

## **IMPACT OF THE PUBLICIZATION OF CORPORATE CULTURE ON THE INTERNET ON THE FINANCIAL AND ECONOMIC INDICATORS OF COURIER COMPANIES IN BULGARIA**

**Assoc. Prof. Ilian Minkov,  
Assoc. Prof. Yordan Ivanov**  
*University of Economics – Varna*

**Abstract.** In the current conditions of a dynamic and highly competitive market environment, the official corporate culture of companies published online plays an essential role in building up their image. However, the question of importance for the managers of business organizations is whether and to what extent the scope of publicization of corporate culture elements affects their market performance and financial and economic results. The purpose of this study is to establish the relationship between the degree of development of the publicized corporate culture of courier companies in Bulgaria and the level of their profitability as a key financial and economic indicator. The results show that, depending on the nature of the proclaimed elements, the publicized corporate culture exerts between a weak and a significant influence on the sales revenue of the studied companies.

**Keywords:** corporate culture; publicized corporate culture; profitability; courier companies

### **Introduction**

The corporate culture of business organizations, part of their intellectual capital (Panayotova 2019), plays an essential role in identifying them in the eyes of partners from the surrounding environment and building a unique corporate image. An important contribution to this is the official culture published on the Internet, which presents in the online space the visible cultural attributes of the organizations, publicly expressed as unique company documents – vision, mission, motto, credo, declaration of company values, etc. (Dimitrov, Ivanov & Geshkov 2018). Undoubtedly, publicized culture significantly aids companies' efforts to distinguish themselves from one another, but the question arises as to what extent the building up of this culture contributes to improving market performance and financial and economic results. The research conducted so far does not provide a clear answer to this question. The studies of Sufy&Lyons (2003), Dermol (2012), Braun et al. (2012) conclude that there is no relationship between published cor-

porate culture and company success. At the same time, the studies of Bart, Bontis & Taggar (2001), Hirota et al. (2010), Rajasekar (2013) and others prove that the degree of development of the elements of the proclaimed culture has a positive effect on company performance. Based on these results, it can be assumed that that the absence or presence of such dependence and its strength and direction depend to a large extent on the economic sector in which business organizations operate. In view of this, the aim of the study is to establish the relationship between the degree of development of the publicized corporate culture of the courier companies in Bulgaria and the level of their profitability as a key financial and economic indicator.

The object of research were the official websites and financial reports of eight leading companies in the courier sector in Bulgaria: Econt Express, Speedy, DHL Bulgaria, Bulgarian Posts, MIBM Express, In Time, TNT Bulgaria and Transpress (Table 1).

**Table 1.** Courier companies included in the study

| Leading courier companies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Econt Express – <a href="https://www.econt.com/">https://www.econt.com/</a></li> <li>• Speedy – <a href="https://www.speedy.bg/">https://www.speedy.bg/</a></li> <li>• DHL Bulgaria – <a href="http://www.dhl.bg/">http://www.dhl.bg/</a></li> <li>• Bulgarian Posts – <a href="https://www.bgpost.bg/">https://www.bgpost.bg/</a></li> <li>• MIBM Express – <a href="https://www.mbm-express.com/">https://www.mbm-express.com/</a></li> <li>• In Time – <a href="https://intime.bg/">https://intime.bg/</a></li> <li>• TNT Bulgaria – <a href="https://www.tnt.com/">https://www.tnt.com/</a></li> <li>• Transpress – <a href="https://www.transpress.bg/">https://www.transpress.bg/</a></li> </ul> |

*Source:* Compiled by the authors

## **1. Level of publicization of corporate culture**

### **1.1. A methodological toolkit for determining the level of publicization of corporate culture**

In this study, the degree of development of the corporate culture publicized on the Internet is determined by the coefficient (in %) of publicization of the elements of this culture (mission, vision, values/principles, business credo, motto, company history, corporate social responsibility, code of ethics). This involves the determination of the following coefficients:

(1) Coefficient of disclosing all elements of the publicized corporate culture for each company in the sector

$$Kd = \frac{At}{8} \times 100 \quad (1)$$

where: **At** – number of elements in the publicized corporate culture, disclosed by company **t** ( $t \in (1 \div n)$ );

$n$  – total number of companies in the sector.

On this basis, the average integral coefficient of disclosure of the elements of publicized corporate culture for the business sector is determined, as an arithmetic mean of the individual coefficients of individual companies:

$$Kd_{sect.} = \frac{\sum_{t \in 1}^n Kd_t}{n} \times 100 \quad (2)$$

(2) Coefficient of disclosure of the main elements of publicized corporate culture for each company in the sector

$$Kd_{main} = \frac{Bt}{3} \times 100 \quad (3)$$

where:  $Bt$  – number of the main elements of the publicized corporate culture, disclosed by company  $t \in (1 \div n)$ .

On this basis, two average integral disclosure coefficients of the main elements of publicized corporate culture for the business sector are determined:

– on the basis of all companies in the sector, as an arithmetic average of the individual coefficients of the individual companies:

$$Kd_{main\ sect.} = \frac{\sum_{t \in 1}^n Kd_{main\ t}}{n} \times 100 \quad (4)$$

where  $n$  – total number of the companies in the sector

– Based only on the companies from the sector that disclosed the main elements of publicized corporate culture as an arithmetic mean of the individual coefficients of the individual companies:

$$Kd'_{main\ sect.} = \frac{\sum_{t \in 1}^n Kd_{main\ t}}{m} \times 100 \quad (5)$$

$m$  – total number of companies in the sector that have disclosed the main elements of publicized corporate culture.

## 1.2. Evaluation of the level of publicization of the corporate culture of courier companies.

Based on the number of elements (primary and in total) of the publicized corporate culture announced by the courier companies, the publicization ratio is determined for each company and for the sector as a whole (Table 2).

**Table 2.** Level of publicization of the elements (primary and in total) of the published company culture by courier companies in Bulgaria

| Company         | Total elements publicized | Primary elements publicized | Kd (%)      | Kd main (%) |
|-----------------|---------------------------|-----------------------------|-------------|-------------|
| Bulgarian Posts | 1                         | 0                           | 12.5        | 0           |
| DHL Bulgaria    | 2                         | 1                           | 25          | 33.33       |
| Econt Express   | 5                         | 3                           | 62.5        | 100         |
| In Time         | 2                         | 0                           | 25          | 0           |
| MIBM Express    | 4                         | 3                           | 50          | 100         |
| Speedy          | 4                         | 2                           | 50          | 66.67       |
| TNT Bulgaria    | 1                         | 0                           | 12.5        | 0           |
| Transpress      | 5                         | 3                           | 62.5        | 100         |
| Kd sect.        |                           |                             | <b>37.5</b> |             |
| Kd main sect.   |                           |                             |             | <b>50</b>   |
| Kd main sect..  |                           |                             |             | <b>80</b>   |

*Source:* Compiled by the authors based on information from the official websites of the companies

The integral publicization ratio of culture elements for the sector is 37.5%, which shows that each company publicizes an average of 3 elements. The highest level of publicization is identified in Econt Express and Transpress, with a coefficient of 62.5% formed by five proclaimed elements. The lowest possible ratio of 12.5% is observed in Bulgarian Posts and TNT Bulgaria, which announced only one element.

The integral ratio of publicization of primary elements in all companies in the sector is 50%, indicating that each company publishes an average of one and a half primary elements on the Internet. Econt Express, MIBM Express and Transpress have a maximum ratio of 100% – they having built and publicized a fully completed portfolio of primary elements. At the same time, a ratio of 0 is observed in the case of Bulgarian Posts, In Time and TNT Bulgaria, which have not proclaimed a mission, vision or values. Based only on courier companies that have proclaimed primary elements (5 organizations), the ratio is 80%.

## **2. Analysis of the profitability of courier companies**

### **2.1. Methodological toolkit for profitability analysis**

Profitability is an economic category that can be used to measure the efficiency of a company's business. That is why a number of researchers are looking for a relationship between profitability ratios and various manifestations of a company's business. As Kostova (2010, p. 208) argues, "profitability ratios are quantitative characteristics of the efficiency of revenues and expenses, assets, liabilities, and

equity”. Due to the fact that this definition of the scope of profitability indicators includes mainly economic and financial categories that are quantifiable, the question arises whether it is possible to identify a link between similar relative indicators of quantifiable economic indicators of business and others, characterizing social, management and other aspects of the companies’ business. Different interpretations of the varieties of profitability indicators are known in the literature (Petrov, G. et al., 2006, p. 213), but for the purposes of this study, we will use the profitability indicator of sales revenue (Kostova, 2010, p. 208):

– profitability of revenue (commercial profitability);

$$R_{prof(TR)} = \frac{GPr}{NTR} \times 100, (\%) \quad (6)$$

where,

$R_{prof(TR)}$  – gross revenue profitability ratio;

GPr – gross profit (loss) of the company;

NTR – Net Sales Revenue.

## 2.2. Profitability of courier companies in Bulgaria

The calculation of the profitability of the courier companies was carried out on the basis of the methodology presented above, using data from the annual financial statements and activity reports published on the page of the Commercial Register at the Registry Agency. The indicators for the selected companies were determined based on the data for 2021, and the revenues profitability ratio was calculated for each company (table 3).

**Table 3.** Profitability of the revenues of courier companies in Bulgaria for 2021 (thousand BGN)

| Company        | TR     | TC     | Pr     | Rprof(TR) |
|----------------|--------|--------|--------|-----------|
| Bulgarian Post | 233548 | 245201 | -11653 | -5%       |
| DHL Bulgaria   | 120356 | 117257 | 3099   | 3%        |
| Econt Express  | 268373 | 235188 | 33185  | 12%       |
| In Time        | 20613  | 19346  | 1267   | 6%        |
| MIBM Express   | 15583  | 17084  | -1501  | -10%      |
| Speedy         | 334850 | 294458 | 40392  | 12%       |
| TNT Bulgaria   | 48594  | 47632  | 962    | 2%        |
| Transpress     | 17347  | 16554  | 793    | 5%        |

Source: Commercial register at the Registry Agency

The data show that the two leading courier companies in Bulgaria have identical revenue profitability ratios, while two of the companies, due to reported losses, have negative ratios.

### **3. Interrelation between the level of publicization of the corporate culture elements (primary and in total) and the profitability of companies**

#### **3.1. Methodological toolkit**

The relationship between the level of publicization of the corporate culture elements (primary and in total) and the profitability ratios of the studied companies can be defined not as functional, but as causal. This, as some authors point out (Radilov, Hadzhiev, Zhekova 2010), constitutes a relationship that “reflects the interaction between processes, where one of them predetermines the condition and behaviour of others”. If there are two variables (conventionally called dependent and independent) for which matrix data are available, the degree of their dependence can be characterized by the classical Pearson-Brave linear correlation coefficient.

$$r = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{(n-1)S_X S_Y}, \quad (7)$$

The simple linear correlation is part of parametric methods, which means that it should be applied to normally distributed parametric series. Therefore, it is necessary to determine the type of data series and distribution using the Kolmogorov-Smirnov Two Sample Test.

The statistical significance of the simple linear correlation coefficient is manifested using the classical method of statistical hypotheses testing. The two hypotheses are of the type (Radilov, Hadzhiev, Zhekova, 2010, p. 220):

$H_0 : \rho = 0$  (assumption of zero effect of the factor on the result)

$H_1 : \rho \neq 0$  (the alternative hypothesis is opposite to the null hypothesis)

The empirical characterization of Null Hypothesis Testing

$$t = \frac{r}{S_r} = r \sqrt{\frac{n-2}{1-r^2}}, \quad (8)$$

The decision to accept or reject the null hypothesis is based on the comparison between the empirical and theoretical characteristics of t-distribution, obtained from the table, at a chosen level of significance and degree of freedom  $n - 2$ .

#### **3.2. Results of the study**

The present study of the presence of a correlation between the publicized elements of corporate culture and the profitability of the revenues of courier companies in Bulgaria assumes a risk of error of the first order  $\alpha=0.05$ , which we believe

reflects fully the risks that may arise from a distortion of the results caused by the small number of respondents and the way the sample was formed.

The results of the Kolmogorov-Smirnov Two Sample Test (table 4), as well as the assumed risk of first-order error, give us reason to conclude that the distribution is normal.

**Table 4.** Kolmogorov-Smirnov Two Sample Test

|                          | Ratio<br>of publicization of<br>all elements | Ratio<br>of publicization of<br>primary elements | Revenue<br>profitability |
|--------------------------|----------------------------------------------|--------------------------------------------------|--------------------------|
| N                        | 8                                            | 8                                                | 8                        |
| Normal Parameters a, b   |                                              |                                                  |                          |
| Mean                     | 37,5000                                      | 50,0000                                          | ,0312                    |
| Std. Deviation           | 21,12886                                     | 47,14079                                         | ,07643                   |
| Most Extreme Differences |                                              |                                                  |                          |
| Absolutely               | ,223                                         | ,231                                             | ,191                     |
| Positive                 | ,223                                         | ,231                                             | ,123                     |
| Negative                 | -,223                                        | -,231                                            | -,191                    |
| Kolmogorov-Smirnov Z     | ,631                                         | ,652                                             | ,542                     |
| Asymp. Sig. (2-tailed)   | ,821                                         | ,789                                             | ,931                     |

a. Test distribution is Normal

b. Calculated from data

The conclusions drawn regarding the type of distribution of the data in the statistical series give us reason to make calculations and assumptions about the hypotheses as follows:

$H_0$  – there is no statistically significant correlation between the corporate culture elements (primary and in total) published on the Internet and revenue profitability.

$H_1$  – there is a statistically significant correlation between the corporate culture elements (primary and in total) published on the Internet and revenue profitability.

**Table 5.** Correlation between publicized corporate culture elements in total and revenue profitability.

|                      |                      | Value | Asymp.<br>Std. Error <sup>a</sup> | Approx. T <sup>b</sup> | Approx. Sig.      |
|----------------------|----------------------|-------|-----------------------------------|------------------------|-------------------|
| Interval by Interval | Pearson's R          | ,365  | ,295                              | ,960                   | ,374 <sup>c</sup> |
| Ordinal by Ordinal   | Spearman Correlation | ,515  | ,266                              | 1,473                  | ,191 <sup>c</sup> |
| N of Valid Cases     |                      | 8     |                                   |                        |                   |

a. Not assuming the null hypothesis

b. Using the asymptotic standard error assuming the null hypothesis

c. Based on normal approximation

The obtained results show unequivocally that the null hypothesis cannot be accepted, and the results of the Pearson and Spearman coefficients presented in Table 5 range between moderately strong and significantly strong correlation between the factor and dependent variables, respectively.

**Table 6.** Correlation between publicized primary corporate culture elements and revenue profitability

|                      |                      | Value | Asymp. Std. Error <sup>a</sup> | Approx. T <sup>b</sup> | Approx. Sig.      |
|----------------------|----------------------|-------|--------------------------------|------------------------|-------------------|
| Interval by Interval | Pearson's R          | ,139  | ,374                           | ,343                   | ,743 <sup>c</sup> |
| Ordinal by Ordinal   | Spearman Correlation | ,201  | ,398                           | ,504                   | ,632 <sup>c</sup> |
| N of Valid Cases     |                      | 8     |                                |                        |                   |

a. Not assuming the null hypothesis

b. Using the asymptotic standard error assuming the null hypothesis

c. Based on normal approximation

The data from the correlation analysis of the second indicator related to the publicization of the primary elements of corporate culture show clearly again that the null hypothesis of no correlation cannot be accepted. A correlation between them exists, but it should rather be defined as a weak one.

#### **4. Conclusions**

Based on the study of existence of a correlation between the degree of development of the publicized corporate culture of courier companies in Bulgaria and the level of their profitability, the following conclusions can be drawn:

1. Depending on the nature of the elements published on the Internet, the publicized corporate culture has between a weak and a significant influence on the profitability of the sales revenue of courier companies in Bulgaria.

2. A stronger correlation between the two variables is observed at the level of publicization of all elements of culture than only the primary ones.

Based on the obtained results, it can be concluded that the degree of publicization of the corporate culture of courier companies in Bulgaria is essential for their market performance, respectively for the generated revenues and level of profitability. However, it is noteworthy that a properly constructed and publicized portfolio of all (primary and secondary) cultural elements contributes more in this regard than the proclamation of only mission, vision and/or values/principles. In view of this, the management of courier companies could gain from the recommendation to purposefully develop and publicize on the Internet a balanced and mutually complementary set of primary and secondary elements of official culture. As a result of the synergy between them, a multiplier effect on the image of these companies can be expected.

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✉ **Dr. Ilian Minkov, Assoc. Prof.**

ORCID iD: 0009-0000-3426-1880

**Dr. Yordan Ivanov, Assoc. Prof.**

ORCID iD: 0009-0004-7940-4338

University of Economics – Varna

E-mail: [minkov@ue-varna.bg](mailto:minkov@ue-varna.bg)

E-mail: [jordan.ivanov@ue-varna.bg](mailto:jordan.ivanov@ue-varna.bg)