Planning of Social Corporate Responsibility Campaign with Multiple Special Event

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In an effort to achieve good operating results, business systems largely adopt precisely defined methodologies for business decision making. In a socially responsible business practice, the most significant areas of decision making are: the selection of initiatives that will support social goals and the selection of programme plans for their implementation. In this paper, the methodology of planning a specific campaign witha multiple special event of socially responsible business practice of the Insurance Company "Dunav Osiguranje" is presented. The Goal Programming model of the decision making process regarding the selection of the optimal campaign implementation method will be presented.

1. Introduction

Building connections with the social community is of paramount importance in the corporate and the public relation strategies. In the last two decades we have witnessed the emergence of an increasing number of organizational initiatives in the field of social responsibility, adopting the "do a good deed" concept as a corporate social norm and an evident transition from giving as an obligation to give to giving as a corporate strategy. Until the 1990s, the decisions on the selection of activities to promote the organization and earn a positive publicity were based on the need to "do something good in order to make a good impression". In the 1990s, a large number of organizations turned to essentially differently motivated activities in building corporate identity, image and reputation, in accordance with a new model of corporate behaviour: "do what is best for the good of the society – act towards the society in a responsible manner" [1] .

Adopting a new system of doing business has imposed the need to develop and introduce specialized methodologies for planning and conducting concrete campaigns. The methodology devised by the authors of this paper deals with the planning of a concrete activity of socially responsible business with the need for a continuous repetition of the same special event on different geographical locations, and in a given time period. It is to a considerable extent based on the fact that the decision-making process in a socially responsible business is performed on different hierarchal levels in different phases: strategic, executive and operational levels, as well as on the principles of the special event organization. In cases the event realization is conditioned with the time period longer than one day, there emerges a problem of scheduling the event over a certain period of time.

In order to solve the problem of the time schedule of a socially beneficial campaign a unique mathematical model of goal programming was devised [2], and will be described in this paper. The time scheduling problem has already been solved using the goal programming (GP). The GP models that can be applied in college and university courses timetabling are described in [3] and [4]. The problem of time scheduling and balancing sports events over a large number of venues and its modelling using GP is described in [5]. The GP models of medical personnel distribution are presented in [6] and [7], whereas in [8] the problem of employee distribution is also dealt with applying the GP, this time in the field of marketing. In [9] the authors describe the GP model applied in the optimization of the time schedule of manufacturing processes to ensure a maximum performance and minimize the period of resources engagement. Due to the specific nature of the time scheduling problem in case of socially beneficial campaign events dealt with in this work, the time scheduling problem is defined as a system of distinct representatives (SDR) [10], [11] and [12].

This paper is organized in six chapters. Following the introductory part, the second chapter will highlight the importance of socially responsible business behaviour and the third chapter will describe a socially responsible campaign titled SVITAC (firefly). The fourth and the fifth chapters deal with the campaign objectives formulation and the goal programming model. The paper ends with the conclusive remarks and the description of the future research.

2. Importance of socially responsible business behaviour

The business entities in Serbia increasingly adopt the principle that being a socially responsible company does not mean just meeting the obligations one is legally bound to meet, but going beyond the imposed obligations to meet the needs of the community, investing into a healthy, thriving and modern society, into human resources, environment and developing good relationships with various social entities. Socially responsible business is a concept according to which the economic entities that adopt it consciously and willingly go beyond their primary function of profits earning and distribution and try to have a positive impact upon their work, and the social and natural environment. Socially responsible business is essentially the awareness of a new position and importance companies have in a global society and the responsibilites these impose.

As a modern approach to business, socially responsible business behaviour has an important impact upon the choice of values the company supports, as well as upon the manner in which the business programmes are defined, executed and assessed. Organizations increasingly choose to focus upon a smaller number of strategic values that suit their own values. They decide in favour of socially justified initiatives that support their business goals and consequently develop strategies to increase their market share or create a desired image and reputation. They assess tasks on the basis of their potential favourable impact in a period critical for the organization or their real positive impact upon creating adequate living conditions [13]. Similarly, the organizations that desire to achieve good business performance are aware of the impact the environment has upon their realization. Therefore they employ all their resources in the process of selection of adequate direction of business operations that will earn them a wide support in the implementation of corporate programmes and take on the responsibility to solve the issues that are deemed most important for the users, the employees and the community in general.

Socially responsible business behaviour has a favourable impact upon the company's image and reputation. When an organization adopts the concept of socially responsible business behaviour, it is necessary that an adequate perception of such organizational behaviour be recognized by the target public. It is in this respect that the public relations programmes must be conceived, in orger to ensure that internal and external public should be informed on the socially responsible business behaviour of the particular organization. The employees in the public relations sector should encourage the socially responsible bahaviour within the organization, but also outside it, as well as present to the public the plain facts that prove that their organization tries to be a good member of the community. Prior to conducting any activity or campaign in order to send a message to the target population, the employees in the public relations sector of the organization have to anticipate the reaction of the public. The public relations experts often act as representatives of their organizations in communication with the environment and as such they have to be acquainted with all the events going on around them and inform the management on the current problems that may be of impact upon the target public's attitudes, either directly or indirectly [14].

Socially responsible behaviour is most easily recognized in the public relations activities. The major goal in this regard is improving the quality of business practices based on observing the rights of the employees, the customers and the community and thus enlisting the support of the public and building long-term relations based on trust and loyalty. The quality of business practices we mentioned above may be ensured by launching long-term investment programmes oriented towards school and university students and for the purpose of a better education and quality improvement of the future job applicants. Hence the connection between social responsibility and public relations as regards a given area.

Strategic engagement of public relations experts in the socially responsible business can be effected through the following phases [15]:
1. Selection of social goals to be supported;
2. Selection of initiatives to support social goals;
3. Design and implementation of programme plans and
4. Event assessment.

Selection of social goals to be supported. Social goals should be not more than a few and they should refer to solving the problems of the members of the community the company operates in. The organization's mission, values, products and services, as well as business goals should be adjusted to them; the completion of these goals should be the interest of all the stakeholders and they should enjoy a long-term suppor by the target public.

Selection of initiatives to support social goals. The selected initiatives should be best geared to the business goals and tasks; it is necessary that they meet the priority tasks of the social goal, that more than one initiatives be selected for one social goal, adding those that

are not yet included in the currently organized events. The selection of initiatives should be such that it offers the greatest possible potential for building partnership relations in the community; these should be the initiatives that are based on a certainamount of experience and that will make good use of the existing resources.

Design and implementation of programme plans. It is suggested that internal teams should be assembled to design plans. In addition to the employees, these teams will include the employees from other organizational units. Also, the community representatives from the external environment of the organization should be incorporated. It is important that tasks and measurable goals (outputs) are clearly set, both for the organization and for the society. The communication plan should be devised, and additionally required strategic elements should be agreed upon and planned. The planning techniques are to ensure an efficient completion of a single event, as well as improvement of the outcomes of those events that are repeated.

Event assessment. In order that the outcomes of the organized events be efficiently evaluated, we should first define the purpose of such evaluation, supply adequate resources for assessing and reporting, measure what is achieved on the basis of the resources invested and report on that; it is further necessary that outcomes be measured for both the organization and the society, on the basis of the set goals and tasks and the report be prepared. It is also important that the status of social goals promoted by the organizational initiatives be further supported.

3. Description of the socially responsible event titled "firefly"

The Serbian company Dunav Insurance (Dunav osiguranje) is a large, powerful and modern insurance company with a long and fruitful business tradition. A state-owned company, this insurance company is an important economic entity, however, also an important national brand in the field of insurance. Hence the Dunav Insurance Company is continually engaged in improving the environment, that is, the community in which it operates, conducting numerous activities in the field of socially responsible business. The socially responsible behaviour in the Dunav Insurance Company is adopted as a modern strategic approach to the business practice and, as such, it has a significant impact upon the selection of values it stands for, as well as upon the manner in which its business programmes are defined, conducted and evaluated. The business policy of the company is increasingly based on focusing upon a smaller number of strategic fields of socially responsible business behaviour. Given that the company has developed a corporate awareness on the environmental impact upon the realization of business operations and hence on achieving the set business goals, much attention is paid to the decision-making process optimization. The company uses all its resources in the process of selecting the appropriate business orientation in order to ensure the support to implementing the social responsibility programme. Thus one field of decision making is the selection of socially justifiable initiatives that support the company's business goals to a largest extent. Another decision-making field refers to the selection of the strategy of creating a desired image and reputation based on the socially responsible business practices, and consequently, increasing the company's market share. It is in such a decision-making process that an assessment and selection of concrete tasks are made, on the basis of their potentially favourable impact upon the company's image and reputation or its real positive impact upon ensuring adequate living conditions for the target public (community).

As mentioned above, when the organization has adopted the socially responsible business concept, it is necessary that an adequate perception of such behaviour should be granted from the part of the target public. Here, the process of making a decision on the selection of the communication strategy and the media as its most important segment is of highest importance.

In accordance with its policy of socially responsible business behaviour, the Dunav Insurance Company has decided to organize a campaign titled SVITAC ("FIREFLY"), meant for the youngest schoolchildren, the first-form elementary school pupils. The problem of children's traffic safety, especially of the youngest ones, has often been the issue of debates, however, has never been completely resolved. In order to contribute to the solving of this ever present problem and reducing the number of accidents, the Dunav Insurance Company decided to organize a large-scope FIREFLY campaign and donate to the elementary schools in Serbia 80,000 "fireflies" – the glowing gadgets meant to ensure a better visibility of the youngest schoolchildren on the Serbian roads.

This donation of the Dunav Insurance Company is meant to contribute to the traffic safety of the youngest and most threatened traffic participants. The first-form pupils have proven to be the most critical group since it is their first time to participate in the traffic by themselves. In this way the Company wishes to call on all the other traffic participants to observe the traffic regula-

tions for the purpose of their own safety. Indirectly, the campaign is addressing all the other pupils in the elementary schools where this event is organized. A conclusion can be drawn that the attention in this project is focused upon: elementary school pupils, their parents and the community in general.

There are two major characteristics of the FIREFLY campaign. One is the need to plan the so-called multiple special event, that is, define a precise time schedule of special events that are equal in goals, contents and expected effects but differ by the venues they are organized in. The other characteristic , actually the basis of the process modelling, is a large number of participants in the process that took place in over 20 cities in Serbia. On the national level, the campaign included, in addition to the Dunav Insurance Company as the initiator, the following: the representatives of the Ministry of Education of the Republic of Serbia and the Ministry of Interior of the Republic of Serbia, the Minister of Education, the Managing Director of the Dunav Insurance Company and the Chief of the Directorate of the Traffic Police. On the local level, the participants were as follows: the directors of host schools, the directors of district schools, the heads of school directorates, directors of the Dunav Insurance Company branches, the representatives of the traffic police/heads of departments and the first-form pupils of the host schools.

The campaign was promoted in the media, too. Both national and local media covered the campaign extensively in all the cities in which it was organized. For the purposes of media coverage, the following activities were carried out:
- The special event of donating the first quota of the firefly gadgets was organized in Belgrade. In addition to the presence of special guests (public opinion leaders or popular persons), the media were invited to be present;
- The invitation letter to the media was written and distributed and an announcement for the media was distributed afterwards with photographs of the donation event;
- Media visits of the Company representatives were organized for the purpose of the campaign promotion;
- In case of donating the gadgets to the first-form pupils in other cities in Serbia, it was organized through the coordination of all the project participants, the invitation letter was prepared and distributed to the media, as well as a scenario and statement for the media, for each particular city. All the participants in the campaign, on the local

level, were acquainted with the entire material, among them: directors of the schools in which the gadgets were donated for the entire district, heads of school directorates, representatives of the traffic police and the directors of the Dunav Insurance Company branches;
- Prior to all these, a letter was sent to all the school directorates, on the basis of which the time of all the distribution events were scheduled for the territory of the whole of Serbia.

The first event was organized among the Belgrade elementary schools, followed by the similar events throughout the republic.

The distribution campaign started with the distribution of the first quota in the "Borislav Pekić" elementary school in the Novi Beograd municipality. The special event was organized at 9:30, 11th December, 2009. The gadgets were delivered in the presence of the Minister of Education of Serbia, the Head of the Republic directorate of traffic police, the managing director of the Company and the directors of all schools in Novi Beograd. 150 first-form pupils of the "Borislav Pekić" elementary school participated, as well as a large number of representatives of all the relevant media – national and specialised.

On Wednesday, 3rd February, 2009, the quota of 2,733 glowing gadgets was delivered at 10:00 to the first-form pupils of the elementary schools in Vranje and the Vranje district. The delivery was organized in the "Vuk Karadžić" elementary school at Vranje, in the presence of the director of the main Dunav Insurance Company branch in Vranje, the educational advisor for the district, the representatives of the traffic police, the director of the "Vuk Karadžić" elementary school and its first-form pupils, directors of the district elementary schools and the local media representatives. Following the Vranje event, the special events were organized in: Leskovac, Kraljevo, Kragujevac, Užice, Kosovska Mitrovica, Novi Pazar, Kikinda, Ranilug, Zrenjanin, Pančevo, Valjevo, [abac, Loznica, Jagodina, Kruševac, Čačak, Sombor, Požarevac, Zaječar, Niš, Novi Sad. By the end of the month, the gadgets had been distributed to all the first-form pupils in Serbia.

Espacially important effect of the campaign is that the gadgets were warmly received by those they were meant for, the little first-form pupils. They promised they would always take the gadgets with them and try to observe the traffic ragulations in order that they should be as safe as possible.

4. "Firefly" campaign planning methodology

Analysing the process of timetabling the distribution on the entire territory of the Republic of Serbia the authors of the paper have come to a conclusion that there is a need, and also an opportunity to improve the FIRE-FLY campaign by the optimization of the time schedule of the events. It is for that purpose that the planning methodology to carry out this socially responsible campaign was developed and it consists of three phases:

1. Defining the scope of the campaign;
2. Coordinating the participants in the campaign;
3. Time schedule of the campaign.

Each of the methodology phases is characterised by a different nature of the problem that is being solved within it and the people engaged in solving the problem or can affect its resolution.

4.1. Defining the scope of the campaign

A strategic decision is made in the first phase on the time period and the cities covered by the campaign. This decision depends on the corporate goals that are to be achieved by the campaign, therefore the major role in this phase belongs to the top management of the company.

When making a decision on the time period in which the gadgets are to be distributed, we must bear in mind that the period has to be short enough so that all the first-form pupils should get the gadgets at approximately the same time, however, long enough so that the duration of the campaign is ensured and the desired effect is achieved. The ruling criterion in both cases is the communication effect of the campaign that is a requirement set already at the strategic level of decision making in the company. The duration may be set to a week (e.g., the week of the "firefly") or some other time period.

Since the campaign can be carried out only on work days, a set D can be defined on the basis of the period determined and it will represent the set of work days in the time period of the campaign, i.e., the set of terms in which the campaign can be carried out.

The number of cities in which the campaign is conducted depends on the Company's financial and organizational abilities. When this decision is made, it is possible to define a set of k cities: $A = \{A_1, A_2, ..., A_k\}$.

4.2. Coordinating the participants in the campaign

In the second phase it is necessary to coordinate all the participants of the campaign in a given city, that is de-fine the terms (days) in which they are all available. This phase is part of operations planning and the major impact upon the solution is made by the participants in the campaign in a given city themselves.

Formally speaking, coordinating can be described in the following way. The campaign is carried out in k cities ($i=1,...,k$) and there are m_i participants in each of them. Each of these participants is assigned a set D_{il}, $D_{il} \subset D$ ($i=1,...,n$, $l=1,...,m_i$) which represents the set of terms in which the participant is available. In order that the campaign should be organized in the i-city, it is necessary that all the m_i participants are coordinated, that is, it is necessary to find the set of terms in which they are all available. Formally, it is necessary that the set

$$D_i = \bigcap_{l=1}^{m_i} D_{il}$$ should be defined.

The result of the second phase is the set D_i, $i=1,...,k$, which defines a set of terms in which the "firefly" distribution can be organized in the i-city ($i=1,...,k$).

4.3. Time schedule of the campaign

In the third phase it is necessary that a concrete time schedule be created in which two goals should be achieved: continuity and uniformity in the conduct of the campaign. We will procede to describe the formal definition of the set goals.

4.3.1. Continuity of the campaign

The continual character of the campaign is reflected in the fact that the "firefly" are distributed in the cities in a relatively equal time intervals in order that the company be permanently present in the media, i.e., that it is reported on continually. Let n be a number of elements of the set D, that is, the number of work days in which the campaign can be conducted, and let r be the parametre that represents the desired time interval between two distributions. The continuity can be formally expressed by the requirement that the time interval between two distributions be at the most:

$$r = \left\{ \begin{array}{ll} \left\lfloor \dfrac{n-1}{k-1} \right\rfloor & \text{for } n > k \\ 0 & \text{for } n \leq k \end{array} \right\} \tag{1}$$

On the basis of (1) a conclusion can be drawn that the distribution will be organized in an interval not longer than the largest integer (number) that is smaller or equal to $\dfrac{n-1}{k-1}$ in case the number of days planned to conduct the campaign n is larger than the number of cities k, that is, each day (even more distributions in the same day) when n is smaller than k.

The first problem to be solved here is to determine a different time term for each of k cities, that is, determine the different elements of the sets of possible terms for the "firefly" distribution in each of the cities, D_i, $i=1,...,k$. This problem, known as the *system of distinct representatives* – SDR, [16] and [17] is defined in different ways. Here it will be defined in accordance with the concrete problem of defining the time schedule for the campaign. The SDR problem is modified by the requirement that, if possible, the difference between the representatives, or the time interval between two distributions be not more than r. This problem is analysed in [18], where it got its name, the *system of distinct representatives*.

In accordance with the above introduced notation, let y_1 be the term (date) in which the FIREFLY campaign will be carried out in the i-city, $y_i \in D_i$, $i=1,...,k$.

The condition of continuity can be written as follows:

$$|y_i - y_j| \geq r, \; i,j = 1,...,k, i \neq j \qquad (2)$$

In order to model the continuity requirement, it is necessary that $k(k-1)$ be introduced by binary variables . $\delta_{ij}, i,j = 1,...,k, i \neq j$

$$\delta_{ij} = \begin{cases} 1 & \text{if} & r \leq y_i - y_j \leq m \\ 0 & \text{if} & -m \leq y_i - y_j \leq -r \end{cases}$$

where m is the value that is always higher than $y_i - y_j$. In the problem of "firefly" distribution, the parametre m has a real interpretation and means a maximum time interval between two distributions. If timetabling is done for all of the n days, the value of the parametre m is $n-1$. This parametre, however, allows for defining the time schedule for a shorter period as well. If $m = q - 1$, $q < n$, then, in the observed period of n days, with the respective values of the parametres r and p (see the subtitle below) the timetable for the period of q days will be obtained.

Now the condition that the campain should be carried out on a different day and in relatively equal time intervals can be written as follows:

$$y_i - y_j - m \cdot \delta_{ij} + r \cdot (1 - \delta_{ij}) \leq 0, \; i,j = 1,...,k, i \neq j, \quad (3)$$
$$y_i - y_j - r \cdot \delta_{ij} + m \cdot (1 - \delta_{ij}) \geq 0, \; i,j = 1,...,k, i \neq j, \quad (4)$$

Since the variable is the term (date) on which the campaign will be carried out in the i-city, it is possible to define the arrangement between certain cities. Thus, for example, the condition $y_3 \leq y_7$ means that the distri-

bution in the city number 7 cannot be arranged before the distribution in the city number 3 is completed.

4.3.2. Uniformity of the campaign

The uniformity is seen in approximately equal number of distributions per term (day) if the initial parametres are such that a number of distributions can (have to) be organized in one day. This goal is set because of the condition of a uniform arrangement of organizational capacities. Let n be the number of elements of the set D, and let p be the parametre that represents the desired number of distributions in one day. The uniformity can formally be expressed by the requirement that the number of distributions in one day should not exceed:

$$p = \left\lceil \frac{k}{n} \right\rceil . \qquad (5)$$

On the basis of (5) a conclusion can be drawn that the largest number of "firefly" distributions in a city in one day can be scheduled in case the number of days n scheduled for the campaign is larger than the number of cities k, that is, in the largest number of p cities when the number of days n for the campaign is smaller than the number of cities k.

In order that the uniformity requirement should be modelled, it is necessary to introduce auxiliary binary variables x_{is}, $i = 1,...,k$, $s \in D$ [19]:

$$x_{is} = \begin{cases} 1 & \text{if distribution is organized} \\ & \text{in city } i \text{ on } s \text{ - day} \\ 0 & \text{else} \end{cases}$$

The condition of uniformity can now be written as follows:

$$\sum_{s \in D} x_{is} = 1, \; i = 1,...,k \qquad (6)$$
$$\sum_{i=1}^{k} x_{is} \leq p, \; s \in D \qquad (7)$$

The condition (6) ensures that the distribution is effected exactly once in each city, while the condition (7) ensures that the campaign is carried out in a uniform way.

5. Timetabling model formulation

The term plan of the FIREFLY campaign is meant to achieve two goals, as mentioned above. The success in achieving these goals depends on the ratio between the number of days n scheduled for the campaign and the number of cities k, as well as on the available terms in the cities (D_i, $i=1,...,k$). The FIREFLY campaign, how-

ever, will be carried out even if it is not possible to achieve the goals entirely, and even if the conditions (3), (4) and (7) cannot be satisfied. Hence the problem of timetabling will be modelled by the mathematical model of weighted goal programming (WGP) [20].

Prior to formulating the model it is necessary that additional parametres be introduced. In modelling continuity and uniformity two types of variables were introduced: the integer that represents the term (date) when the campaign will be organized in the i-city, and that denotes whether the distribution is in the city i on the day s or not. The relation that connects these two variables is:

$$y_i - \sum_{s \in D} s \cdot x_{is} = 0, \, i = 1,...,k \quad (8).$$

In the campain participants coordination phase, a set D_i is defined, the set of terms in which the "firefly" distribution can be organized in a i-city $(i=1,...,k)$. On the basis of all D_i, the parametre $a_{is}, \, i = 1,...,k, \, s \in D$ can be defined as follows:

$$a_{is} = \begin{cases} 1 & \text{if distribution is organized} \\ & \text{in } i\text{-city on } s\text{-day} \\ 0 & \text{else} \end{cases}$$

Now the condition that the "firefly" distribution can be organized in each city only on a day when it is possible can be expressed by the condition:

$$\sum_{s \in D} a_{is} x_{is} = 1, \, i = 1,...,k \quad (9)$$

On the basis of the already introduced parametres, goals and conditions, the following WGP model is formulated:

$$\min z = \sum_{i=1}^{k} \sum_{j=1, j \neq i}^{k} w_{ij}^{-} d_{ij}^{-} + \sum_{i=1}^{k} \sum_{j=1, j \neq i}^{k} w_{ij}^{+} d_{ij}^{+} + \sum_{s \in D} v_s^{+} d_s^{+}$$

p.o.

$$y_i - y_j - (n-1) \cdot \delta_{ij} + r \cdot (1 - \delta_{ij}) - d_{ij}^{+} \leq 0,$$
$$i, j = 1,...,k, \, i \neq j$$

$$y_i - y_j - r \cdot \delta_{ij} + (n-1) \cdot (1 - \delta_{ij}) + d_{ij}^{-} \geq 0,$$
$$i, j = 1,...,k, \, i \neq j$$

$$\sum_{i=1}^{k} x_{is} - d_s^{+} + d_s^{-} = p, \, s \in D \quad (21)$$

$$\sum_{s \in D} x_{is} = 1, \, i = 1,...,k$$

$$\sum_{s \in D} a_{is} x_{is} = 1, \, i = 1,...,k$$

$$y_i - \sum_{s \in D} s \cdot x_{is} = 0, \, i = 1,...,k$$

$$y_i \geq 0, \, i = 1,...,k$$

$$\delta_{ij} \in \{0,1\}, i, j = 1,...,k, \, i \neq j$$

$$x_{is} \in \{0,1\}, \, i = 1,...,k, \, s \in D$$

$$d_{ij}^{+}, d_{ij}^{-} \geq 0, \, i, j = 1,...,k, \, i \neq j, d_s^{+}, d_s^{-} \geq 0, \, s \in D$$

The function of the goal is the minimum deviation from the set goals (3), (4) and (7).

5.1. Optimization results

On the basis of the available data on the cities and the scope of the campaign, the plan was devised for the FIREFLY campaign to be carried out in ten cities in Serbia in 2010. September was the time period for the campaign and three possible scenarios were analysed:

1. Campaign is organized during the whole month;
2. Campaign is organized during the first two weeks in Septemper;
3. Campaign is organized in the last two weeks in September.

We contacted all the participants in the campaign and found out that all of them, with the exception of heads of school directorates, are always available. Given that the limiting factor is that of the heads of school directorates availability in the cities in which the FIREFLY campaign will be organized, the data were collected and systematized. The data shown in Table 1 were obtained in direct contacts:

Table 1. Availability of heads of school directorates

City	Days in the week
Valjevo	Friday
Zajecar	Tuesday and Wednesday
Zrenjanin	Monday
Jagodina	Wednesday and Thursday
Zvecan	Friday
Kragujevac	Wednesday
Krusevac	Wednesday
Nis	Monday, Wednesday and
Novi Sad	Monday and Tuesday
Pozarevac	Wednesday and Thursday

On the basis of the heads' availability criterion ,a date calendar was devised for September, when the campaign is possible to be organized in the chosen cities. Table 2 presents the table of input parametres that contains 21 work days. All holidays were left out, and so was the 1st September since on that day only the central celebration is held.

Table 2

Day No.	Date	Valjevo	Zajecar	Zrenjanin	Jagodina	Zvecan	Kragujevac	Krusevac	Nis	Novi Sad	Požarevac
1	2/09				1						1
2	3/09	1				1			1		
3	6/09			1					1	1	
4	7/09	1							1		
5	8/09	1		1		1	1	1		1	
6	9/09				1						1
7	10/09	1				1			1		
8	13/09		1						1	1	
9	14/09	1							1		
10	15/09	1		1		1	1	1		1	
11	16/09			1							1
12	17/09	1				1			1		
13	20/09		1						1	1	
14	21/09	1							1		
15	22/09	1		1		1	1	1		1	
16	23/09			1							1
17	24/09	1				1			1		
18	27/09		1						1	1	
19	28/09	1							1		
20	29/09	1		1		1	1	1		1	
21	30/09			1							1

The optimum time periods for the SVITAC distribution in the cities, for all three scenarios (Table 3), were obtained by applying the mathematical model of goal programming described in this paper. The values in the Table do not present the dates in September, but the ordinal number of the work day in September.

Table 3. Timetable of FIREFLY distribution

	Scenario 1	Scenario 2	Scenario 3
Valjevo	17	2	12
Zajecar	9	4	19
Zrenjanin	13	3	13
Jagodina	1	1	21
Zvecan	7	7	17
Kragujevac	15	5	20
Krusevac	5	10	15
Vranje	3	8	18
Nis	19	9	14
Novi Sad	11	6	16
Požarevac	17	2	12

Figure 1 presents the timetable of the 1st scenario by which the "fireflies" are distrubuted throughout September:
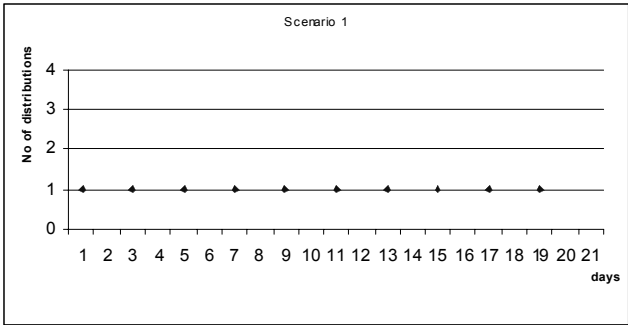

Figure 1. *Solution to 1st scenario*

Figure 2 presents the timetable of the 2nd and 3rd scenarios, the timetably by which the "fireflies" are distributed during the first (blue) or during the second (red) halves of September.
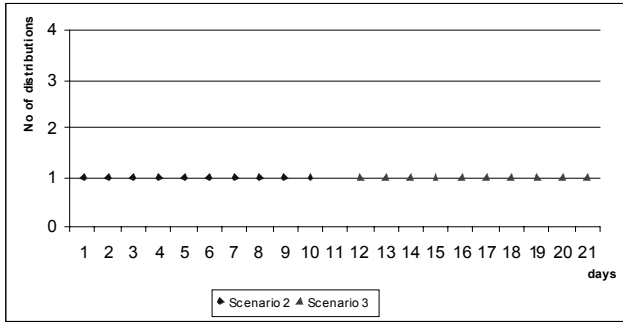

Figure 2. *Solutions to 2nd and 3rd scenarios*

Both goals are achieved by any of the thre scenarios: the continuity and the uniformity of the campaign. The selection of the scenario to be implemented depends on the communication strategy, or on the identified primary target group of the public, the availability of the media and the coverage of a concrete event.

6. Conclusion

The paper described the methodology of planning the execution of a socially responsible campaign FIREFLY, with a multiple special event. The scope of the campaign is planned to be defined on a strategic level; the executive level is responsible for the coordination of the participants in the campaign, and the operational level is in charge of creating the timetable of the campaign.

The problem of timetabling is modelled by the mathematical model of goal programming which minimizes the deviation from the goal: the continuity and the uniformity of the camaign set for this particular campaign.

On the basis of the devised WGP model it is possible to simulate different scenarios for the execution of the FIREFLY campaign, and these refer to the scope of the campaign (the number of cities and the time period of the whole campaign). The possibility of the model implementation is illustrated by the plans of distribution defined for 2010.

The model defines the optimum time schedule for the given input data, however, the precondition for the success of the campaign is that the goals are qualitatively set in advance, which is not possible to include in the model itself. That would ensure not only the efficiency, but also the effectiveness of the campaign. The concrete effects are reflected in the timing of the campaign, that is, linking the beginning of the campaign with the concrete social situation, the need to specify communication goals for a particular city or region, etc.

In their future work the authors will experiment with different methods and methodologies in solving a given model and explore the possibility of the model implementation in a broader field of integrated marketing communication and management event.

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