MARKETING PREDICTIONS IN ANTI-DRUG SOCIAL PROGRAMS: USE OF CAUSAL METHODS IN THE STUDY AND PREVENTION OF DRUG ABUSE

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Drug use is one of the major challenges that today's society faces; its effects are felt at the level of various social, professional and age categories. Over 50 non-profit organizations are involved in the development of anti-drug social programs in Romania. Their role is to improve the degree of awareness of the target population concerning the risks associated with drug use, but also to steer consumers towards healthy areas, beneficial to their future. This paper aims to detail the issue of drug use in Romania, by making predictions based on the evolution of this phenomenon during the next five years. The obtained results have revealed the necessity to increase the number of programs preventing drug use, aswell as the need to continue social programs that have proved effective in previous years.

Introduction

Over the past 10 years, social marketing has become an important area of analysis and research.[871] The number of non-profit organizations that are currently carrying on social activities has increased considerably, and so has the efficiency of social programs undertaken. Nowadays, non-profit organizations are a means to sustain the solving of major society problems: drug use, smoking, cancer, road safety or sedentariness. Drug use is one of the most troublesome phenomenon that humanity faces. Preventing and limiting access to drugs is a necessity, both on behalf of the consumers, and for society in general. The article tries to provide an overview concerning the matter of drug use in Romania. By studying the connections between illicit drug addiction and various factors that influence the consumer decision process, this article wishes to extend research in this area, starting with the practical aspects. Thus, based on information provided by the **National Anti-Drug Agency** and the **General Inspectorate of Romanian Police** in the **National Report on the drug situation in 2009**, the article estimates the evolution of drug problems in Romania on a given period of five years. Causal prediction methods are used in the information analysis, and data evaluation is achieved based on the multi-factor regression model.

Trends concerning drug use in the society background

Drugs are a global problem causing major imbalances in the normal functioning of societies. According to the 2009 report of the European Monitoring Centre for Drugs and Drug Addiction regarding the drug use situation in Europe, about 13 million Europeans aged 15-64 have tried cocaine at least once, 74 million Europeans have tried cannabis at least once and 2.5% young Europeans use cannabis on a daily basis. These statistics become more alarming each year. Research shows that illicite drug abuse **in Romania** is lower than in other EU countries, but there is a growing trend for consumption in most of them.[872] Most illicitly traded drugs in Romania are cannabis, heroin and ecstasy tablets, with cocaine ranking fourth place because it is a more expensive and harder to obtain drug. According to the Eurostat

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[871] Ranchodd, A. and Marandi, E., 2006, *Strategic Marketing in Practice*, Butterworth-Heineman, page 106.
[872] European Monitoring Center for Drugs and Drug Addiction 2009, EMCDDA, accesed on the 17th of April 2010, www.emcdda.europa.eu.

report (Statistical Office of the European Communities) of 2008, the most widely consumed drug in Romania is **cannabis**. Most people begin using drugs at an early age of 15 to 19 years old - about 34% of the total in 2008. The next risk-subjected group is tat of 20 to 24 years, the age at which about one in four of them became drug users.[873] According to research, the main drug consumers are young people in large cities. Bucharest still remains the most important center for drug trafficking and consumption in Romania, placed at the top of heroin consumption. The following districts are Timis and Cluj.

With regard to the evolution of treatment admissions, according to National Anti-Drug Agency (NAA) of 2009, the main drug for which assistance was requested remained heroin, both at the level of centers from the Ministry of Health network (66%) and, locally, at the level of prevention, evaluation and counseling drug centers (CPECA).

The prevalence of infectious diseases among drug injection users (DIUs) shows a worrying increase in the hepatitis C virus, the presence of antibodies (HCV) mounting to 72.59% in 2008, exceeding the European average value. Low levels of HIV prevalence (1.09%) can be explained by the decreased number of individuals who members of the DIUs community.

Number of drug consumption has reached 33 people in 2008, over 50% more than in 2007. Off the record, forensic sources said that their number ranges somewhere between 100 and 200 people each year.

Involving the National Anti-Drug Agency (NAA) in social programs

The National Anti-Drug Agency is the main institution involved in developing programs to prevent drug abuse in Romania. Established in December 2002 by the Romanian Government, the NAA is a public organization, under the coordination of The Ministry of Administration and Interior, whose main attribution is to **design general strategies to prevent drug use and traffic** in accordance with national anti-drug legislation in Romania. Also, the agency coordinates public authorities, state institutions and non-government organizations (NGOs) specializing in fighting drugs. NAA owns **47 assessment, drug prevention and counseling centers**, of which six are found in Bucharest, one for for each sector, and and 41 in the country - one for each district.

The National Anti-Drug Agency, along with the National Institute of Health Research and Development, are the main research institutions regarding drug traffic and consumption for these Romania. Together with the Ministry of Health, NAA is an important source of funding on such researches. The dissemination of information obtained from research is achieved by specialized websites and by holding national conferences.

According to the National Report on the drug situation in 2009, programs initiated by the NAA included the following areas: prevention in the domestic life, in the community and in recreational areas. Of these, the most important was the **"Fred goes Net - early intervention for drug users identified for the first time" project.** This project was initiated in Germany in 2002, Romania being one of the nine countries that took over, as pioneer partner, the project implementation. Another project was **"A one time means always!"** which was achieved in close collaboration with Rotary International. The project consisted in distributing information on DVD and CD-based information materials concerning drug prevention in recreational areas.

Non-profit organizations drug programs

One of the main tasks of the **National Anti-Drug Agency** is to coordinate the activities of non-profit organizations, so as to improve the efficiency of national anti-drug programs.[874] The main purpose of these programs initiated by nonprofit organizations is to promote the rights of young people against drug abuse, by improving the degree of efficiency of the collaboration between specialized public institutions and family environment.

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[873] National Anti-Drug Agency, EMCDDA and General Inspectorate of Romanian Police, 2009, *National Report on the Drug Situation*, page 7.
[874] Romanian Guvernment 2005, *National Anti-drug Strategy 2005-2012*, Bucuresti, page 3.

One can notice *a trend of increasing non-profit organizations' concern* to increase the awareness of drug-consumtion associated risks in society. Research conducted by them have provided valuable information on the prevalence of drug use among vulnerable groups. These projects were financed by international organizations such as *UNAIDS*, *UNICEF*, *UNODC* and the *Global Fund to Fight AIDS, Tuberculosis and Malaria*.

The more recent studies on traffic and drug consumption mentioned in the 2009 National Report emphasized aspects and concerning the consequences of drug use and the main ways of preventing it among youth.

The National Anti-Drug Agency has led and implemented many social programs in collaboration with non-profit organizations. The most important non-profit organization involved in drug prevention programs is *"Save the Children"*. In the year 1998, "Save the Children" initiated the "Education towards Health" program, through which media drug campaigns were organized, aswell as youth interraction campaigns, courses and extra-curricular activities designed for scholars and students.[875]

Along with the *National Anti-Drug Agency*, *"Save the Children" organization* has developed the following projects:

- the *"Feel Free"* campaign, in 2003, organized together with the Romanian Monitoring Centre for Drugs and Drug Addiction, which aimed to reduce the number of young drug users and to promote a healthy lifestyle.

- *"The sea is our only addiction"* campaign, in 2005 - a project initiated in partnership with the National Anti-Drug Agency, which takes place annually at the Black Sea seaside and is mainly intended to inform young people about the risks associated with drug use.

- The project *"RIIA"* – or Inter-Institutional Anti-Drug Network[876], in 2008 - project funded by the EU PHARE 2005 program, which took place between December 2007 - September 2008 and aimed to promote youth rights and protect them against drug abuse.

Other *non-profit organizations that collaborated with the National Anti-Drug Agency* in their programs were:

- *International Drugs Brigade*, NAA's non-profit organization partner, which has developed the *"Get him close to you"* project in 2007. The campaign created public awareness about the fact that drug users' place is within society, together with their family, friends and colleagues.

- "*Support for Life"* **Association,** through projects like: *"Protego Project"* in 2007 which aimed to inform parents about drug use among children, or the *"Drug use and violence in schools"* project in 2008, aswell as the *"Choose Life"* (2008 project).

- *Rotary International Association* through the *"Friends, help children say YES to Life"* in 2009, intended to prevent drug use among youth.

- *Soul to Soul XXI Association*, in partnership with the Romanian Patriarchy and "Light" newspaper, which initiated the "The world of drugs is not my world" project in March 2010, whose main purpose was to increase readers' awareness of the inherent danger of drug consumption in society.

Studying issues of using and illicite drug trading in Romania

In studying the main issues of using and trading drugs in Romania, we examined correlations between these variables: **1)** *Number of persons detected as drug users:* dependent variable.

2) *The quantities of drugs seized*: independent variable. **3)** *Number of people caught red-handed*: independent variable. **4)** *Number of persons convicted for crimes*: independent variable.

Hypothesis: The number of persons detected as drug users directly depends on the quantities of drugs seized, the number of people caught red-handed and the number of persons convicted.

Years	Evolution of the number of	Dynamic of drugs seized	Dynamic of the number of	Evolution of the number of

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[875] Salvati Copiii 2010, Bucharest, accessed on the 17th of April 2010, www.salvaticopiii.ro.
[876] Inter-Institutional Anti-Drug Network 2010, Bucharest, accessed on the17th of April 2010, www.riia.ro.

	persons detected as drug users	quantities (kg)	people caught red-handed	people convicted for drug offenses
2001	2134	33.45	605	268
2002	1905	202.18	1035	432
2003	2070	320.70	1139	439
2004	1502	65.40	1219	508
2005	1538	285.07	1489	632
2006	1350	32.63	1921	659
2007	1891	129.90	1695	521
2008	1962	385.23	2158	454

Table 1. Aspects of drug use in Romania between 2001 and 2008,
Source: National Report on Drugs in 2009

Dependent Variable: **PERSOANE_DEPISTATE**				
Method: Least Squares				
Date: 04/17/10 Time: 14:09				
Sample: 2001 2008				
Included observations: 8				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2664.313	222.8331	11.95654	0.0003
CANTITATI_CONFISCATE	0.692377	0.420726	1.645673	0.1752
PERSOANE_IN_FLAGRANT	0.049855	0.151774	0.328478	0.7590
PERSOANE_CONDAMNATE	-2.180175	0.588175	-3.706680	0.0207
R-squared	0.870531	Mean dependent var		1794.000
Adjusted R-squared	0.773430	S.D. dependent var		290.2378
S.E. of regression	138.1514	Akaike info criterion		13.00143
Sum squared resid	76343.21	Schwarz criterion		13.04115
Log likelihood	-48.00572	F-statistic		8.965178
Durbin-Watson stat	2.600595	Prob(F-statistic)		0.030038

Table 2. Multiple regression model characteristics

Model was considered valid because the probability associated with the Fisher test, Prob(F-statistic) was 0.03, a value less than 0.05. Since the regression line slope shows a negative sign (-2.18) it is safe to say that there is an inverse relationship between "persoane_depistate"(drug users) and "persoane_condamnate" (persons convicted for drug offenses).

	Persoane_ depistate	Cantitati_ confiscate	Persoane_ in_flagrant	Persoane_ condamnate
Persoane_depistate	1,00			
Cantitati_confiscate	0,33	1,00		
Persoane_in_flagrant	0,41	0,33	1,00	
Persoane_condamnate	0,86	0,02	0,66	1,00

Table 3. Simple correlations between the variables considered

Because the correlations were too weak, most of them located below 0.5, we can say that there were no independent variables strongly correlated. Comparing t-Statistic values with t-theoretic (for 4 degrees

of freedom and a confidence level of 80%), we notice a low correlation between the dependent variable and the independent variables.

Prediction issues regarding the usage and traffic of drugs in Romania

Starting with National Report data on the drug situation in 2009, one has estimated the number of persons to be detected by drug use during 2009-2013.

Regression model obtained was considered valid because the value of Prob(F-statistic) was less than 0.05.

Dependent Variable: PERSOANE_DEPISTATE				
Method: Least Squares				
Date: 04/17/10 Time: 14:38				
Sample: 2001 2013				
Included observations: 13				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2691.534	226.3018	11.89356	0.0000
CANTITATI_CONFISCATE	0.520127	0.394574	1.318200	0.2200
PERSOANE_IN_FLAGRANT	0.252094	0.118024	2.135958	0.0614
PERSOANE_CONDAMNATE	-2.676599	0.532957	-5.022163	0.0007
R-squared	0.787692	Mean dependent var		1860.154
Adjusted R-squared	0.716922	S.D. dependent var		265.5833
S.E. of regression	141.3037	Akaike info criterion		12.98736
Sum squared resid	179700.6	Schwarz criterion		13.16119
Log likelihood	-80.41784	F-statistic		11.13040
Durbin-Watson stat	2.824638	Prob(F-statistic)		0.002201

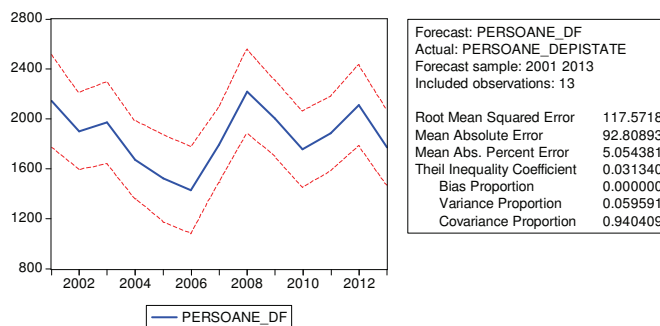Table 4. Features of multi-factor regression model after projection

Chart 1. Predictions regarding the number of people detected as drug users during the period 2008-2013

The evolution of the number of persons detected as drug users in the next five years shows fluctuations, the values ranging between 1800 and 2200 people. Compared to the previous period, one can observe a slight increase concerning the number of people, which points, in a positive sense, to the development of ways to detect drug users on behalf of the authorities or, as a negative effect, points to an increasing number of persons using drugs.

Conclusions

Throughout this article, the author tried to present some of the aspects of drug issues in Romania. The main trends of drug use in Europe and in Romania were highlighted, aswell as the connections between

The National Anti-Drug Agency and non-profit organizations, which were analyzed from the point of reducing the demand for narcotics. In the applied section of this paper, projections have shown that the number of tracked drug users will increase. This will cause many non-profit organizations to adopt a firmer position in communicating with vulnerable groups. The need to develop social programs is even greater, as the incidence of sexually transmitted infections and number of drug related crime are increasing. The main restrictions of this article relegate to the absence of data on drug users in Romania, NAA presenting only the evolution in the number of consumers discovered by treatment centers. Other restrictions concern the small number of research papers in this field, aswell as the small scale of the implemented social programs, the majority of projects having a local character.

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