Transparency of the enterprise: from theory to practice of evaluation (on the example of retail networks)

Abstract

Introduction. In the conditions of globalisation of the world economy and informatisation of society, transparency is one of the most important factors of enterprise development. Openness of information concerning business organisation, performance of activities, implementation of innovations and social activity is a criterion for corporate management culture at the enterprise that determines its investment attractiveness and increasing market value, and creates preconditions for strengthening enterprises’ competitive positions in the market.

Purpose. The purpose of the work is to identify the main elements of the enterprise transparency, substantiate methodological principles of its evaluation, conduct empirical research and test the hypothesis of the transparency impact on the main indicators of the enterprise activity.

Methods. The methods of comparison, critical analysis and generalisation were used during the research, which allowed the authors to determine the essence, elemental composition and methodical principles for the evaluation of the company’s transparency. Also the methods of scoring, complex integrated assessment and correlation analysis were used to determine the level of transparency of retail networks by individual elements and study the link strength between transparency and the results of activities of trade enterprises.

Results. According to the results of the research, the essence of transparency is defined as the transparency of relations between the company and its main stakeholders (owners, employees, buyers, resource providers, community, state), the content of which is disclosed through the set of characteristics of financial, legal, organisational, social anticorruption transparency. To determine the level of the enterprise transparency, a set of indicators reflecting transparency in the context of its main elements and formed based on the open data by enterprises, is substantiated. The conducted study of transparency of 25 Ukrainian retail chains made it possible to conclude that their level of openness is low (the level of transparency in general is 37.5% in aggregate). Only legal and financial aspects of the activities of enterprises among numerous types of transparency investigated are reflected in corporate websites in sufficient volume (56.6% and 54.2%, respectively). Also, we have determined formal disclosure of information concerning organisational structure of enterprises, associates and subsidiaries (36.0%), social activity (35.4%). The lowest level of openness of trade networks regarding the implementation of anticorruption programs (5.2%) is noted. According to the results of the correlation analysis, we have determined a strong dependence of profit dynamics (\(r=0.50\)) on dynamics of profitability of sales (\(r=0.45\)) transparency. Also, a direct impact of legal (\(r=0.46\)) and anticorruption transparency (\(r=0.31\)) on dynamics of profitability of sales (\(r=0.41\)) has been specified.

Conclusion. Resulting from the research, transparency of the enterprise is defined as a complex characteristic, the content of which is disclosed through a set of relations between the company and its main stakeholders in the context of financial, legal, organisational, social and anticorruption openness. The authors of the article have detected a low level of transparency of retail networks in Ukraine and significant dependence of the results of their activity on the level of openness.

Keywords: Transparency; Enterprise; Evaluation; Efficiency of Activity; Retail Network; Retail Chain; Profitability; Disclosure; ATB Market Ltd.; Fozzy Group; ECO Ltd.; RUSH Ltd.; Metro Cash & Carry Ukraine Ltd.; Auchan Ukraine Hypermarket Ltd.; Epicenter-K Ltd.; Novaya Liniya P/JSC

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Транспарентність підприємства: від теорії до практики оцінювання (на прикладі торговельних мереж)

1. Introduction

Widening of the investment practices in Ukraine, taking into account corporate social reporting [1-3], as well as re-

cognition of transparency as one of the key values that a mo-
dern company must possess [4], demonstrates growing atten-
tion of the Ukrainian society to company openness. Aware-
ness of transparency as a factor of effective management de-
termines companies’ activities on the disclosure of corporate social reporting, information on the results of their activities in the field of environmental protection, community development and support, organisation of labour relations at the en-
terprise. According to the published data, the level of the in-
formation disclosure by leading Ukrainian companies on their

own websites is 56.5% [2], and the practice of publishing cor-
porate social responsibility reports [2-3] is also positive.

The availability of public information provides the compa-

ny with all stakeholders interested in communication, that is

used by the management to improve strategy and tactics of

the company's development, substantiation of its current ma-
nagerial decisions. However, in the scientific literature [5-25],

there are different approaches to defining the composition of
elemental transparency, and empirical studies on the effec-
tiveness of the implementation of transparency practices in the
activities of economic entities are insufficient.

2. Brief Literature Review

The analysis of publications [5-25] indicates significant de-
velopments of the researchers regarding theoretical and prac-
tical aspects of the transparency evaluation under the current

conditions of the development of the world economy. Thus,
the role of transparency in the establishment of corporate
management has identified the direction of research by M. Bushman, J. D. Pitkäri and S. J. Abbie (2004) [5], V. Bruno and S. Claessens (2010), A. L. Boone and J. T. White (2013) [7], in whose works the elemental composition of transparency with the allocation of components such as financial transparency and management transparency [5] are studied. Further, the abovementioned scholars consider the influence of external factors, namely legal and judicial systems [5-6], and institutional environment [7], at the level of corporate transparency. The question of the dependence of the company’s performance on its transparency is presented in works by D. Dahlwal, O. Z. Li, A. Tsang and Y. G. Yang (2014) [8], Y.-L. Cheng, J. Ping and T. Weiqiang (2010) [9], E. M. Barth and K. Schipper (2008) [10], K. Dingwert and M. Eichinger (2010) [11], A. Vaccaro and D. P. Echeverri (2010) [12], who proved a close correlation between the level of corporate transparency, the market value of companies [8-10] and the degree of readiness of the population to cooperate with the enterprise [12]. Consequently, the issues of improving GRI reporting for enhancing information value for different audiences [11] are actualised. Due to the importance of information and IT in the modern economy, a separate area of research of transparency is the analysis of information content of corporate sites (R. Capriott & A. Moreno (2007) [13], the level of information disclosure in certain areas of activity with the account of external and internal influences (M. Rankin, C. Wind- sor & D. Wahyuni (2011) [14], B. Fung (2014) [15], S. C. Armstrong, W. R. Guay & J. P. Weber (2010) [16], B. H. Othman and D. Zhang (2010) [17]), as well as the presentation of information technologies for enhancing transparency of activities (E. Bonsón, L. Torresb, S. Royob & F. Floresc (2012) [18]; J. C. Bertot, P. T. Jaeger & J. M. Grimes (2010) [19]).

Scientific research concerning essential characteristics of transparency as a principle and factor of the activity of certain systems is presented in the works by G. Grygorieva [20], I. Nen- no [20], L. Rogutskaya [21], O. Vinnichenko [22], N. Potryvae- va [23], T. Korenovskaya [23], V. Makarovich [24], I. Vytovs- kaya [24], where the authors consider the essence of trans- parency and the prerequisites for its introduction at the macro level [20], its use in the company management [21-22], and the formation of the integrated corporate reporting [23-24]. Practical developments concerning the formation of the system of communications and the disclosure of information by companies are given in the works [1-3; 12; 14; 18].

Despite the existing publications, further research of the elemental composition of companies’ transparency, substantia- tion of its evaluation indicators, empirical research, and identification of the relationship between transparency and company performance are required.

3. Purpose

The purpose of the article is to identify the main elements of companies’ transparency, to substantiate methodological principles for its evaluation, to conduct empirical studies and test the hypothesis concerning the impact of transparency on the main results of the enterprise activity.

4. Results

The conducted research testifies that the content of trans- parency is determined by the target subjects of communica- tion, which results in numerous interpretations of transpare- ncy in the context of openness and organisation of power struc- tures’ work on the principles of electronic governance at both macro and micro level [20; 23-25]. The company reporting and its communication with the participants in economic relations [12; 23-25], based on the study of the existing approaches and interpretations that are found in the scienti- fic literature [5-25]. The content of transparency is defined as transparency of the company’s relations with other stakeholders (customers, suppliers, buyers, resellers, consumers, employees, state), based on the principles of financial, legal, organisational, social and anticorruption transparency [30]. Despite the fact that the selected elements to some extent correspond to the understand- ing of transparency as characteristics reflecting commu- nication of the enterprise with the interested parties, in our opinion, it is necessary to continue discussion in this area.

Identifications, transparency, and, on the other hand, provide certain advantages by creating more trust to the enterprise, and, on the other hand, it may be a threat to a com- petitive position. It should be recognised that society is im- perfect, and relations in it are not based only on trust, honesty, mutual respect and support. Openness of information con- cerning technological processes, for example, may violate copyright, disclose certain secrets of production, which can be used by the competitors. Modern technologies of informa- tion dissemination provide many opportunities for imple- menting the principle of transparency, yet some ethical norms should be responsible for possible consequences of each decision disclo- sing certain data. Therefore, we believe that the introduction of the principle of transparency within the concept of stakehol- ders should take into account the following constraints:

- relevance (it is possible to disclose only the information that is sufficiently consistent with the interests of stakeholders);
- volume (only the amount of information included in the competence of stakeholders should be disclosed and suf- ficient for making weighted decisions about cooperation with the enterprise).

In view of this we consider it expedient to clarify the compo- sition and content of the main elements of transparency, which are presented in scientific papers [31]. Thus, according to the basic principles of the stakeholder theory, the following groups are the stakeholders of any enterprise: owners (including inves- tors), buyers, suppliers, personnel (including management), the state, non-governmental organisations and other social groups. The subject of the owners’ interests is, first of all, financial and legal transparency, which is a confirmation of the leg- ality and economic feasibility of the enterprise. Transparency of management and technological transparency, on the one hand, are of interest to buyers and suppliers, and on the other hand, constitute a certain threat to the maintenance of com- petitive advantages of the enterprise. Managerial technologi- es and processes of planning, organisation, motivation, as well as production technologies, are unique intangible assets that are difficult to reproduce and therefore provide the main advantages. Their disclosure should be responsible and lim- ited. From these positions, we consider it necessary to restrict transparency of management to organisational transparency, which means disclosure of information about the organisa- tional structure of the company management, as well as its associated and affiliated companies.

Compliance with quality and safety standards is certified by the certificates and licenses, which, on the one hand, relate to organisational costs, and, on the other hand, determine le- gal bases of the technological process. Consequently, in our opinion, legal transparency should be considered not only as transparency of information about the registration and consis- tency of the founders of the enterprise or existence of litigation, but also as openness of the permitting regulatory acts, which determine the peculiarities of the operating activity of the enter- prise. In this context, legal transparency corresponds not only to the interests of owners, but also those of buyers, suppliers, and the state (primarily, these are control authorities).

Anticorruption programs [19; 30] with zero tolerance for cor- ruption are an integral part of all world corporate transparency ratings. Such information is important for investors, suppliers and staff, since it defines business decision-making rules.

Social transparency of business is important first and fore- most for the employees of an enterprise, since it determines on the one hand the results and labour costs. In addi- tion, this component is a key to society, which from the outside forms perception of the company reputation as an employer.

Summarizing the abovementioned remarks, the authors’ vision of the components of the enterprise corporate trans- parency and composition of their key stakeholders is formu- lated in the following Table 1.

To investigate transparency of a business entity, it is ne- cessary to determine methods and instruments for mea- suering it. In this aspect, some interest is developed by [1-2; 23-24; 30-31], which provides informational, organisational and methodological support in order to determine the level of transparency. Based on the results of critical analysis and the existing methodological principles, on the one hand, we substantiated the
main characteristics (Figure 1) and determined conditions for evaluating transparency of the enterprise. To study transparency and its impact on the main characteristics of the economic entity, we used data concerning 25 retail networks that are among the largest companies in Ukraine. The sample includes ATB Market Ltd., Fozzy Group, ECO Ltd., RUSH Ltd., Metro Cash & Carry Ukraine Ltd., Auchan Ukraine hypermarket Ltd., Epicenter-K Ltd., Novaya Liniya Private Joint Stock Company, SAV Distribution Ltd., MTI Ltd. and other trading companies - leaders in sales in the consumer goods market. The aggregate income of trading companies under research during 2016-2017 is estimated at the level UAH 218.6-335.0 billion, which amounted to 9.5-12.0% of the revenue of 200 largest companies of Ukraine [32-33]. The potential for the development of the selected companies both in the Ukrainian market and in international markets is evidenced by rather high growth rates of their turnover. The potential for the development of the selected companies both in the Ukrainian market and in international markets is evidenced by rather high growth rates of their turnover. Thus, according to the results of the year 2018, compared to 2017, the proceeds of ATB-market Ltd. increased by 22.0%, Metro Cash & Carry Ukraine by 6.0%, and Omega Ltd. (TM Varus) by 54.0%. At the same time, according to GFK, the growth of retail trade in the EU-27 in 2019 is expected to be only 2.0%.

Against the background of the increased sales, Ukrainian trade companies demonstrate a low level of openness in their activities. According to the research conducted in 2018, the conclusion concerning the average level of transparency of the researched trading companies was made. The average level of their openness is estimated at 18.7 points, which is 37.5% of the maximum possible level (50 points).

An average level of transparency with low coefficients was diagnosed in the majority of the investigated business entities. According to the calculations, the absolute value of the of transparency complex indicator for half of the investigated trading companies (12 out of 25) is 17-38.5 points, which indicates limited openness (not more than one third) of these enterprises. Regarding local components, the highest transparency indicators are diagnosed with the financial and legal transparency of disclosure, which is estimated at the level 54.2-56.6% of the maximum possible value (Table 2).

It should be noted that in the majority of cases companies provide information on general results of their activity (income, profit, number of trading objects), permitting documents of activity and list of founders, while the issues of social responsibility and anticorruption transparency are less covered. Out of the 25 surveyed trading companies, only LLC «SAV Distribution» (TM «Foxtrot») and LLC «Metro Cash & Carry Ukraine» publish reports on social responsibility and materials on anticorruption transparency. The other companies do not provide such information.

Since transparency is recognised as a condition and a factor of investment attractiveness and sustainable development of the enterprise [24; 31], the next stage of the research involves testing the hypothesis concerning the dependence of the company's performance on its transparency level. Taking into account information security, the analysis used data about the transparency level, changes in profit and profitability. For 2015-2018, we selected effective performance indicators, which most generally reflect nature of the enterprise development. The results of the analysis confirmed the assumption regarding the impact of the company's openness on the results of its activities (Table 3).

According to most connections, the correlation coefficient between the level of transparency, the dynamics of financial results and profitability equals 0.29-0.53 points, which confirms the advantage of conducting transparent business activity under current conditions of economic development. At the same time, the low value of the correlation coefficient between the level of financial transparency and the profitability dynamics indicates the expediency of further research in this direction, in particular, regarding the consideration of negative macroeconomic impacts on the volume of trade enterprises activities.

### Tab. 1: Components of the Enterprise Transparency

| Key stakeholders                  | Financial | Legal | Organizational | Social | Anticorruption |
|-----------------------------------|-----------|-------|----------------|--------|----------------|
| Owners (including investors)      | √         | √     | √              | √      | √              |
| Buyers                            | √         |       | √              | √      | √              |
| Suppliers (including managers)    | √         |       | √              | √      | √              |
| Personnel (including managers)    | √         |       | √              | √      | √              |
| Country, public organizations, other social groups | √         | √     | √              | √      | √              |

Source: Compiled by the authors

### Fig. 1: Characteristics for assessing transparency of the enterprise

![Characteristics for assessing transparency of the enterprise](image)

### Tab. 2: Transparency level by enterprises of the selection totality

| Parameter                  | Transparency, in general | Financial | Legal | Organizational | Social | Anticorruption |
|----------------------------|--------------------------|-----------|-------|----------------|--------|----------------|
| Total enterprises, units   | 25                       | 25        | 25    | 25             | 25     | 25             |
| Among them the number of enterprises that are diagnosed with the level of transparency: |                      |           |       |                |        |                |
| high                       | 3                        | 3         | 4     | 2              | 2      |                |
| middle                     | 22                       | 22        | 0     | 0              | 0      |                |
| low                        | 0                        | 0         | 21    | 23             | 21     |                |
| GPA                        | 18.7                     | 5.4       | 5.7   | 3.6            | 3.5    | 0.5            |
| Maximum possible score     | 50                       | 10        | 10    | 10             | 10     | 10             |
| Transparency level (%)     | 37.5                      | 54.2      | 56.6  | 36.0           | 35.4   | 5.2            |

Source: Compiled by the authors
5. Conclusions

Based on the results of the research, the essence and main components of transparency are defined. Transparency is defined as the clarity of the company’s relations with other stakeholders (owners, employees, buyers, resource providers, community, state), based on the principles of financial, legal, organisational, social and anticorruption transparency. The analysis of transparency, conducted based on the data of 25 trade enterprises included in the list of the largest companies of Ukraine, demonstrated a low level of their openness. According to estimates, the level of information disclosure by the studied aggregate is 37.5%. The hypothesis about the dependence of the enterprises’ performance at the level of its openness is also checked. The results of the correlation analysis prove the relationship between the level of the enterprise openness and the level of enterprise development, which proves the relevance of the research in this direction.

### References

1. Sapyrin, M. (2018). CSR Practices in Ukraine 2017. Kyiv: Center for CSR Development. Retrieved from http://csr-ukraine.org/wp-content/2018/05/2017_konkurs_keysov_preview.pdf (in Ukr).

2. Sapyrin, M., & Sapyrin, M. (2018). Index of transparency and CSR sites of Ukrainian companies. Presentation. Center for CSR Development. Retrieved from http://csr-ukraine.org/wp-content/uploads/2017/05/Transparency-Index-qpt-final.pdf (in Ukr).

3. Voititskiy, Y., & Yakymchuk, D. (2016). Transparency of corporate reporting: assessment of the largest private and state companies in Ukraine. Transparency test: the consumer has set new rules. Retrieved from http://mnr.gov.ua/show/test_na_prozrachnosty_potrebitelei_ustanovil_novyj_pravila#71558243.1524979308 (in Ukr).

4. Bukharny, R. M., Potskii, J. D., & Smith, J. A. (2004). What Determines Corporate Transparency? Journal of Accounting Research, 42(2), 207-252. doi:10.1111/j.1475-679X.2004.00136.x

5. Lucus, V. J., & Gaebler, K. (2014). Corporate social responsibility disclosure and the cost of equity capital: The roles of stakeholder orientation and financial transparency. Journal of Accounting and Public Policy, 33(4), 328-355. doi:10.1016/j.jaccpubpol.2014.04.006

6. Vinichenko, O. M. (2014). Corporate citizenship and public relations: The importance and interactivity of social responsibility issues on corporate websites. Public Relations Review, 33(1), 84-91. doi:10.1016/j.pubrev.2006.11.012

7. Allen, K., & Maier, C. (2010). Corporate transparency as a security: Corporate transparency: The consumer has set new rules. Retrieved from http://mnr.gov.ua/show/test_na_prozrachnosty_potrebitelei_ustanovil_novyj_pravila#71558243.1524979308 (in Ukr).

8. Dhaliwal, D., Li, O. Z., & Yang, T. (2010). Corporate Transparency and Green Management. Universal Journal of Environmental Policy, 10(4), 259-280. doi:10.1162/jecpp.2014.10.001

9. Othman, H. (2010). The effect of institutional ownership on firm transparency and information production. Journal of Financial Economics, 117(3), 508-533. doi:10.1016/j.jfineco.2015.05.008

10. Bondarenko, R. R. (2016). Comparative Assessment of Transparency and Green Management. Journal of Business Ethics, 95(3), 487-506. doi:10.1007/s10551-010-0435-2

11. Pappalardo, P. & Morena, A. (2007). Corporate transparency in the public sector: The impact of transparency and social responsibility issues on corporate websites. Public Relations Review, 33(1), 84-91. doi:10.1016/j.pubrev.2006.11.012

12. Armstrong, C. S., Guay, W., & Weber, J. P. (2010). The role of information and financial reporting in corporate governance and debt contracting. Journal of Accounting and Economics, 50(2-3), 179-234. doi:10.1016/j.jacceco.2010.10.001

13. Dittrich, H. B., & Zeghali, D. (2010). Investigating transparency and disclosure determinants at firm-level in MENA emerging markets. International Journal of Accounting and Financial Reporting, 10(1), 368-381. doi:10.1108/14767311011023712

14. Bons, E., Tol, B., & Scharpf, T. (2010). Local e-government 2.0: Social media and corporate transparency in municipalities. Government Information Quarterly, 27(4), 285-292. doi:10.1016/j.giq.2010.03.001

15. Shearer, C., & Zelner, J. (2010). Transparency and the national macroeconomic environment. Visnyk Odeskogo Natsionalnogo universytetu (Odesa National University), 1(19), 40-43. Retrieved from https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. ua/jspui/oaiarticle?verb=getRecord&oid=https://dspace.uzhnu.edu. u