MATERIAL AND METHOD

We analysed notes to financial statement at Hungarian enterprises with NACE – 62 IT services as their principle activity. Those enterprises were included in the database that published their financial statement of 2016. The total number of such enterprises was up to 11476 of which 8858 enterprises had their notes to financial statements. Other enterprises did not upload notes to financial statement or are obliged to carry out financial statement of micro-entities. We could process notes to financial statement at 8226 enterprises (92.87 %). The analysis was carried out with different packages in R statistical system. By text mining we looked into to what extent notes to financial statement can provide information that would be necessary for the adequate interpretation and use of the balance sheet and profit and loss account.

Text mining has generated increasing interest in the last 2 decades in academic area as well as in business intelligence. Text mining means that useful and recent knowledge can be gained by processing unstructured text in large quantity that may influence the decision-making process of the stakeholders. There is another definition: text mining is the process by which we may catch a glimpse of the text in practice, as well (Kwartler, 2017). The number of text databases in computer-readable format is on the rise and it is advisable to process them promptly. Text mining is an interdisciplinary research field that juxtaposes the tools of computer science, linguistics and statistics (Feinerer, 2008). Each quantitative research, such as researches dealing with business area, uses statistical methods requiring structured information (Munzert et. al, 2014).

The 'tm' programme package of the R statistical system provides infrastructure that enables us to work with texts and their metadata and to convert texts into structured representations where necessary statistical methods can be applied (Feinerer et al., 2008). The 'tm' package also enables us to process texts in different formats (txt, doc, pdf, csv, etc.). The analysis of texts requires the fulfilment of tasks that may influence the accuracy, validity and findings of text analysis as well as technics used for the analysis (Welbers et al., 2017).

## COMPARATIVE ANALYSIS OF NOTES TO FINANCIAL STATEMENTS AT IT SERVICE PROVIDERS

We looked into the notes to financial statements at 8226 enterprises based on the type of the account (Table 1.). Regarding the type 1056 enterprises (12.8 %) did not include in their notes to financial statements what account they carry out, 6432 enterprises (78.2 %) carried out simplified annual account while 738 enterprises (9%) carried out account in the period considered.

In addition to the type of the account it is concluded that based on the legal form 195 enterprises did not include their legal forms in the notes to the financial statement; 70.86 % of the enterprises are limited liability company (Kft.), 26 % is limited partnership (Bt.) while 7.53 % is joint-stock company (Rt.) in the sample (Table 2.).

We looked into the volume of the notes to the financial statements (Graph 1.). There are no legal requirements regarding the volume of notes to financial statements, previous analyses have already found out the connection between the volume and quality. According to Tóthné Szabó's analyses the distribution of the samples was the following: 40 % included 21-50 pages while 33 % included only 11-20 pages (Tóthné Szabó, 2012). The link between the volume and quality could be clearly inferred based on the sample. Out of the notes to financial statements in our research, the following volumes were found out: volume of 1-5 pages – 3381 pieces (41 %), volume of 6-10 pages – 3539 pieces (43 %), volume of 11-20 pages – 1228 pieces (15 %), volume of 21-50 pages – 75 pieces (1 %) and volume of > 50 pages – 3 pieces (0.04 %).

Act C of 2000 on Accounting defines that those quantitative data and text information shall be included in the notes to financial statements that

- are stipulated in the Act on Accounting,
- are necessary for the shareholders, investors and creditors to receive reliable and real view about asset and financial position and the operation of the entrepreneur, in addition to information in balance sheet and profit and loss account (2000. évi törvény a számvitelről).

Act on Accounting includes information that shall be introduced in the notes to financial statements, but it does not classify them. Information in each part regarding the data content of the notes to the financial position is listed in a mass of text in the Act on Accounting. As for the structure of the notes to financial statement, the Act stipulates that order of introduction shall be in line with the structure of balance sheet and the profit and loss account. In case of annual account, information should be divided into 3 large parts in a practical point of view. These 3 parts are described as follows:

- general part, which basically provides better understanding of data in the account

- memorandum part that links to the operation of the enterprise, facilitates the better understanding of the position of the enterprise, it links indirectly to the balance sheet and the profit and loss account – as 2 parts of the account.
- specific part, where information is in connection with quantitative data in the balance sheet and profit and loss account and introduces the details and explanations (Kántor, 2016).

We introduce information included in the informative part in the notes to the financial statement at enterprises providing IT services, as their principal activity (Table 3.) in total and according to the type of the account. As we have mentioned above, Act on Accounting does not stipulate that enterprises shall include “Memorandum part” in the notes to the financial statement, but it stipulates that it shall include information that facilitates better understanding of data in the account. We looked into how many enterprises had the title ‘memorandum part’ in their notes to financial statements. 68.13 % of the sample did not include while 31.87 % (2622 enterprises) included memorandum part in the notes to the financial statement. It is not a problem at all since it is not an obligatory part of the notes to the financial statement.

Requirements in the Act on Accounting further include the followings:

- Information in connection with the number of employees. 1503 enterprises out of 8226 enterprises gave the number of employees. It is 31.87 % of the sample in which 15.05 % carried out simplified annual account.
- 1667 enterprises included information in connection with chief executives in their notes to financial statements representing 20.27 % of the sample.
- 477 enterprises included information in connection with directorate representing only 5.5 % of the sample.
- 875 enterprises include information in connection with supervisory board representing 10.64 % of the sample.
- Information in connection with off-balance sheet items was included in 1378 (16.75 %) notes to financial statements.
- Information in connection with hazardous waste was included in 3730 (45.34 %) notes to financial statement
- Information in connection with substance harmful for the environment was included in 1729 (21.02 %) notes to financial statements.
- Information in connection with environmental commitment was included in 1941 (23.6 %) notes to financial statements.

We looked into information in connection with chief executives, directorates and supervisory boards based on the legal form of the enterprise (Table 4.).

- 73.19 % of 1667 enterprises giving information on chief executives was enterprise with limited liability.
- 76.31 % of 477 enterprises giving information on directorate was enterprise with limited liability.
- 71.43 % of 875 enterprises giving information on supervisory board was enterprise with limited liability.

## CONCLUSIONS

Act C of 2000 on Accounting defines that to promote the function of the market economy, objective information on the asset, financial and income positions of entrepreneurs, non-profit organisations and other enterprises shall be accessible for market players to facilitate their decision making processes. Notes to financial statements also support this purpose as part of the annual account. It can be concluded that information in notes to the financial statement would be crucial for the complex understanding of the account for different market players and stakeholders, as users. Being informed is an indispensable condition of the successful operation of an enterprise. Regarding decision-making, information, knowledge and promptness have paramount importance. Decision-making based on unadequate knowledge further increases the otherwise not low economic risks. However, accounts should facilitate the decrease in risks by better decision-making because notes to financial statements with adequate information could help market players being informed. Based on the notes to the financial statements (8226 pc.) analysed it can be concluded that all of them have been shown to be defective according to the legal provisions for the memorandum part. Memorandum information in the notes to the financial statements of enterprises does not comply with legal provisions of the Act on Accounting therefore, their obligation to inform market players about the presentation of a reliable and realistic picture of business management is not fulfilled.

## Acknowledgements



„SUPPORTED BY THE ÚNKP-17-4 NEW NATIONAL EXCELLENCE PROGRAM OF THE MINISTRY OF HUMAN CAPACITIES”

## REFERENCES

### Journal articles

- [1] Böcskei E. (2014) A számviteli politika előtérbe kerülése – a belső számvitel információtartalma, mint a vezetői számvitel alapja, *Controller Info*, II. évfolyam 2. sz./2014, pp. 38-43.
- [2] Feinerer I. (2008) An introduction to text mining in R. *R News*, 8(2):19–22, Oct. 2008. On-line: <http://CRAN.R-project.org/doc/Rnews/> Date of download: 20/3/2018
- [3] Feinerer I., Hornik K., Meyer D. (2008) Text mining infrastructure in R. *Journal of Statistical Software*, 25(5):1–54, March 2008. ISSN 1548-7660.
- [4] Ferencz O (2013) Az egyszerűsített éves beszámoló mint információhordozó *Számvitel, adó, könyvvizsgálat* 2013. 55. évf. 9. sz. 425.o.
- [5] Filyó J. (2014) A kiegészítő melléklet ellenőrzésének tapasztalatai *Számvitel, adó könyvvizsgálat* 56. évf. 6. sz. / 2014 pp. 285-286
- [6] Fridrich P., Simon Sz. (2018) Kiegészítő melléklet I. rész *Számviteli tanácsadó X. évfolyam* 5. szám pp. 2-12.
- [7] Kerezsi D. (2017) A kiegészítő melléklet szerepe a piaci szereplők tájékoztatásában *International Journal of Engineering and Management Sciences / Műszaki És Menedzsment Tudományi Közlemények* 2017. 2:(4) pp. 202-222.
- [8] Musinszki Z. (2016) Pénzügyi mutatókon innen és túl. *Észak-Magyarországi Stratégiai Füzetek*, 13:(2), 2016. pp. 71-80.
- [9] Kántor B. (2016) A kiegészítő melléklet *Számviteli tanácsadó* 2016. VIII. évfolyam 3. szám pp. 2-11.
- [10] Welbers K., Van Atteveldt W., Benoit K. (2017) Text Analysis in R. *Communications Methods and Measures*. VOL. 11, NO. 4, 245–265, On-line: <https://doi.org/10.1080/19312458.2017.138723> Date of download: 20/5/2018

### Books

#### Author

- [1] Kwartler T. (2017) *Text Mining in Practice with R*. John Wiley and Sons, Ltd. 2017. ISBN: 978-1-119-28201-3
- [2] Munzert S., Rubba C., Meißner P., Nyhuis D., *Automated Data Collection with R: A Practical Guide to Web Scraping and Text Mining*. John Wiley and Sons, Ltd. 2014. ISBN: 978-1-118-83481-7
- [3] Musinszki Z. (2012) A számviteli információ és a vezetői számvitel alapjai <http://gtk.uni-miskolc.hu/files/9140/A+vezet%C5%91i+sz%C3%A1mvitel+alapjai+k%C3%A9zirat.pdf> 2012. Date of download: 6/5/2018
- [4] E. Tóthné Szabó, A kiegészítő melléklet szerepe és tartalma a számviteli információ hordozta "megbízható és valós kép" kialakításában *Sopron: Nyugat-magyarországi Egyetem Közgazdaságtudományi Kar*, 2012. (Doctoral thesis) (ISBN:978-963-334-072-1) 132 p

### Non-English references

- [1] 2000. évi törvény a számvitelről. <https://net.jogtar.hu/jogszabaly?docid=A0000100.TV>

## ANNEXES

Table 1: The number of notes to financial statements according to the type of the account (Unit: piece)

Type of account	piece	%
Non-given	1 056	12.84
Simplified annual account	6 432	78.19
Annual account	738	8.97
Total	8 226	100.00

Table 2: The number of notes to financial statements according to the legal form of the enterprise (Unit: piece)

Legal form	piece	%
Non-given	195	2.37
Limited Partnership (Bt.)	2 140	26.02
Limited Liability Company (Kft.)	5 829	70.86
Joint-stock company (Rt.)	62	0.75
Total	8 226	100.00

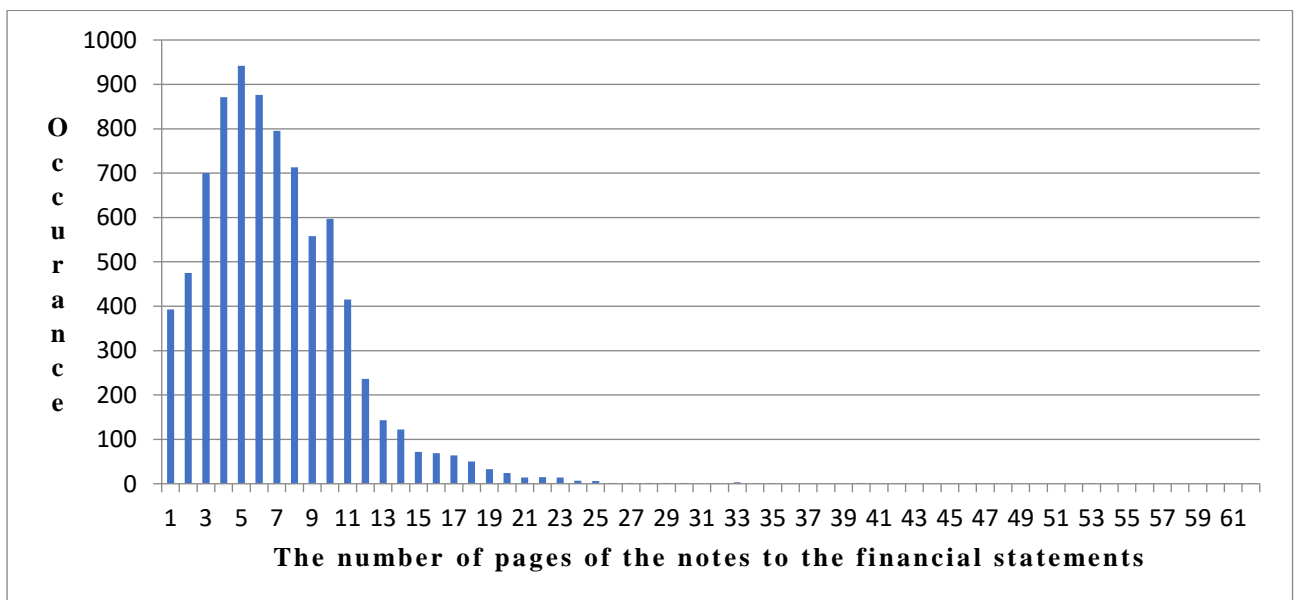
Table 3: Items of the informative part in the notes to financial statements according to the type of the account.  
(Unit: piece)

Search term	Total		Type of account					
			Non-given		Simplified annual		Annual	
Enterprises analysed	8 226	100%	1 056	100%	6 432	100%	738	100%
Informative part	2 622	31,87%	234	2,84%	2 203	26,78%	185	2,25%
Information in connection with the number of employees	1 503	18,27%	114	1,39%	1 238	15,05%	151	1,84%
Information in connection with chief executives	1 667	20,27%	253	3,08%	1 266	15,39%	148	1,80%
Information in connection with directorate	477	5,80%	25	0,30%	357	4,34%	95	1,15%
Information in connection with supervisory board	875	10,64%	127	1,54%	639	7,77%	109	1,33%
Information in connection with off-balance sheet items	1 378	16,75%	160	1,95%	1 115	13,55%	103	1,25%
Information in connection with hazardous waste	3 730	45,34%	407	4,95%	3 054	37,13%	269	3,27%
Information in connection with	1 729	21,02%	271	3,29%	1 311	15,94%	147	1,79%

substance harmful for the environment									
Information in connection with environmental commitment	1 941	23,60%	270	3,28%	1 511	18,37%	160	1,95%	

Table 4: Items of the informative part in the notes to financial statements according to the legal form of the enterprise (Unit: piece)

Search term	Total		Legal form							
			Non-given		Limited Partnership (Bt.)		Limited Liability Company (Kft.)		Joint-stock company (Rt.)	
Enterprises analysed	8 226	100%	195	2,37%	2 140	26,02%	5 829	70,86%	62	0,75%
Information in connection with chief executive	1 667	20,27%	46	0,56%	386	4,69%	1 220	14,83%	15	0,18%
Information in connection with directorate	477	5,80%	13	0,16%	94	1,14%	364	4,42%	6	0,07%
Information in connection with supervisory board	875	10,64%	38	0,46%	206	2,50%	625	7,60%	6	0,07%



Graph 1: The number of pages of the notes to the financial statements (Unit: piece)