

# PREDICTING THE STRENGTH OF ONLINE NEWS FRAMES

**Hrvoje Jakopović\***

Faculty of Political Science, University of Zagreb  
Zagreb, Croatia

DOI: 10.7906/indecs.15.3.5  
Regular article

*Received:* 9<sup>th</sup> July 2017.  
*Accepted:* 23<sup>rd</sup> October 2017.

## ABSTRACT

Framing theory is one of the most significant approaches to understanding media and their potential impact on publics. Leaving aside that fact, the author finds that publicity effects seem to be dispersed and difficult to catch for public relations. This article employs a specific research design, which could be applied to public relations practice, namely with a view to observing correlations between specific media frames and individual frames. The approach is based on the typology of news frames. The author attributes negative, positive and neutral determinants to the types of frames in his empirical research. Online news regarding three transport organizations and the accompanying user comments (identified as negative, positive and neutral) are analysed by means of the method of content and sentiment analysis. The author recognizes user comments and reviews as individual frames that take part in the creation of online image. Furthermore, he identifies the types of media frames as well as individual frames manifested as image, and undertakes correlation research in order to establish their prediction potential. The results expose the most frequently used types of media frames concerning the transport domain. The media are keen to report through the attribution of responsibility frame, and after that, through the economic frame and the conflict frame, but, on the other hand, they tend to neglect the human interest frame and the morality frame. The results show that specific types of news frames enable better prediction of user reactions. The economic frame and the human interest frame therefore represent the most predictable types of frame.

## KEY WORDS

framing theory, user comments, online news, transport, sentiment analysis

## CLASSIFICATION

JEL: L82

\*Corresponding author, *η*: [hrvoje.jakopovic@fpzg.hr](mailto:hrvoje.jakopovic@fpzg.hr); +385 1 4642 000;  
Faculty of Political Science of Zagreb University, Lepušićeva 6, HR – 10 000 Zagreb, Croatia

## INTRODUCTION

Measuring of PR effectiveness is important because it proves that public relations professionals produce value for the organization. This value is not tangible and visible at first sight. As contemporary public relations are above all strategic, the idea of measurement by objectives has become a standard for different evaluation types. Many authors [2, 3] agree that PR goals and outcomes are set on these levels:

1. Cognitive (refers to thoughts, opinions, consciousness) – it implies informing target publics about a certain topic, stimulating thoughts, awakening the existence of an issue, rising awareness
2. Affective (refers to emotions) – the activities are focused on shaping opinions and attitudes and provoking emotional reactions concerning a certain issue
3. Conative (refers to behaviour and doing) – it includes encouraging behaviour of target publics towards a certain direction.

In the context of media relations, public relations effectiveness should be measured primarily on the cognitive level and on the affective level. The conative level is characterized by too many interventions of different variables, which makes it hard to control. Therefore, associating behaviour with media effects turns out to be more complex. Kim [4] explains that it is necessary to correlate PR activities with financial benefits for the organization. It is crucial to reach the bottom-line impact of public relations efforts which could be described through reputation measurement and measurement of impact on income. Reputation is in this light defined as an integrated symbolic and behavioural relationship between corporate PR and target publics [4], while image is, according to [5] determined and lies on a symbolic relationship between the organization and target publics, being thus a middle step for reaching and measuring bottom-line impact of public relations. The image and extensively reputation form an outcome for public relations and present an independent variable for measuring PR impact on income (see also [6]). Marklein [7] points out that contemporary public relations experts should take into account ‘reach’ (as a potential that content will be seen by a certain number of users), ‘engagement’ (as user reaction to exposure) and ‘relevance’ (as content significance) for media metrics. The combination of these three communication dimensions should provide meaningful results on PR outcomes rather than just evaluating media coverage and reach. When it comes to PR outcomes, Macnamara [8] gives an overview of terms used for PR and social media measurement in contemporary practice: 1. ‘engagement’, 2. ‘influence’, 3. ‘impact’, 4. ‘awareness’, 5. ‘attitudes’, 6. ‘trust’, 7. ‘loyalty’, 8. ‘reputation’, 9. ‘relationships’, 10. ‘return on investment’ (ROI). From there on, it is clear that standardization in public relations measurement is required for PR professionals but also for the purpose of presenting the campaign results to the boards with more clarity. As shown, there are various outcomes of PR campaigns that need to be described more precisely. Zerfass's et al. [9] research shows that the diffusion of current academic knowledge of PR methodology represents a weakness when it gets transferred into PR practice. It is possible to conclude that standardization is necessary for PR research and evaluation.

Kim [4] in his regression analysis found a statistically significant correlation between reputation and organizational income. In the context of predicting consumer behaviour and associating it with profit, it is necessary to discuss behavioural economics [10] and related decision-making theories which can be useful for setting an evaluation model in public relations. Behavioural economics deals with cognitive elements that can influence decision-making and their relationship with certain behaviour. It can also be associated with

contemporary ideas of neuroeconomics and neuromarketing. Jelić [11] mentions some of the methods and tools that are used in neuromarketing: electroencephalography – monitoring of the electrical impulses in the brain; positron emission tomography – scanning and measuring various body functions; functional magnetic resonance – measures brain activity and brain blood flow; eye tracking glasses – measures direction of the eye, openness of the pupil and fixation length which can be correlated with different cognitive processes; physical manifestations – breathing speed, heart rate, perspiration. Tversky [12] developed some of the principles of behavioural economics by relying on the concept of framing.

Scheufele and Tewksbury [13] point out that framing is significantly different from agenda-setting theory because it is focused on the representation of the story in the news and on the influence it may have on the media consumers (see also [14-16]). The agenda-setting theory is focused on what to think about, but not explicitly what to think of a certain issue [17]. On the other hand, framing is a much more suitable theory for public relations professionals and PR measurement because it assumes that the media framing (a certain news perspective in the story) will affect and eventually change the individual frame of a media consumer on a certain topic. The framing theory existence is necessary for the comprehension of the way how individuals manage everyday situations and process information. The frame as a derivative of framing theory represents a 'mental map' [18] which allows an individual to manage and store experience. Framing theory is seen as a more refined version because it takes into account change in opinion and attitude. Therefore, it is also known as 'second-level agenda-setting' (as written by McCombs, cited in [13]; p. 11). Raupp [19; p.4] points out that PR effects in media relations are: "effects on the media presence of organizations and issues, effects on the tone and framing of the coverage, and effects on organizational reputation".

This research design relies on the types of media frames as presented in [1]. The centre of the news release amounts to the media frame which gives its story a clear determinant and purpose. It is possible to identify five types of frames used in media reporting [1]:

1. Conflict frame – this type of media frame emphasizes the conflict in the story between two or more sides, whether they are individuals, groups or institutions. This approach is one of the ways of drawing media consumers' attention.
2. Human interest frame – it is the media frame which includes a human example and emotion. The frame personalizes, dramatizes news and provokes emotion to keep interest of media publics
3. Economic consequences frame – this frame includes media reports about an event, an issue or a topic through economic indicators and consequences for an individual, a group, an institution or a country. It is a frame that puts finance in the centre as an element for attracting publics.
4. Morality frame – it is a type of media frame which puts an event, an issue or a topic in the context of religious and moral principles. In regard to the journalism principle of objectivity in reporting, this frame is recognized in statements of various sources of information.
5. Attribution of responsibility frame – the media frame presents a topic in a way that assigns responsibility for a cause of a problem to an individual, a group or the government or as a solution.

There is a rise of news portals which attract various publics, with respect to growth in number of users. Nowadays there is not a television or radio station, or even a newspaper without an online edition or a modified news site. As the readership, viewership and listenership are moving from traditional media towards social media, interactivity of the Web 2.0 became a serious reason for transferring public relations online. Chung suggests that in interactive news presentation there exist four styles:

1. Presentation of the news with the possibilities which allow users to experience news through different options and modalities – for example, selecting and deselecting news content
2. Presentation of the news with the possibilities of personalization and content shaping
3. Presentation of the news with the possibilities of modifying content in terms of adding user's own comments and expressing opinions
4. Presentation of the news with the possibilities of interpersonal communication with other users

This article is especially focused on user opinions and their comments as reactions to the article published online. Furthermore, the sum of their opinions towards organizations in the transport domain is interpreted as the online image or 'cyber image' [20]. The assumption is that the transport domain is a very fruitful research matter because of frequent oscillations in reporting caused by crises such as accidents, delays and weather. The question arises whether it is possible to predict user reactions and handle the online image on the basis of online news and the media frame involved. These findings could lead one step closer to associating public relations efforts with financial value.

## **MATERIAL AND METHODS**

### **RESEARCH OBJECTIVES**

- Identify and assess the media frames when reporting on Croatian organizations of the transport domain on online news sites.
- Assess user comments on online news sites as reactions to online media reports on Croatian transport organizations.
- Correlate media frames present in online new reports on Croatian transport organizations with user comments expressed as online image variants.

### **RESEARCH QUESTIONS**

- Which media frames in online media reports on Croatian transport organizations are represented more and which ones are represented less?
- What is the online image of Croatian transport organizations among users of online news sites?
- What is the correlation between the media frames in online reports on Croatian transport organizations and their online image?

### **HYPOTHESIS**

The existence of a moderate-strong positive correlation between media frames present when reporting about transport and user comments on online news sites – this hypothesis is tested on the examples of three Croatian organizations from the transport domain.

### **SAMPLE**

The unit of analysis in this correlation research makes online news report (news release) on *Croatia Airlines (CA)*, *Croatian Railways (HŽ)* and *Zagreb Electric Tram (ZET)*. For the other correlate, the unit of analysis is one user comment which belongs to the online news report on *Croatia Airlines*, *Croatian Railways* and *Zagreb Electric Tram*. The period of analysis on online news sites *24sata.hr* and *Index.hr* encompasses two years (from January 1, 2013 to December 31, 2014). The author selected this period with the intention to get varieties of data (strikes, delays, accidents, negative financial situations that were present in

that period of time). *24sata.hr* and *Index.hr* online news sites are recognized as the ones with highest user engagement as well as reach in that period of time. The simple random sample was taken from the population consisting of all news releases dealing with *Croatia Airlines*, *Croatian Railways* and *Zagreb Electric Tram*, which were published by the web portals *24sata.hr* and *Index.hr* during the analysed period (from January 1, 2013 to December 31, 2014). The sample consists of at least 30 % of units of analysis which make the whole population for each aforementioned transport organization (*Croatia Airlines* 2013/2014 –  $N = 102$ ; *Croatian Railways* 2013/2014 –  $N = 106$ ; *Zagreb Electric Tram* 2013/2014 –  $N = 106$ ). The accompanying user comments were extracted on the basis of the expressed opinion towards three transport organizations. Multiple comments of the same user in a single online news release and other comments not concerning these organizations were isolated. The user comments pertaining to a single news release were summed and presented through a dominant represented opinion (image) – positive, negative or neutral. The number of user comments varied in news releases. The overall sample of analysed comments is 3,068.

## METHODS

The method of content analysis is used for identifying and assessing media frames within the online news, while human sentiment analysis [21-23] was applied to user comments. Sentiment (human) analysis in the context of public relations can be understood as “analysis of a comment or post, aiming to determine the attitude of the speaker towards a brand or topic”. Moreover, the sentiment analysis shows what “people feel about a subject or brand, often expressed in simple terms as positive, negative or neutral”.

Media frames are identified in online news releases with the coding scheme based on [1]. There is a possibility of the presence of more than one media frame in certain news releases, however in this correlation research only the dominant frame is taken into consideration. The dominant frames are identified by using a scale from 0 to 1 for positive answers (0 – without positive answers; 1 – all positive answers). Two trained coders were engaged for conducting research. The Holsti reliability test [24] was used on twenty randomly selected online news releases from population and the achieved result was 0,89. Landis and Koch [25; p.165] suggest that inter-coder reliability from 0,81 to 1,00 belongs to the category of almost perfect. The same test was conducted on one hundred user comments from selected population with the result of 0,97. Further disagreement between coders was discussed. Each of the identified media frame was attributed as negative, positive and neutral. For providing trustworthiness of these attributes, the categories on the scale from extremely positive to extremely negative were determined as follows:

1. Extremely positive implies that three out of three entries are confirmed: there is no negative journalist opinion towards organization; the information sources express a positive opinion towards the organization; the reporting event is positive for the organization.
2. Positive implies that two from three entries are confirmed: there is no negative journalist opinion towards organization; the information sources express positive opinion towards the organization; the reporting event is positive for the organization.
3. Neutral implies that: there is no negative nor positive journalist opinion towards the organization; the information sources do not express positive nor negative opinion towards the organization; the reporting event is neither positive nor negative for the organization.
4. Negative implies that two out of three entries are confirmed: there is no positive journalist opinion towards organization; the information sources express a negative opinion towards the organization; the reporting event is negative for the organization.

5. Extremely negative implies that three out of three entries are confirmed: there is no positive journalist opinion towards the organization; the information sources express a negative opinion towards the organization; the reporting event is negative for the organization.

## VARIABLES

In this research the correlation is determined between:

The predictor variable – dominant media frame in online news reports by *24sata.hr* and *Index.hr* on *Croatia Airlines*, *Croatian Railways* and *Zagreb Electric Tram*. Media frames are attributed as positive, negative and neutral and categorized as follows: 1. Conflict frame, 2. Human interest frame, 3. Economic consequences frame, 4. Morality frame 5. Attribution of responsibility frame.

The criterion variable – user comments accompanying the online news reports by *24sata.hr* and *Index.hr* on *Croatia Airlines*, *Croatian Railways* and *Zagreb Electric Tram*. User comments are determined as positive, negative and neutral online image.

The correlation will be determined with the Pearson's coefficient on the interval from -1 to 1. A positive value of the correlation coefficient shows variable change in the same direction, (for predictor and criterion variables), on the other side a negative correlation coefficient indicates the opposite directions of prediction and criterion variables.

The correlation will be determined with the Pearson's coefficient on the interval from -1 to 1. A positive value of the correlation coefficient shows variable change in the same direction, (for predictor and criterion variables), on the other side a negative correlation coefficient indicates the opposite directions of prediction and criterion variables.

## RESULTS

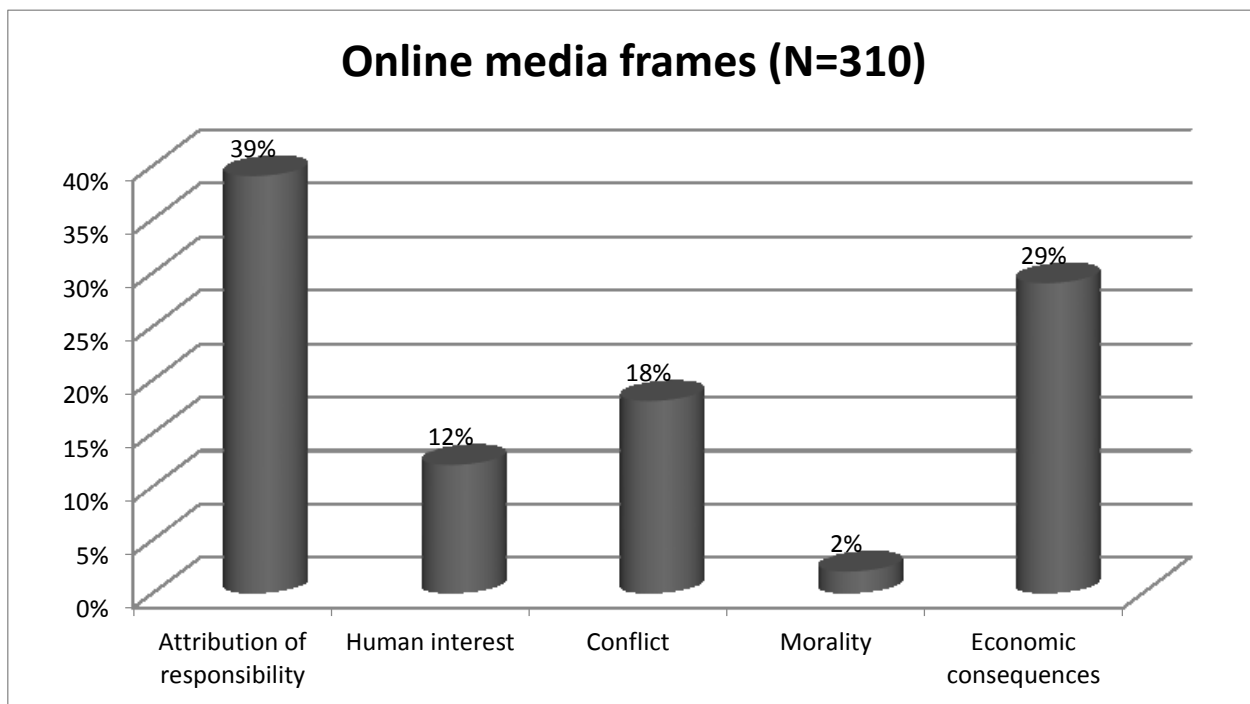
In their research Semetko and Valkenburg [1] analysed in what way the media reported on European politics and their findings showed that most of the news were framed through attribution of responsibility, conflict, economic consequences, human interest and, in the end, morality. The results in this primary research show a certain pattern or matching in media reporting. The application of the foregoing principle when applied to the transport domain, as exemplified by the three transport organizations, is presented mostly through attribution of responsibility (39 %), economic consequences (29 %), conflict (18 %), human interest (12 %) and morality (2 %) (Figure 1).

The presence of media frames when reporting on transport indicates that there are different media approaches concerning these organizations. The reports are specific for each organization (Table 1).

In the reports on *Croatia Airlines* the frame of economic consequences is the most frequent (34 %), illustrated in the article “For the First Time in Five Years: Croatia Airlines Runs Without Loss” (*24sata.hr*, 16.2.2014). This article reports positively on the profit of almost 670 000 kuna<sup>1</sup> for *Croatia Airlines*, and turnover in comparison with the year 2011 when the loss was 488,17 million kuna. Frame of economic consequences was attributed also negatively in the example “Slavko Linić<sup>2</sup> Cuts of Salaries” (*24sata.hr*, 4.11.2013) where *Croatia Airlines* losses in past years and high directors' salaries in state firms are mentioned. In addition, a similar example of the negative economic frame is the article entitled “Croatia Airlines in First Six Months Had a Loss of 37,7 Millions” (*Index.hr*, 29.7.2014).

The conflict frame (23 %) is the second most frequent in the case of *CA*. This kind of reports is mostly associated with the employees strike and dispute with the board of directors in *CA*, which is confirmed by the following example: “Union vs. Board: In Croatia Airlines Attitudes

Aligned, Strike to End?” (*Index.hr*, 19.5.2013). However, the conflicts between *CA* crew and passengers were also a central topic “Carl Bildt<sup>3</sup> Furious: ‘I Went to Dubrovnik and Ended up in Split’” (*24sata.hr*, 11.7.2014).



**Figure 1.** Overall frequency of media frames.

**Table 1.** Online media frames frequency per organization (N=310).

Types of frames	Attribution of responsibility	Human interest	Conflict	Morality	Economic consequences
<i>Croatia Airlines</i>	22 %	18 %	23 %	3 %	34 %
<i>Zagreb Electric Tram</i>	62 %	8 %	12 %	1 %	17 %
<i>Croatian Railways</i>	34 %	11 %	18 %	1 %	36 %

Attribution of responsibility (22 %) in the case of *CA* points out the Government’s role in solving the financial problems of the Croatian national airline “Hajdaš Dončić<sup>4</sup> Travels to Indonesia to Discuss Croatia Airlines Sales” (*Index.hr*, 21.8.2013). Human interest frame (18%) was used for reporting in the positive light in the article entitled “25 Lucky Croatia Airlines Passengers Take Amsterdam Trip” (*24sata.hr*, 14.12.2014). The morality frame is rarely used, i.e. in only 3 %.

*Zagreb Electric Tram* is frequently presented through attribution of responsibility (62 %), followed by economic consequences (17 %), human interest (12 %) and morality frame (1 %).

When it comes to attribution of responsibility, responsibility is often assigned to persons involved in traffic accidents “ZET Bus Bursts into Flame in Sesvete<sup>5</sup>” (*24sata.hr*, 21.11.2014), “Berlingo Goes through Red Light and Crashes into Tram” (*24sata.hr*, 29.11.2014) and “Police Seeking Accident Witnesses” (*24sata.hr*, 21.11.2014).

Economic consequences are often related with rides without tickets in public transport, ticket prices and penalties as in the following examples: “Rides without Tickets to be Fined 1000 Kuna” (*24sata.hr*, 8.4.2013) and “Bandić<sup>6</sup>: Tram Tickets 30 % Cheaper, not yet Yearly Tickets” (*24sata.hr*, 8.4.2013).

The conflict frame is associated with the confrontation between *ZET* employees and passengers: “Bus Driver Refuses to Open Front Doors, Passenger Attacks Him” (*24sata.hr*, 18.4.2013.). Human interest is used for positive *ZET* presentation as in example “They Paid Tickets: Bride and groom Go to Wedding by Tram” (*24sata.hr*, 31.10.2014).

When it comes to *Croatian Railways*, the frame of economic consequences is mostly represented (36 %), following attribution of responsibility (34 %), conflict (18 %), human interest (11 %) and morality frame (1 %).

Investments are often mentioned through the economic consequences as in the example “In the Year 2014 the Investment Wave Worth 73 Billions Kuna is Starting” (*24sata.hr*, 12.12.2013), but also negative financial results “Government Takes Over HŽ Debt of 1,77 Billion Kuna, Housing Savings to be Boosted with 245 Kuna” (*Index.hr*, 23.12.2014).

Attribution of responsibility often refers to the Croatian government and the ministry in charge, which is responsible for solving *HŽ* problems: “Exhilarated Leko<sup>7</sup>: Best Fried Chicken is in Railways” (*24sata.hr*, 20.3.2014) and “Hajdaš Dončić Announces Railway Construction with EU Funds, Stanić Replies: It is Easy to Make Promises without Responsibility” (*Index.hr*, 22.10.2014).

The conflict frame is related to confrontations between the Croatian Government and *HŽ* employees as in the example “HŽ Cargo Workers Protested in Front of the Government and Announced Strike: We Know How to Work, but You Don’t Know How to Manage” (*Index.hr*, 27.2.2014). Human interest is used in negative *HŽ* presentation in the examples such as “Train Full of Children Derails, but HŽ doesn’t Report Accident because ‘It is not Important’” (*24sata.hr*, 19.7.2013). The article reports about “frightened” children and a “calm” train driver.

While reporting on these three transport organizations (Table 2) through the conflict frame is formed mostly negative presentation of organizations (79 %). The morality frame is the most positive (60 %), but it is less frequent for making conclusions. Therefore, the human interest frame should be considered as the most positive for organizations (40 %). Nevertheless, the economic consequences frame is also partly positive for organizations (25 %). The attribution of responsibility frame is mostly neutral for organizations (53 %). Table 2 shows that the presentation of organizations in online news is predominantly negative.

**Table 2.** Organizational presentations in the online media frame.

Attribution values	Positive	Negative	Neutral
Attribution of responsibility, N=122	13 %	34 %	53 %
Human interest, N=38	40 %	47 %	13 %
Conflict, N=54	4 %	79 %	17 %
Morality, N=5	60 %	20 %	20 %
Economic consequences, N=91	25 %	44 %	31 %

User comments are assessed as positive, negative and neutral. These online opinions represent the organizational online image. They are actually direct reactions to online news and therefore through the sum of user comments, for each news release, the dominant image is identified. The most predictable frame is human interest (48 %) when it comes to identifying common individual and media frames concerning positive image. The human interest frame is based on the reports about satisfied passengers and employees. Secondly, the economic consequences frame is also responsive in terms of positive reactions. It reports about positive financial results and benefits for passengers. Nevertheless, statistical average (mean) shows that online image is



dominantly negative for Croatian transport organizations (55,67 %) (Table 3), then follows the neutral (37,3 %) online image and the positive one (7 %).

**Table 3.** Online image per media frame (N=310).

Attribution values	Positive	Negative	Neutral
Organizational image through user comments	7 %	55,67 %	37,3 %

The correlation analysis determined the relationship between predictor and criterion variables in the set of variables which refer to the evaluation of online news through media frames, as predictor variables, and user comments (online image), as criterion variable.

The significance of correlation coefficient indicates the existence of the statistically significant relationship between variables which are in this article observed on the level of 1 %. This describes model representativeness with uncertainty of 1 % ( $p < 0,01$ ).

The correlation of media frames and online image is shown in Table 4 and described with the Pearson correlation coefficient  $r = 0,364$ . This is determined as a moderate-strong positive correlation with uncertainty of 1 %. From these results it is possible to deem that the research hypothesis is confirmed.

**Table 4.** The correlation between online media frames in the transport domain and online organizational image.

Pearson Correlation (N=310)	Criterion Variable – online organizational image (user comments)	
	Coefficient	Significance
<b>Predictor Variable</b> – online media frames in reports on <i>CA</i> , <i>HŽ</i> and <i>ZET</i>	<b>0,364</b>	<b>p &lt; 0,001</b>

The hypothesis is confirmed for the each transport organization included in this research. The correlation of media frames on *CA* and *CA* online image shows a moderate-strong positive relationship,  $r = 0,313$ , with uncertainty of 1% (Table 5).

**Table 5.** The correlation between online media frames on *CA* and *CA* online image.

Pearson Correlation (N=102)	Criterion Variable – <i>CA</i> online image (user comments)	
	Coefficient	Significance
<b>Predictor Variable</b> – online media frames on <i>CA</i>	<b>0,313</b>	<b>p &lt; 0,001</b>

The Pearson correlation coefficient  $r = 0,389$  in the case of *HŽ* indicates also a moderate-strong positive relationship on the level of 1 % (Table 6).

The highest correlation coefficient is marked in reports on *ZET* where the relationship between media frames and online image is  $r = 0,402$ , with significance of 1 % (Table 7).

**Table 6.** The correlation between online media frames on *HŽ* and *HŽ* online image.

Pearson Correlation (N=106)	Criterion Variable – <i>HŽ</i> online image (user comments)	
	Coefficient	Significance
<b>Predictor Variable</b> – online media frames on <i>HŽ</i>	<b>0,389</b>	<b>p &lt; 0,001</b>

In regard to types of frames, the results show (Table 8) the highest correlation between the economic consequences frame and online image,  $r = 0,375$ . This is a moderate-strong positive relationship with significance of 1%. The human interest frame comes second with the correlation coefficient  $r = 0,372$ , which is a moderate-strong positive relationship on the level of 1%. The correlation coefficient of the attribution of responsibility frame is lower and represents a weak positive relationship,  $r = 0,237$ , with the significance of 1%. In the end, the conflict frame proved to be the most unreliable in predicting user reactions because of a weak positive relationship ( $r = 0,160$ ) and with an unsatisfactory significance.

**Table 7.** The correlation between online media frames on *ZET* and *ZET* online image.

Pearson Correlation (N=102)	<b>Criterion Variable – <i>ZET</i> online image (user comments)</b>	
	Coefficient	Significance
<b>Predictor Variable – online media frames on <i>ZET</i></b>	<b>0,402</b>	<b>p &lt; 0,001</b>

**Table 8.** The correlation per frame with online organizational image.

Pearson Correlation (N=310)	<b>Criterion Variable – Online organizational image (user comments)</b>	
	Coefficient	Significance
<b>Predictor Variable – online media frames</b>		
Morality	0,839	0,076
Attribution of responsibility	<b>0,237</b>	<b>p &lt; 0,001</b>
Human interest	<b>0,372</b>	<b>p &lt; 0,005</b>
Conflict	0,160	0,248
Economic consequences	<b>0,375</b>	<b>p &lt; 0,001</b>

## DISCUSSION

The implementation of framing theory in this research design was used for determining frequency of five media frames [1] in online news reporting on transport organizations and also for correlations between the media frames and user comments (online image). The results show that the attribution of responsibility is the most frequently used frame and also the most neutral for organizations. It is not surprising that the frame of economic consequences came second considering that profit and the financial situation is one of the prerequisites for a positive or negative organizational reputation. Soroka et al. [26] in his research shows that economic topics provoke much stronger public response/reaction when there is negative information. The conflict frame is the most negative for organizations and follows the trend of negativity in mainstream media reporting. The human interest frame could be observed as very useful for organizations because of an often-positive approach in reporting. We can assume that users are keen to identify with persons involved in the reporting event and that kind of frame provokes sympathy and other positive emotions associated with organizations. The morality frame is not used in online media reporting and it seems that this approach does not sell news well enough. This kind of frequency also suggests which values are emphasized in society.

The correlation analysis showed that certain frames allow prediction of user reactions. Thus, the economic frame provides clear and precise data on business (positive or negative; growth or drop of income) and consequently users often have homogeneous opinions in this respect. The human interest frame proved to be good for predicting user reactions and the reason could be the users' identification with persons, satisfied employees and passengers, presented in the story.

In the example of attribution of responsibility the correlation coefficient is lower and unreliable for predictions. We could interpret that responsibility in reporting is abstract and fluid. Responsibility could be dispersing and depending on various user perspectives. Their viewpoints in determining responsibility for certain issue could be different than in media report. The conflict frame provides an even lower prediction possibility. Users can also choose sides in confrontation and they are not necessary the same as in the media report. In the Croatian transport domain frequent confrontations refer to the following relationships: employees-board, employees-passengers, employees-government. This study did not cover other domains (except transport) in media reporting. Therefore, this can be found as one of the limitations of the study.

## CONCLUSION

The research results show that it is possible to predict user reactions through a framing theory model. This research gives an insight into the fact that certain online media frames have more strength than the others, especially economic and human interest frame. They are responsive with user reactions therefore these findings could be used in public relations practice for preparing online news releases and managing organizational image and reputation through media. Considering that evaluation and measurement in public relations is one of the imminent challenges, this research design offers a concept and idea for further development of a standardised evaluation model through the use of framing theory in media. As pointed by Hallahan (cited in [19]; p.5), “the establishment of common frames of reference is necessary for building successful relations”.

Nowadays every organization in the corporate sector should take into account the importance of planned communication and strategic media relations. Moreover, media studies are in search for measurable connection between media and their effects on media publics, since there are many different variables that intervene in opinion-making process. These findings offer a viewpoint from where user comments, representing direct reactions to media content (news releases), are identified as a valuable PR and marketing research material for managing image and reputation, being thus very insightful for the creation of communication strategies within the organizations. Strategic framing should be taken seriously for media relations, as a part of corporate communication.

## REMARKS

<sup>1</sup>The Croatian national currency.

<sup>2</sup>The then Croatian Minister of Finance.

<sup>3</sup>A Swedish politician and diplomat.

<sup>4</sup>The then Croatian Minister of Maritime Affairs, Transport and Infrastructure.

<sup>5</sup>Zagreb's countryside.

<sup>6</sup>The then Mayor of Zagreb.

<sup>7</sup>The then Speaker of the Croatian Parliament.

## REFERENCES

- [1] Semetko, H.A. and Valkenburg, P.M.: *Framing European Politics: A Content Analysis of Press and Television News*.  
Journal of Communication **55**(2), 93-109, 2000,  
<http://dx.doi.org/10.1111/j.1460-2466.2000.tb02843.x>,
- [2] Stacks, D. and Michaelson, D.: *A Practitioner's Guide to Public Relations Research, Measurement and Evaluation (Public Relations Collection)*.  
Business Expert Press, New York, 2010,  
<http://dx.doi.org/10.4128/9781606491027>,

- [3] Anderson, F.W.; Hadley, L.; Rockland, D. and Weiner, M.: *Guidelines For Setting Measurable Public Relations Objectives: An Update*.  
Institute for Public Relations, 2009,  
[http://painepublishing.com/wp-content/uploads/2014/04/Setting\\_PR\\_Objectives-1.pdf](http://painepublishing.com/wp-content/uploads/2014/04/Setting_PR_Objectives-1.pdf), accessed 21<sup>st</sup> Januar 2017,
- [4] Kim, Y.: *The Impact of Brand Equity and the Company's Reputation on Revenues*.  
Journal of Promotion Management **6**(1-2), 89-111, 2009,  
[http://dx.doi.org/10.1300/J057v06n01\\_09](http://dx.doi.org/10.1300/J057v06n01_09),
- [5] Grunig, J.E.: *Image and Substance: From Symbolic to Behavioral Relationships*.  
Public Relations Review **19**(2), 121-139, 1993,  
[http://dx.doi.org/10.1016/0363-8111\(93\)90003-U](http://dx.doi.org/10.1016/0363-8111(93)90003-U),
- [6] Löwensberg, D.: *Corporate image, reputation and identity*.  
In Tench. R. and Yeomans. L., eds.: *Exploring Public Relations*. Pearson Education Limited, Harlow, pp.237-251, 2009,
- [7] Marklein, T.: *Impressions Are A Sham: The Path to Better Media Metrics*.  
Institute for Public Relations, 2016,  
<http://www.instituteforpr.org/impressions-are-a-sham-and-the-path-to-better-media-metrics>,  
accessed 20<sup>st</sup> January 2017,
- [8] Macnamara, J.: *Emerging international standards for measurement and evaluation of public relations: A critical analysis*.  
Public Relations Inquiry **3**(1), 7-29, 2014,  
<http://dx.doi.org/10.1177/2046147X14521199>,
- [9] Zerfass, A.; Verčič, D. and Volk, S. C.: *Communication evaluation and measurement: skills, practices and utilization in European organizations*.  
Corporate Communications: An International Journal **22**(1), 2-18, 2017,  
<http://dx.doi.org/10.1108/CCIJ-08-2016-0056>,
- [10] Kahneman, D. and Tversky, A.: *Prospect Theory: An Analysis of Decision under Risk*.  
Econometrica **47**(2), 263-291, 1979,  
<http://dx.doi.org/10.2307/1914185>,
- [11] Jelić, N.: *Behavioral Economics, Neuroeconomics, Neuromarketing*. In Croatian.  
JAHR – European Journal of Bioethics **5**(9), 193-209, 2014,
- [12] Tversky, A. and Kahneman, D.: *The Framing of Decisions and the Psychology of Choice*.  
Science **211**(4481), 453-458, 1981,  
<http://dx.doi.org/10.1126/science.7455683>,
- [13] Scheufele, A.D. and Tewksbury D.: *Framing, Agenda Setting, and Priming: The Evolution of Three Media Effects Models*.  
Journal of Communication **57**(1), 9-20, 2007,  
<http://dx.doi.org/10.1111/j.0021-9916.2007.00326.x>,
- [14] Froehlich, R. and Rüdiger B.: *Framing political public relations: Measuring success of political communication strategies in Germany*.  
Public Relations Review **32**, 18-25, 2006,  
<http://dx.doi.org/10.1016/j.pubrev.2005.10.003>,
- [15] de Vreese, C.H.: *News framing: Theory and typology*.  
Information Design Journal **13**(1), 51-62, 2005,  
<http://dx.doi.org/10.1075/idjdd.13.1.06vre>,
- [16] Hallahan, K.: *Seven Models of Framing: Implications for Public Relations*.  
Journal of Public Relations Research **11**(3), 205-242, 1999,  
[http://dx.doi.org/10.1207/s1532754xjpr1103\\_02](http://dx.doi.org/10.1207/s1532754xjpr1103_02),
- [17] Cohen, B.: *The press and foreign policy*.  
Harcourt, New York, 1963,
- [18] Goffman E.: *Frame analysis: An essay on the organization of experience*.  
Northeastern University Press, Boston, 1974,

- [19] Raupp, J.: *Public Relations: Media Effects The International Encyclopedia of Media Effects*.  
<http://onlinelibrary.wiley.com/doi/10.1002/9781118783764.wbieme0132/full>, accessed 10<sup>th</sup> February 2017,
- [20] Stacks, D.W.: *Primer of Public Relations Research*.  
Guilford Press, New York, 2011,
- [21] Jakopović, H. *Detecting the Online Image of “Average” Restaurants on TripAdvisor*.  
Medijske studije 7(13), 102-119, 2016,
- [22] Makarem, S.C. and Jae, H.: *Consumer Boycott Behavior: An Exploratory Analysis of Twitter Feeds*.  
The Journal of Consumer Affairs Spring 50(1), 193-223, 2016,  
<http://dx.doi.org/10.1111/joca.12080>,
- [23] Minazzi, R.: *Social Media Marketing in Tourism and Hospitality*.  
Springer International Publishing, 2015,  
<http://dx.doi.org/10.1007/978-3-319-05182-6>,
- [24] Holsti, O.: *Content analysis for the social sciences and humanities*.  
Addison-Wesley, Reading, 1969,
- [25] Landis, J.R and Koch, G.G.: *The measurement of observer agreement for categorical data*.  
Biometrics 33(1), 159-174, 1977,  
<http://dx.doi.org/10.2307/2529310>,
- [26] Soroka, S.; Young, L. and Balma, M.: *Bad News or Mad News? Sentiment Scoring of Negativity, Fear, and Anger in News Content*.  
American Academy of Political and Social Science 659(1), 108-121, 2015,  
<http://dx.doi.org/10.1177/0002716215569217>.