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## Public relations management in the Internet environment

### Abstract

**Introduction.** Working with the public is a priority issue for management. It should be not just a one-time act, but long, well planned process. Public relations is a multiform tool for marketing communication, widely used by managers in their business activities. It requires knowledge of marketing, journalism, creativity, and profound knowledge of the Internet environment. In order to keep businesses competitive, it is necessary to invest in the knowledge and skills of managers to upgrade their capabilities to manage relationships with the wide public. In order to understand how the Internet environment transforms views on the business and influences its products, it is important to explore the perception of the Internet environment by the consumers. That is why the purpose of this paper is to examine the views of consumers on the forms and effectiveness of PR on the Internet.

**Results.** We undertook a survey focused on the use of public relations tools in the online environment. It was conducted online in Slovakia from February to March, 2017, and included 357 respondents of different age and social groups. We have established 4 hypotheses. Each hypothesis consisted of a zero and alternative hypotheses. Using correctly selected statistical methods, we sought dependencies among variables based at questionnaire responses.

In Hypothesis 1 we examined whether random respondents had knowledge of the concept of «Public Relations», depending on the level of education; in Hypothesis 2 - whether there is dependence between the respondent's gender and paying attention to online advertising; in Hypothesis 3 - whether there is dependence between work position and the length of time the respondent spends on the Internet; in Hypothesis 4 we found out which factors, including age, affect respondents when they decide to make e-shop purchases.

**Conclusion.** The research results based at the undertaken survey point to the fact that the most powerful factor in making decision on purchase via e-shop is the price of the product, the credibility of the site, and the communication with the vendor through the chat windows together with the connection with age of the respondents. At the same time, gender does not play a significant role in attention to on-line advertising, and job position in perception of consumers does not influence the amount of time they can spend on the Internet. Our findings show direction for PR strategies development in the Internet and indicate areas of prior attention to businessmen.

**Keywords:** Management; Public Relations; PR; Internet Environment; Consumer; E-shop; On-line Shopping

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### Управління зв'язками з громадськістю в середовищі Інтернет

#### Анотація

Робота із широким загалом для управлінців бізнесу є невід'ємною складовою їх повсякденної діяльності. Зв'язки із громадськістю – це різноплановий інструмент комунікації на ринку, необхідний для будь-якого його ринку. Використання PR потребує знань маркетингу, журналістики, творчого підходу, обізнаності в середовищі Інтернету. Задля забезпечення конкурентоспроможності бізнесу необхідно вкладати гроші в підвищення кваліфікації управлінського персоналу щодо управління зв'язками з громадськістю. Щоб оцінити вплив середовища Інтернету на ведення бізнесу та його продуктивність, необхідно зрозуміти як сприймають це середовище споживачі. У статті на основі проведеного емпіричного дослідження проаналізовано, в який спосіб бізнес-технології, що використовуються в Інтернеті, сприймаються споживачами. Виявлено, що вік респондентів у комбінації із ціною, довірою до Інтернет-магазину та вдалою комунікацією з продавцем через чат є визначальними факторами вибору на користь купівлі товарів он-лайн. Водночас, стать респондентів не впливає на ставлення до Інтернет-реклами, а робоча посада – на час, який вони проводять он-лайн.

**Ключові слова:** менеджмент; зв'язки з громадськістю; PR; Інтернет середовище; споживач; Інтернет-магазин.

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**Управление связями с общественностью в среде Интернет****Аннотация**

Одной из важнейших задач повседневной деятельности управленцев любой компании является взаимодействие с общественностью. Связи с общественностью являются одним из наиболее многоплановых инструментов в руках менеджеров компании, призванным обеспечивать ее деятельность. Использование PR требует знаний в области маркетинга, журналистики, использования креативных подходов, знакомства со средой Интернет. В интересах обеспечения конкурентоспособности компании необходимо инвестировать в повышение квалификации менеджмента в области управления связями с общественностью. Чтобы оценить влияние Интернет-среды на ведение бизнеса, необходимо понимание того, как эту среду воспринимают потребители продукции и услуг компании. В статье на основе проведенного эмпирического исследования проанализировано, каким образом бизнес-технологии, используемые в Интернете, воспринимаются потребителями. Выявлено, что возраст респондентов в сочетании с ценой, доверием к Интернет-магазину и удачной коммуникацией с продавцом через чат являются определяющими факторами выбора в пользу покупки товаров он-лайн. В то же время, пол респондентов не влияет на отношение к Интернет-рекламе, а рабочая должность - на время, которое они проводят он-лайн.

**Ключевые слова:** менеджмент; связи с общественностью; PR; Интернет; потребитель; Интернет-магазин.

**1. Introduction and Brief Literature Review**

We have studied different scientific approaches to public relations, and its various tools in the Internet environment. The paper is based on the analysis of the scientific works by: S. Duhe, and D. K. Wricht (2013) [1]; B. Steyn and L. Niemann (2014) [10]; A. Gonzalez-Herrero and S. Smith (2008) [2]; V. Janouch (2013) [3]; Y. Luo, H. Jiang and O. Kulemeka (2015) [5]; D. Meerman Scott (2010) [6]; D. Phillips and P. Young (2009) [7]; A. Schwarz and A. Fritsch (2013) [9].

«Public relations is a social communication activity. The organisation using PR operates both inside and outside the public, with the intention of creating and maintaining positive relationships with it, thus achieving mutual understanding and trust» (V. Svoboda, 2009) [11, p. 17]. Marketing communication on the Internet can set a wide range of goals. These goals can be separated according to the direction of communication. If it is directed at the customer, the goal is to inform, influence, impart, or maintain a relationship [3]. Public relations in the online environment, as well as offline marketing, are mainly used to build a brand, and build awareness of the business. A. Gonzalez-Herrero and S. Smith (2008) [2] analyse how Internet-based technologies can help companies to monitor their business online using all available online tools. At the same time, they consider traditional one-way business approaches applicable in a new, more participative online business environment, where companies should use different approaches and attitudes to communicate with their audience on the Internet.

«Online PR includes all Internet technology applications through which the organisation communicates and builds relationships with key public groups. The main goal is to create a positive image of the company and its products or services. There is also advantage to traditional PR methods. PR through the Internet facilitates, enriches and encourages communication, relationships and reputation. It becomes a means by which older forms of PR tools and processes can be transformed» (Phillips & Young, 2009, p.38).

The Internet becomes a separate entity for people, thus turning into commodity. Information affects the value chain, and that is why management of information in the networks like the Internet becomes an important business task. Without valuable information, the value of products is low or almost non-existent [8]. Online PR has more sound ability to evoke two-way communication. It is extremely challenging to control information flows on the Internet, because information can be delivered directly to the target audience, omitting usual - and controllable - mediators, like journalists and conventional media. As we are losing control over crucial information flows, we need more flexible PR strategies. The Internet has expanded its portfolio of services, and user comfort far beyond PR, as in the case for the Internet banking [4].

The study by Y. Luo, H. Jiang and O. Kulemeka (2015) [5] introduced three mechanisms for management of public relations to ensure leadership on the market through the development of management skills in strategic social networking. A. Schwarz and A. Fritsch (2013) [9] in their study provide an important insight into international public relations within global civil society, and reveal the further need to modify and expand public relations theory on this matter. It has been found that excelling NGOs allocate more resources to PR, and they use the cultural context more often in their communication programmes. In the chapter «Symmetry, social media and the persistence imperative of two-way communication», the authors discuss the interconnection between symmetry and the evolving concept of interactivity, and offer insight into how social networks have influenced public relations' practice, they also provide examples of how strategic access or its absence influences social networking outcomes [1].

Lately, blogs rose to prominence at the Internet scene due to new technology that enabled an easy and effective way to make personal and business insights public [6]. PR management has a strategic role in developing business strategy, but it also supports the development of corporate strategies.

**2. Purpose** of the study is to analyse the views of consumers on the forms and effectiveness of PR on the Internet.

**3. Results**

To keep businesses competitive, and to gain bigger share of the market, it is crucial to follow current trends in customer engagement, and to be part of the Internet environment. Working with the Internet provides such an advantage as low cost and wide audience of potential consumers. Our research was focused on the use of public relations tools in the online environment. It was conducted online via questionnaire and written form, in Slovakia from February to March 2017. 59.66% of respondents were males, and 40.34% - females. Respondents were divided into 10 age categories. Out of 357 respondents, the most numerous age group was between 24 and 28 years, i.e. 34.45%. The smallest representation of respondents was over 70 years old, at 0.84%. The youngest respondent was 17 years old, and the oldest was 76 years old. The average age of respondents was 27.6 years old. We also surveyed the education level of respondents. Most respondents had secondary education (52.9%). The second largest group of respondents was with higher education at bachelor level - 21%, with master degree - 18.5%, and 0.84% at post-graduate level. The survey revealed that 37% of respondents were students, and the second largest group consisted of regularly employed at 32%. The smallest group, i.e. 1%, was retirees, persons on parental leave, and other job categories.

We have established 4 hypotheses. Each hypothesis consisted of a zero and alternative hypotheses. Using correctly selected statistical methods, we sought dependencies among variables based on questionnaire responses.

Hypothesis 1: Is the term «Public Relations» known to the Slovak population?

H0: Achieved education does not affect respondent's knowledge of the concept of PR.

H1: Achieved education influences respondent's knowledge of the concept of PR.

In this hypothesis we examined whether random respondents had knowledge of the concept of «Public Relations», depending on the level of education. We verified Hypothesis 1 based on the data from the questionnaire, using the chi-square test. This method overrides the chi-square of the good match test to two nominal variables. Through the homogeneity test, we verified a zero hypothesis that claims that the expected and calculated counts are equal. At the usual 5% level of significance ( $\alpha = 0.05$ ) we calculated the critical value  $\chi^2_{0.05}(4) = 9.4877$ . The answers for the individual questions were categorized into a contingency table, depending on the education of the respondents and their answers (see Table 1, Table 2).

Tab. 1: Absolute numbers (found in the sample)

Education of respondents	yes	no
Basic	18	3
Secondary (higher secondary with GCE A- level, without GCE, secondary vocational certificate)	126	66
Higher education, I level (BA)	72	3
Higher education, II level (MA, Eng.)	57	9
Higher education, III level	0	3
<b>Total</b>	<b>273</b>	<b>84</b>

Source: Authors' own research

Tab. 2: Expected numbers

Expected numbers	Basic	Secondary	HE I level	HE II level	HE III level
yes	5.352941	48.941176	19.117647	16.823529	0.764706
no	1.647059	15.058824	5.882353	5.176471	0.235294

Source: Authors' own research

According to the results presented in Tables 1 and 2, we can claim that there is dependence between the education of the respondent and the knowledge of the term «Public Relations». We have verified our claim: calculated p-value  $0.0065 < 0.05$ , calculated value  $\chi^2 110952.82 > 9.4877$ , the result is statistically significant. Based on the analysis and evaluation of the results, we can reject the H0 hypothesis and accept the alternative hypothesis H1, i.e. «Achieved education influences respondent's knowledge of the concept of PR». Since the calculated p-value was less than the determined level of significance  $\alpha$ , it means that the probability that the observed differences or dependencies would only occur accidentally is less than 5%. At the same time, the difference between the numbers found in the sample and the expected number is too large to be the result of random sampling, i.e. it is statistically significant.

Hypothesis 2: Do Internet users pay attention to the ads they see?

H0: Paying attention to advertising on the Internet is not dependent on respondent's gender.

H1: Paying attention to advertising on the Internet is dependent on respondent's gender.

In this case, we investigated whether there is dependence between the respondent's gender and paying attention to online advertising. We chose the respondent's gender as the independent variable, and the dependent variable was paying attention

to the advertisement. We verified Hypothesis 2 on the basis of respondents' answers using a dual-t-test, which, in addition to the normal distribution of the measured quantities, also assumes that distribution will be the same. The question asked, using the Likert scale with possible grades, examined the respondent's interest in the Internet advertising. We reflected the result in Table 3.

Tab. 3: t-Test with the parity distribution of Hypothesis 2

t-Test	Male	Female
Middle value	2.690141	2.625
Scattering	1.502616	1.260638
Number of scrutinisation	710	480
Difference	1.405411	
t Stat	0.294055	
P(T<=t) one-tail	0.384619	
t Critical one-tail	1.657982	
<b>P(T&lt;=t) two-tail</b>	<b>0.769237</b>	
t Critical two-tail	1.980448	

Source: Authors' own research

Based on the two-sided formula of the hypothesis, we proceed from the calculated level of statistical significance for the two-sided test from value P (2) = 0.769237. The significance value achieved is greater than the determined level of significance  $\alpha = 0.05$ , therefore we can accept the H0 hypothesis, i.e. «Paying attention to advertising on the Internet is not dependent on respondent's gender». The result shows that there is no statistically significant relationship between the interval and binary variables.

Hypothesis 3: Is working position relevant to the time spent by consumer in the Internet environment?

H0: There is no link between the job classification and respondent's time spent in the Internet environment.

H1: There is a link between the job classification and respondent's time spent in the Internet environment.

In Hypothesis 3 we examined whether there is dependence between work position and the length of time the respondent spends on the Internet. We have chosen an independent variable for the job, which we identified in the demographic part of the questionnaire divided into 7 groups. As a dependent variable, we considered the respondents' view on spending time in the Internet environment. We verified Hypothesis 3 on the basis of a single-factor analysis of variance - ANOVA test (Table 4).

By comparing the calculated test criterion F (0.885403) and the F critical value (2.117903) we have come to the following conclusion. As far as the calculated value  $F < F_{crit}$ , H0 hypothesis cannot be denied, and we can assert that «there is no link between the job classification and respondent's time spent in the Internet environment». We can also claim the p-value (0.505327) with a significance level  $\alpha = 0.05$ .

Tab. 4: ANOVA test to Hypothesis 3

Groups	Average	Variation			
Student	3.494318	1.691396			
Unemployed person	3.557692	1.467195			
Regular employment	3.684211	1.46253			
Self-employed, entrepreneur, partner	3.7375	1.487184			
Person on parental leave	4.125	1.553571			
Working student	3.75	3.583333			
Retiree	3	1.333333			
ANOVA					
Source of Variation	SS	MS	F	P-value	F crit.
Between selection	8.322893	1.387149	0.885403	0.505327	2.117903
All selections	734.7758	1.566686			
Total	743.0987				

Source: Authors' own research



The  $p$ -value  $> \alpha$ , i.e. job placement does not affect the time spent in the Internet environment. The difference between the numbers found in the sample and the expected numbers is too small not to be the result of random sampling, and therefore is not statistically significant.

Hypothesis 4: Does the age of the consumer is a decisive factor when shopping through e-shop?

H0: There is no dependency between respondent's age and willingness to shop through the e-shop.

H1: There is direct dependency between respondent's age and willingness to shop through the e-shop.

In Hypothesis 4, we found out which factors, including age, affect respondents when they decide to make e-shop purchases. For the independent variable, we chose the age of the respondent, divided into 10 categories, and the dependent variable was perception of the incentives affecting the final decision. Hypothesis 4 was evaluated using ANOVA two-factor analysis (Table 5). The results point to the fact that the strongest factor in deciding to purchase a product via e-shop for 24% of the respondents was the price of the product. 19% of respondents also value credibility of the site, even though pitfalls and risks of this type of business cannot be predicted. Nowadays, high percentage of hacker attacks are directed at usually trustworthy sites, and this situation has adverse consequences for sellers and consumers.

The first part of the results shown in Table 5 relates to the respondents' age. Since the calculated  $F$  value of the test (26.022) is greater than the  $F$  critical value (2.032), the H0 hypothesis can be rejected, and the alternative hypothesis accepted, i.e. «The respondent's age is one of the factors that influences the decision to make a purchase through an e-shop.» This assumption is also supported by the calculated  $p$ -value (5.1446E-18), which is less than the significance level  $\alpha$  (0.05). The second part of our data depicts the determining factor of purchase. Since the calculated  $F$  value of the test (7.776) is again greater than the  $F$  critical value (2.158), the H0 based on the second factor can be rejected again, and the alternative H1 can be assumed: «The quality of each factor is important in the final decision to make the purchase through the e-shop». This argument can also be supported by the calculated  $p$ -value (9.2733E-07), which is less than the determined level of significance  $\alpha$  (0.05).

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Tab. 5: Two-factor ANOVA test of hypothesis 4

SUMMARY	AVERAGE	VARIATION			
15-18	2.375	3.125			
19-24	12	67.42857143			
24-28	20.125	84.41071429			
28-32	8.75	37.92857143			
33-37	4.75	14.78571429			
38-42	2.125	2.410714286			
43-47	0.875	1.267857143			
48-58	2.75	4.214285714			
59-69	0	0			
70+	0.125	0.125			
Price of product	10.2	127.5111111			
Credibility	8.2	80.17777778			
Design of e-shop	1.5	3.388888889			
Recommendation	5.9	48.98888889			
Selection from offer	7.8	73.73333333			
Communication with seller	4.1	47.65555556			
Interest in consumer	1.8	7.95555556			
Views in other media	3.6	35.15555556			
ANOVA					
Source of Variation	SS	MS	F	P-value	F crit.
Respondent's age	3011.1125	334.5681	26.02236146	5.14465E-18	2.032242211
Determining factor	699.8875	99.98393	7.776647788	9.27332E-07	2.158828993
Error	809.9875	12.85694			
Total	4520.9875				

Source: Authors' own research

It is clear from the analysis that both the age and the quality of the individual factors are statistically significant when making final purchases via e-shop.

## 4. Conclusion

PR management in the Internet environment currently plays a crucial role in developing of business strategy. The research results reflect the targeting of the message in the Internet environment, and the factors that influence consumer decisions while making online purchases. The survey results point to the fact that the most powerful factor in making decision on purchase via e-shop is the price of the product, the credibility of the site, and the communication with the vendor through the chat windows. These factors are important indicators of the level of Public Relations. By correctly setting up Public Relations in the Internet environment and constantly analysing its effectiveness, the company management can satisfy the needs of customers, and ensure the desirable economic results.

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