MEDIA MARKET OVERVIEW IN CEE COUNTRIES

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Abstract

Every year, in every market and in any country, advertisers spend increasing budgets on advertising to influence consumer behavior. Finding the ideal marketing channel mix is a continuous challenge for every brand on every local market. This paper is aiming to analyze overall media investment in CEE region trying to find patterns of media mix based on economic context and local market status that supports media investment (internet and Facebook statistics, TV audiences). In the paper are used multidimensional methods like: principal component analysis and hierarchical clustering techniques. Thirteen Central and Eastern European countries are clustered based on 2017 data from Media Factbook. Two main patterns are described in the paper based on these data. The first one is characterized by high Internet usage, high Print and Digital advertising share. In terms of inverstment level, these countries have negative evolution of Net Market Spend per Capita in 2016 versus 2008 but high media market sizes. The second one is characterized by high out of home advertising share. In terms of inverstment level, these countries are splited in two subpatterns: one with negative and one with positive evolution of Net Market Spend per Capita in 2016 versus 2008.

Keywords: *marketing mix, media market, clustering methods, principal component analysis, CEE countries.*

1. Introduction

Every year, in every market, in any country, advertisers spend increasing budgets on advertising to influence consumer behavior.

Finding the ideal marketing channel mix is a continuous challenge for every brand on the market in every country. Permanently, the brand, marketing or sales managers are struggling about where they should invest, how much and how often they should reassess where to invest in order to get the most of it for their brands. The question even bigger is about what metrics they should use to determine which media channels get more investment. Every brand has its own judgement in choosing the right media channels mix considering brand attributes, targeted customer profile and of course, local market particularities.

In this paper we analyze overall media investment in CEE region trying to find patterns of media mix based on economic context and local market status that supports media investment (internet and Facebook statistics, TV audiences). This *paper begins with a short* review of the literature regarding the evolution of marketing. The second section is a general analysis of media market at European level based on data from Media Factbook (2016, 2017). In the third section, by applying clustering techniques we try to identify some patterns among CEE countries on media market statistics. Finally, in the last section we conclude our analysis with some recommendations for Romania media market.

2. Literature review

The evolution of advertisement dates back into the ancient times. Societies used symbols, and pictorial signs to attract their product users. Over centuries, these elements were used for promotion of products. In the early ages, these were handmade and were produced at limited scale for promotions. Later on, this phenomenon used and gained strength more intensively for promotional purposes. Today's modern environment, advertisements have become one of the major sources of communicational tool between the manufacturer and the user of the products. (Abideen & Saleem, 2011)

Over the years, practical experience has shown that marketing costs and market response are stongly correlated. This dependency should be acknowledged and extensively evaluated as the marketing costs can not be completely ingnored or mentaned at a level too low as they could not influence anymore the sales. At the same time, there are always limits at the higher level, for which the resources become insufficient (S. Prutianu et al.,1998).

Naik and Peters (2009) compared the impact of various paid-for media, which is helpful to marketers in determining their overall media spend and its allocation across media. They proposed a new hierarchical model of online and offline advertising, incorporating within-media (i.e., intra-offline: television, print, and radio) and cross-media (online-offline) synergies and allows

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higher-order interactions among various media. They reach the optimal spending on each medium and the optimal total budget which is real helpful to marketers.

This mater of marketing resource allocation in media have been continuously investigated through many studies along time revealing important insights on the effects of within-media synergies on the overall budget and its allocation (Naik and Raman, 2003; Prasad and Sethi, 2009).

To derive more informative priors, Wang et al. (2017) pools data of similar brands within one category, and extends the model to a hierarchical Bayesian model that allows random effects of media and control variables for different brands. Sun et al. (2017) uses geo-level data instead of national-level data to estimate a similar hierarchical Bayesian model with the shape and the adstock transformations. In simulations, both approaches estimate the transformation parameters well with a much larger data set and derive informative priors to use when the model is applied to a single brand nation-level only data.

Recently, Dens, Pelsmacker and Gos (2018) have also investigated cross-media advertising synergy based on consumers' media usage in a a novel methodology, mixture-amount modeling. It allows to derive optimal media mixes that can be different for several types of media users. The authors provide a proof of concept by analyzing 46,852 responses to 92 beauty care advertising campaigns from 10,972 respondents from the Netherlands, Belgium, Finland, and Hungary. They analyze the impact of consumers' combined magazine, television, and Internet usage (i.e., how intensively they use media overall and the relative proportion of each individual medium) on their campaign-evoked brand interest, perceived brand equity, and purchase intention for advertised brands. The results suggest that different patterns of consumer media usage have different responses to advertising campaigns.

3. Media market analysis at Europe level

According to media fact book (2017), the CEE economy is expected to boost in 2017, after a healthy 2.9% expansion in 2016. A solid domestic economy and improving activity in the Euro area should fuel faster growth of 3.1%. Tightening labour markets, loose monetary policy and fiscal measures are contributing to a consumption spree in the region, which is being reflected in retail sales and confidence data. The impact on the CEE media markets' is still visible in most of the countries, different patterns being observed in terms of media spend / capita evolution vs. 2008 and also in terms of net media market size also.

Fig.1. Media Market Size Evolution
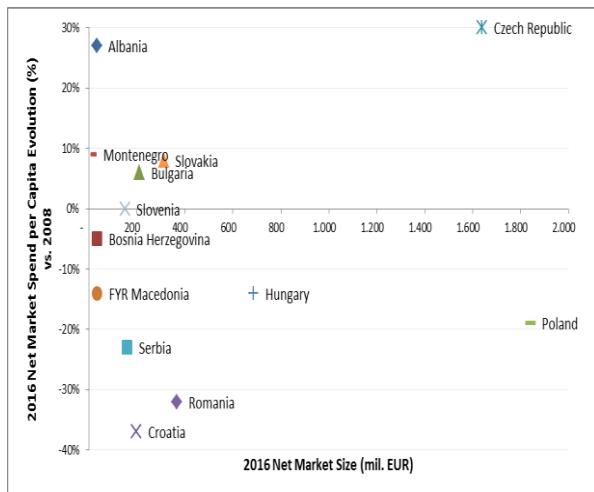
Source data: Own representation based on 2017 Media Fact Book, Romania

Czech Republic is the only country with media spend/capita strong positive dynamics based on positive economic trend and important media investment budget (1600 mil Eur).

On the opposite side, despite the positive economic evolution in Poland and massive media investment (above 1800 mil Eur), the trend is strongly negative being 19% below 2008. On similar decreasing trend are also Hungary, FYR Macedonia and Bosnia Herzegovina. But, below all, with relatively medium budget invested in media (200- 300 mil Eur), Serbia, Romania and Croatia are the most affected countries with significant drop (below -23%) showing that advertisers continue to be prudent with their media investments, given the current economic and political context.

With relatively small budget investment, Albania is the country with impressive gain vs 2008 while Bulgaria, Montenegro and Slovakia registered a marginal media investment increase, supported by a positive economic performance.

Considering media channels mix, TV continue to retain high shares of spending between 50% and 70% in most countries with significant outliers being Albania and Bosnia & Herzegovina where the TV share exceeds 70%, while at the opposite side is Czech Republic, Hungary and Slovakia (below 41%), where Digital is accountant for more than 30% of the total net media market.

Fig. 2. Media channels mix – 2016 Shares

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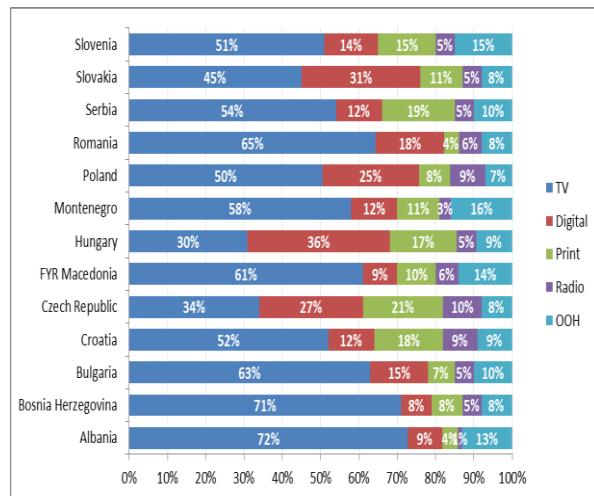
Source data: Own representation based on 2017 Media Fact Book, Romania

Print retains over 15% of media market share in the Czech Republic, Serbia and Croatia. Radio generally has a low share throughout the region, with the exception of the Czech Republic (10%), Poland and Croatia both with 9%.

Fig.3. 2016 Average TV Viewing Time (hours/day) for 18-49 years old in Urban area and General Internet Statistics
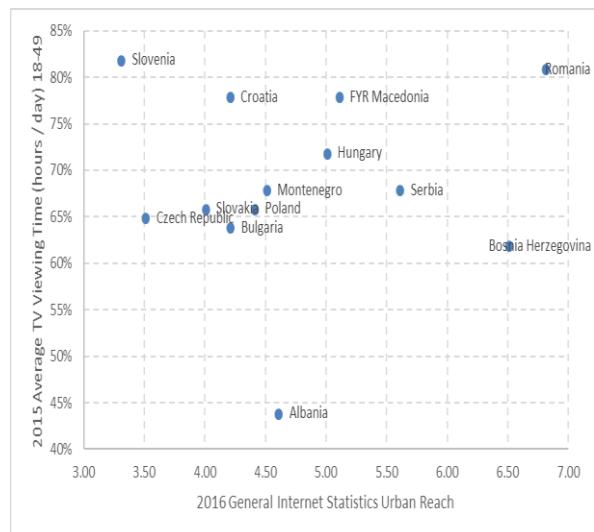
Source data: Own representation based on 2017 Media Fact Book, Romania

Based on 2016 Media Fact Book, the TV shares in the media mix tend to correlate with the ATS (average time spent viewing), with Albania. Romania, Bosnia & Herzegovina and Serbia having the highest level of ATS on commercial targets, while Slovenia and the Czech Republic are having the lowest.

All the countries in the region have an urban Internet penetration of over 60%, with half of them exceeding already 75%.

In terms of daily usage, the consumption map is quite heterogeneous with countries like Slovenia, and

Romania having over 80% at urban level, and Bulgaria, Bosnia & Herzegovina and Albania with less than 60%.

Fig.4. General Facebook Statistics
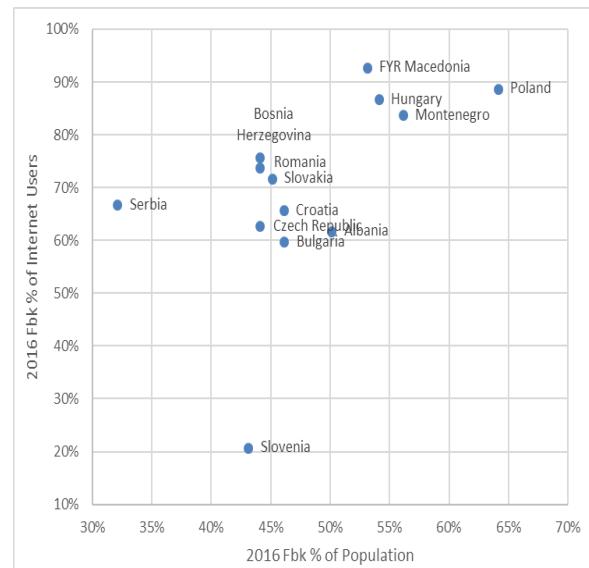
Source data: Own representation based on 2017 Media Fact Book, Romania

The need for connection continues to grow in our region being supported by new and more affordable technologies, increasing the number of Facebook users. With the exception of Serbia (32%), the number of Facebook users amount to over 44% of the total population of each country. Also, Facebook users amount to more than 60% of the Internet users across all the countries in the region.

4. Patterns on media market

PCA is a technique used to reduce multidimensional data sets to lower dimensions, when all the variables used are quantitative. PCA is mathematically defined as an orthogonal linear transformation that projects the data to a new coordinate system (which is made by principal components) in order to obtain the greatest variance explained by this projection of the data.

Based on matrix of correlation (Annex 1), the following 7 uncorrelated variables were taken into consideration for analyzing patterns on CEE countries media market: 2016 Net market spend per Capita evolution vs 2008, %digital, %print, %OOH (out of home advertising), 2016 intenet urban reach, 2016 Facebook users of population, 2016 Facebook users of internet users. PCA is applied on these variables such that to analyse the correlation between them and to identify some patterns in CEE countries.

Table 1. Rotated Component Matrix (PCA)

	Component		
	1	2	3
2016 Fbk % of Population	.913	.229	.071
2016 Fbk % of Internet Users	.758	-.413	.015
OOH	-.069	.788	-.417
2016 General Internet Statistics Urban Reach	-.099	.644	.510
2016 Net Market Spend per Capita Evolution (%) vs. 2008	.030	.579	.000
Digital	.288	-.151	.858
Print	-.501	.019	.657

Source data: Own computations based on 2017 Media Fact Book, Romania

The projection of data on the first three principal components preserves 71.2% of the total inertia (25.1% for the first axis, 23.1% for the second axis and 22.9% for the third axis). On the first axis, the best represented variables on positive side are: 2016 Fbk % of Population, 2016 Fbk % of Internet Users and on the negative side is the spending on print channel. Therefore this component could be called Internet Challenge. On second axis, the best represented variables on positive side are: OOH, 2016 General Internet Statistics Urban Reach and 2016 Net Market Spend per Capita Evolution (%) vs. 2008 and on negative side is 2016 Fbk % of Internet Users. On third axis, the best represented variables on positive side are: spending on digital and print channels, 2016 General Internet Statistics Urban Reach and on negative side is OOH.

Ward method is a hierarchical clustering technique used to create homogenous groups with the minimum variance within the groups. By applying this technique on our data 2 clusters could be defined. Cluster 2 is represented by 4 countries: Hungary, Slovakia, Poland and Czech Republic and cluster 1 with all other countries.

Fig. 5. Projection of countries on the first three principal components

a.
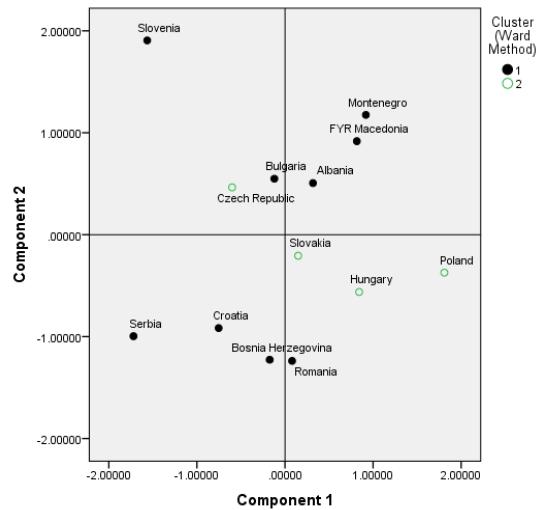
b.
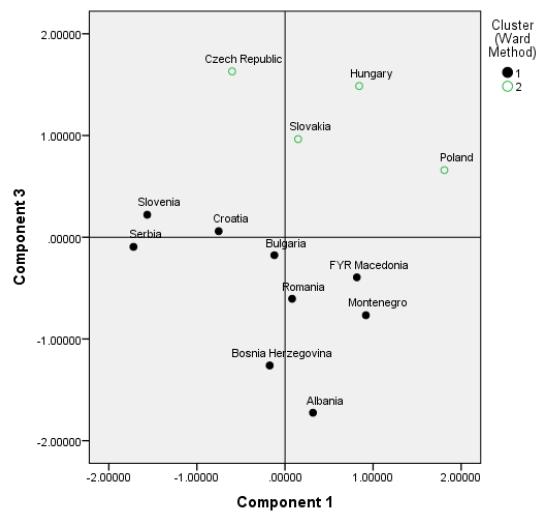
Source data: Own representation based on 2017 Media Fact Book, Romania

By representing the countries on the first three principal components we observe that countries from the first cluster have lower values for the third component (Fig. 5b.). Therefore we can conclude that in these countries Digital and Print have low share and OOH have high shares in media channel mix. Countries from cluster 2 have high shares for Digital and Print advertising and low values for OOH (Fig. 5b.) but also we can observe that they are countries with high percentages of Facebook users in total Population and in total number of Internet users (Fig. 5a.). Moreover this cluster could be splited into two subclusters. The first subcluster (Bulgaria, Slovenia, Montenegro, Macedonia, Albania) have with positive 2016 Net Market Spend per Capita Evolution (%) vs 2008. The second subcluster (Serbia, Croatia, Romania and Bosnia & Herzegovina) have negative 2016 Net Market Spend per Capita Evolution (%) vs 2008.

5. Conclusions

The question addressed in this paper was: which are patterns observed on CEE countries media market. We found that there are mainly two different patterns: one characterized by high internet usage and where Print and Digital advertising shares are very high. In these countries (Poland, Hungary, Czech Republic, Slovakia), the Net Market Spend per Capita had a negative evolution in 2016 versus 2008, even if they have the highest media market sizes. The second pattern is characterised by high share of out of home advertising (OOH) in media channel mix. These countries could be splited in two groups: one with Net Market Spend per Capita having a positive evolution in 2016 compared to 2008 (Bulgaria, Slovenia, Montenegro, Macedonia, Albania) and another group with a negative evolution in 2016 compared to 2008 of Net Market Spend per Capita (Serbia, Croatia, Romania and Bosnia & Herzegovina).

By analyzing all CEE countries, it is obvious that TV and Digital channels are having important impact. It is shown also that they continue to fight for dominance across all media markets in CEE, as TV is still holding strong on majority of countries (9) and Digital is the media channel with the most dynamic expansion, as mobile, social video and messaging apps will continue their developing trend. As smartphone use is continuing its strong growth, and the CEE developing economies hold a huge potential, mobile advertising revenues are expected to boost, supported by the fact that the share of web traffic coming from mobile devices is growing rapidly, accordingly to 2017 MediaFactbook.

The CEE media market size map is polarized in two segments: the first represented by the largest markets like Poland and the Czech Republic gathering yearly over 1.6 billion EUR in net value, medium markets like Hungary and Slovakia of over 310 million EUR, all 4 countries having digital share in media mix of above 25% and TV share lowest than 50% and the second segment consisting of the countries with less than 200 million EUR net investments.

Romania is a country with high potential as long as the media investements are high and internet penetration and internet daily reach in urban area offer good premises for attacking the media market through the digital channel.

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Annex 1 Correlation matrix between media market characteristics

Note:* Correlation is significant at the 0.05 level (2-tailed), ** Correlation is significant at the 0.01 level (2-tailed)

	2016 Net Market Spend per Capita Evolution (%) vs. 2008	2017 Net Market Size (mil. EUR)	TV	Digital	Print	Radio	OOH	2015 Average TV Viewing Time (hours / day) 18 U	2015 Average TV Viewing Time (hours / day) 18-49 Urban	2016 General Internet Statistics Urban Reach	2016 General Internet Statistics UrbanDaily Reach	2016 Fbk % of Population	2016 Fbk % of Internet Users	Fbk users
2016 Net Market Spend per Capita Evolution (%) vs. 2008	1	,092	-,039	,079	-,057	-,328	,276	-,491	-,285	,044	-,653*	,045	-,258	-,301
2017 Net Market Size (mil. EUR)		1	-,586*	,631*	,243	,705**	-,551	-,291	-,339	,220	-,048	,387	,191	,785**
TV			1	-,833**	-,751**	-,499	,277	,489	,654*	-,399	-,279	-,090	-,028	-,196
Digital				1	,301	,339	-,517	-,269	-,397	,189	,082	,240	,193	,441
Print					1	,469	-,062	-,410	-,572*	,302	,318	-,342	-,198	-,217
Radio						1	-,572*	-,204	-,355	,369	,434	,065	,098	,495
OOH							1	-,262	-,145	,285	,060	,099	-,260	-,563*
2015 Average TV Viewing Time (hours / day) 18 U								1	,932**	-,611*	,052	-,171	,455	,088
2015 Average TV Viewing Time (hours / day) 18-49 U									1	-,766**	-,180	-,051	,401	,035
2016 General Internet Statistics Urban Reach										1	,553	,089	-,293	,042
2016 General Internet Statistics UrbanDaily Reach											1	-,101	-,092	,036
2016 Fbk % of Population												1	,534	,513
2016 Fbk % of Internet Users													1	,340
Fbk users														1

Source data: Own computations based on 2017 Media Fact Book, Romania