



ORGANIZATION OF MASS EVENTS - LOGISTIC APPROACH

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Abstract

The growing number of events that are qualified as mass events has become the basis for the creation of certain schemes/models enabling the proper and safe implementation of such projects. As a point of view, assuming that logistics is an important component of management, creating opportunities to implement management functions in accordance with the 7R concept. Thus, it can be the basis for considerations related to the organization of mass events.

The aim of the article is to present a logistic approach to the process of organizing a mass event in Polish conditions. It should be borne in mind that individual countries create their own regulations regarding mass events, the aim of which is to ensure safety for all participants of this type of undertaking and to minimize the negative impact on the environment. The subject of consideration are mass events that are not football games or sporting events. In addition to the classic elements of logistic processes, locational factors are also very important for the effectiveness and efficiency of operations. The use of a logistic approach is related to the development of a flowchart. The presented questions path, which is a component of the decision-making process, allows, using a decision tree, to organize processes and activities and to make a decision regarding the notification of a given undertaking as a mass event. This decision has significant consequences regarding submission to legal, administrative and organizational regulations resulting from it, which thus affect the shape of logistic processes.

The article was based on the analysis of documents and case study, as well as participant observation and interviews. Performing by the authors of organizational functions as part of mass events and undertakings of the nature of mass artistic and entertainment events was an important contribution to the writing of the article.

Keywords: Logistic processes, mass events, decision-making process

1. INTRODUCTION

Events are actions or performances by people within certain contexts shaped by their environment [1]. Infrequent participatory celebrations with a socio-cultural focus, where two or more communities cooperate to link festivity with sport, cultural diversity and the wider community to achieve positive social development. Such positive event impacts add to the improvement of general living conditions in communities and to an increases in people's quality of life [2]. The growing number of occasions classified as mass events has given an incentive to create certain schemata or models which will enable the proper and safe conduct of such enterprises. Empirical observation also enables the identification of a dangerous phenomenon of a growth in the number of events which despite their mass character are not governed by laws regulating mass events. This allows their organizers to disregard standards which create safe conditions, and which is often seen as a cost-cutting measure. The aim of the regulations now in force is to create conditions to ensure the organization and realization of events which are safe for their participants and the surrounding environment. Regardless of whether a given enterprise is officially recognized as a mass event, this phenomenon should be examined from the perspective of logistical processes which enable not only for achieving effectiveness but also



delivering proper quality. Assuming that, the mission of logistics management is to plan and coordinate all those activities necessary to achieve desired levels of delivered service and quality at lowest possible cost [3]. From the perspective taken from this examination, logistics is an important component of the management, which creates conditions for the implementation of the function of management in accordance with the 7R [4] concept, which denotes access to the right product (commodity or service) in the right place, at the right time, in the right quantity and quality dedicated to the right client at the right cost.

The aim of this article is to present the logistical approach to the process of organization of mass events in Polish conditions. The basic element conditioning the organization of mass events and making appropriate decisions in this area, are legal and formal regulations as a determinant of the process environment. The authors focused on the use of two tools (decision tree and question path) that support the decision process, affecting the ability to determine the parameters of 7R. Although each country has its own specific regulations and conditions for the organization of events, the tools proposed in the article, adjusted for local conditions, can be an approach with a high degree of universality. In particular, the use of the decision tree and the "questions path" created in the empirical way, constitute a significant support for such challenges.

The examined subject includes all mass events which are not football matches or other sports events. Because of their characteristics, football matches require a modified approach resulting from the need to meet higher security standards and conform to additional legal and administrative regulations. Dissimilarity of other sports events results from their goals and the character of their participants, entities accompanying them, spectators, and regulations created by sports associations both on national and international levels. It should be noted that different countries introduce their own regulations concerning mass events in order to provide security to all participants of these enterprises and minimizing their negative impact on their environments.

The article is based on the critical analysis of documents and case studies, and on observation of participants (unstructured observation and participant observation) and interviews. Particular attention has been paid to legal regulations now in force. An important contribution to writing this article was the authors' performance of organizational duties in mass arts and entertainment events and enterprises having the character of mass events. The article was created as part of research related to the project "International Logistics - Dilemmas and Challenges of Civil and Military Systems in the 21st Century" carried out at the general Tadeusz Kosciuszko Military University of Land Forces Wrocław.

2. FORMAL AND LEGAL REGULATIONS GOVERNING MASS EVENTS IN POLAND

The political and legal dimension of the environment refers to the state regulation of economic activity and relations between the spheres of the economy and the state [5]. In particular, the legal system defines the framework for the operation of entities and the processes they implement. Formal and legal regulations concerning mass events in Poland are governed primarily by the Act on mass events security [6], which in its Art. 3 defines a mass event as 'a mass arts and entertainment event or a mass sports event, including a football match [6].' A mass arts and entertainment event is defined by the same Act as 'an event of artistic or entertaining nature or as an organised public projection of television broadcast with the use of screens or devices allowing to project images with a diagonal over 3 metres.' The legislator also introduced a quantitative threshold for qualification of an enterprise as a mass event in relation to the number of places made available by the organizer in accordance with the building code [7]. An important element is also the identification of the term 'increased risk mass event,' defined as a 'a mass event during which according to the information about predicted threats or to the previous experiences involving participants' behaviour there is a risk that acts of violence or aggression might occur [6]. In the light of the binding regulations, qualification of a mass event as an increased risk mass event entails the need to meet tighter restrictions and more stringent regulations regarding security and control. Another important document, besides the Act on mass events security, is the European Cultural Convention adopted in Paris on 19 December 1954 [8], which specifies, inter alia, the framework for international cooperation in the field of organization of artistic and entertainment events.

Poland is a signatory to Convention on an Integrated Safety, Security and Service Approach at Football Matches and Other Sports Events [9]. In accordance with Article 2 of this Convention, its 'Parties shall adopt an integrated, multi-agency and balanced approach towards safety, security and service, based upon an ethos of effective local, national and international partnerships and co-operation.' Its particularly important element is multi-agency, integrated approach ensuring that all activities 'must be co-ordinated, complementary, proportionate and designed and implemented as part of a comprehensive safety, security and service strategy [9].

Apart from the abovementioned acts, the following laws are also essential in the context of providing proper organization and security of mass events in Poland:

- Law on Protection of Persons and Property [10];
- Administrative procedure code [11];
- Act on Maintenance of Cleanliness And Order in Municipalities [12];
- Building Code Act [7];
- Act on Fire Protection [13];
- Ordinance of the Minister of the Interior and Administration on the scope of fire and emergency instructions for mass events [14];
- Ordinance of the Minister of the Interior and Administration on recording mass events [15];
- Ordinance of the Minister of the Interior and Administration on conditions at stadiums permitting organization of football matches [16];
- Ordinance of the Minister of the Interior and Administration of August 30, 2011 on requirements to be met by the manager for security, security services and information services [17].

3. DECISION TREE

Decision trees are sequential models, which logically combine a sequence of simple tests; each test compares a numeric attribute against a threshold value or a nominal attribute against a set of possible values [18]. Decision tree methodology is a commonly used data mining method for establishing classification systems based on multiple covariates or for developing prediction algorithms for a target variable. This method classifies a population into branch-like segments that construct an inverted tree with a root node, internal nodes, and leaf nodes [19]. The use of the decision tree concept is a tool which identifies the conditions for making a decision concerning qualification of an event as a mass event. According to regulations currently in force, regardless of whether a given enterprise is qualified as a mass event or not (excluding private events), it must be organized in accordance with binding legal and administrative regulations. However, classifying an event as a mass event brings about numerous consequences, resulting mainly from the need to conform to all regulations in the area of safety. This decision implies the need to meet restrictions in the areas of time, quality (standards, certificates, confirmations of quality and licenses), and documentation. This influences the number of entities involved (including individuals and the characteristics of cooperating and supervising entities), transfers (of information, material and financial resources, and people), as well as costs.

Figure 1 presents a decision tree that helps determine if a given event should be implemented in accordance with regulations regarding mass events. A key factor in deciding whether an event can be classified as a mass event is the number of its participants per given type of venue. A mass event is an event organized at a stadium or on another site which is not a building if the number of places offered by the organizers exceeds 1,000. In case of an event taking place in a sports hall or other building the number of participants qualifying it as a mass event is 500. Nonetheless, in accordance with Art. 3 of the Act on mass events security [6] the restrictions do not apply to events organized in theatres, opera and operetta houses, philharmonic halls, cinemas, museums, libraries, community centres and art galleries or other similar venues. Neither are these restrictions binding for events organised in schools and other educational institutions by their managing bodies or events organised



as a part of sports competition of children and young people or for disabled athletes. Also, popular sport in the form of physical recreation generally accessible and free of charge, organized in open spaces is free from these restrictions. The last group of exemptions includes closed events organised by employers for their employees. The condition for this exemption is compliance of the event with the intended use of the venue or site where the event is to be held. An increased risk event is classified as a mass event if the number of places made available by the organiser is 300 for stadiums or other venues not being buildings, or 200 for sports halls or other buildings. Sale of alcoholic beverages is strictly forbidden at increased risk mass events.

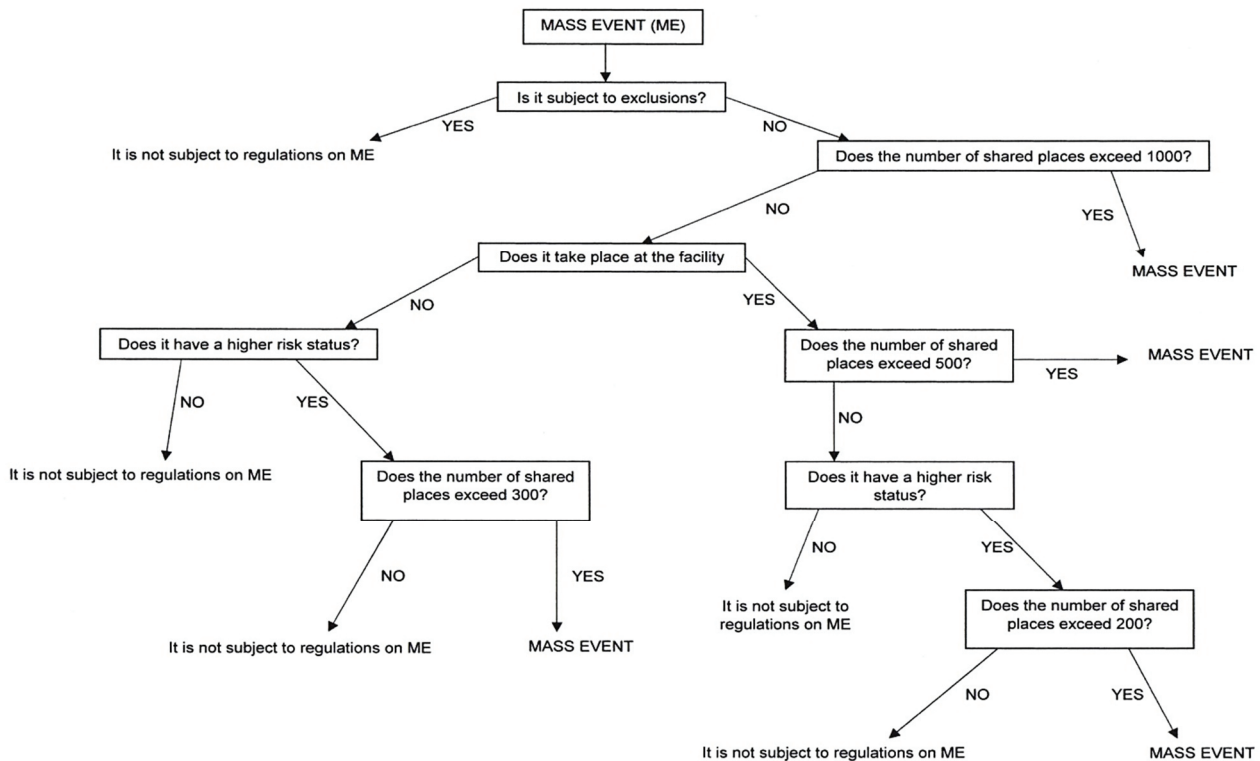


Figure 1 Decision tree for mass event [own study]

The basic consequence influencing costs and organization is the necessity of providing the sufficient numbers of information and security personnel and their supervisors (including the Security Manager). Members of security personnel must have qualifications confirmed by an entry into the register of qualified physical security workers [10]. The number of members of respective security services is dictated by the type of event, the number of participants, classification as an increased risk event, and the right to sell alcoholic beverages. All staff members should be marked and easily identifiable as such by the event participants, which is one of the organiser's duties and also influences costs. Sales of alcoholic beverages are allowed if these contain no more than 3.5 % of alcohol and are not sold in hard containers. These sales entail an increase in the numbers of security services personnel.

Apart from the obligation to meet security requirements specified in the Act [6], organization of an event classified as a mass event involves providing the proper medical assistance and sanitary conditions as defined in ordinances of pertaining ministers. The numbers in these areas are ruled by the same parameters which dictate the types of information and security services and the numbers of their personnel. In case of sales of alcoholic beverages the numbers of sanitary facilities must be increased.

Another important element is the organizer's duty to record the mass event, which will produce evidence for criminal proceedings in such cases as disturbances of public order. Equipment used for this purpose must

record images and sound in accordance with the standard established by the heads of the pertaining units of the Police and National Fire Service.

4. QUESTIONS PATH

This discussion is presented from the perspective of an organizer of a mass event. Planned events are spatial-temporal phenomenon, and each is unique because of interactions among the setting, people, and management systems-including design elements and the program [20]. The following “questions path” is a set of consecutive questions and allows for the identification of most determinants of organization of such an enterprise. Providing true and accurate answers is a precondition of its effectiveness. Numerous cases of feedback are to be expected. Answering a new question on the list may bring about the need to verify information given in previous replies.

1) What is the goal?

The basic question concerns the goals of an event. They should be examined on two levels. Firstly: what is the declared goal? Secondly: what is the actual goal? In practice, discrepancies at these levels are very common. The higher the level of formalization of the organizer or its establishment as a business operation, the bigger are the differences between groups of goals. In case of an organizer who is not a business entity, such as a group of friends, both levels of goals tend to converge (these goals may include social integration, providing aid or information and disseminating an idea). In such situations the declared and actual goals are one. In case of business entities, however, the variance is much higher. Goals related to making financial or nonfinancial profit (the latter may include brand promotion, change of image or change of perception by the public) are present there. The existence of a divergence is not an element of moral judgment. It forms the basis for establishing a hierarchy of goals, which will effect certain strategic and logistical consequences. In particular, it will influence parameters concerning the notion of ‘right’ with respect to: a client, a product or service, time and place, quality and quantity, and cost. It should be accompanied by establishing indicators of achieving goals set.

The first question is: for whom? The answer to this question enables the identification of a client, who will determine the tools (their choice) used to accomplish the goal and will primarily guarantee coverage of the costs. The clients will also verify and assess the product (or service). Their needs will dictate its parameters, its quality level and its final cost. They are also instrumental with respect to dates and special-temporal schedule of realization of the enterprise. The clients will also influence the timeframe and time limits of the organization of the event. The client’s decision will dictate who will participate in the event and on what conditions. To a large extent they will also decide on the final shape of the network of cooperating entities, with the exception of the entities imposed by the legislator.

The second question is: Who can participate? Those who have the right to participate can be divided into the following groups: persons the event is dedicated to, its so-called main participants; spectators; accompanying persons; performers; organizers; staff (technical, information, finance and administrative personnel); security and information services; as well as external entities ensuring the proper course of the event and controlling institutions (national police, municipal police, fire service, rescue service, sanitary-epidemiological station, revenue service, etc.). In the light of Art. 5 of the Convention [9] the organizers are obliged to provide proper conditions for participants, spectators and entities in the vicinity of the event. Factors important from a logistical perspective include the obligations to ensure not only proper passages allowing entry to and exit from the venue, but also the obligation to prepare emergency and crisis response plans as well as test and improve these plans. Therefore it is important to cooperate with entities which have vast experience and the necessary authorization. With respect to security and information services as well as staff, employment of personnel with adequate qualifications, skills and experience is as important as quantitative considerations.

The third question is: Where? Art. 3, item 14 of the Act [6] defines the site allowed to hold such a mass event. It is a separate properly marked open space site which is compliant with hygienic and sanitary conditions specified by legal requirements and has infrastructure ensuring secure organisation of a mass event, and in the case of which in order to specify the number of people to be admitted a ratio of 0.5m² per person is used. It is especially important that temporary venues are properly located and meet requirements [14]. These include: the proper distances between venues, maintenance of proper conditions for evacuation, documentation of required fire resistance of materials and products, meeting requirements concerning wiring, heating systems etc.

The fourth question is: According to what rules? The general formal and legal framework is determined by statutory regulations and administrative decisions. Conducting logistical processes is directly influenced by the contents of the application for organizing a mass event and documents accompanying it [6]. In order to organize a mass event, the organizer must 'file to the Authority an application for granting a permit to organize a mass event not later than 30 days prior to the planned date of its commencement.' The organizer must also apply for the issue of opinion on meeting requirements for the organization of a mass event to the following locally competent bodies: chief of county (regional or municipal) Police and chief of county (municipal) State Fire Service, emergency medical dispatcher and state sanitary inspector [21]. The organizer attaches to the application the programme and the mass event regulations together with information on how these documents on how they are going to be made available to the participants of the mass event. Security considerations also necessitate preparing instructions defining the tasks of the security and information services, and methods of communication between entities providing security to the mass event. A graphic plan of the site of the planned mass event is particularly important for creating its infrastructure. The following should be marked on this document:

- access and exit routes for participants, evacuation routes and access routes for emergency services and Police vehicles;
- the locations of: medical aid posts, points of access to water and to information; fire hydrants, valves, water, gas and electricity supply lines; food and beverages stands and toilets;
- arrangement of security and information services and means of communication between entities providing security for the mass event;
- parking places for the participants' vehicles and parking places for service and emergency vehicles.

The fifth question is: What resources? Lack of assessment of the quantity, quality and disposition of those resources in the vicinity which may influence logistical processes is a basic logistical hazard in organization of mass events. Logistics of mass events is not concerned merely with physical goods and information assets but also with people. They are the consumers, the participants of logistical processes, or the creators of logistical systems. Movements and size of the human element, therefore, constitute an important element of analyses connected with the organization of mass events. The numbers of people participating in a given event is the basis for classifying it as an operation bound by restrictions imposed on mass events. Providing food for a great number of people at temporary catering points is a great challenge. The epidemiological hazard on the site of such an event needs to be emphasized. Additionally, waste disposal and maintenance of washing facilities and toilets require permanent control and supervision.

The sixth question is: Who to cooperate with? Security of the participants of mass events is above all the responsibility of the Police force. In particular, it is a duty of the Police to provide security and maintain order in the area where the event is taking place, and especially securing the access and exit routes, prevention of public order offences including fights, assaults and battery and other violations of the law and public outrage. Municipal or regional services which the organizer cooperates with are also responsible for the surrounding area. Correct cooperation between the security and information services and the Police translates into increasing safety of the participants of mass events. Proper preparation of security and information services, effectiveness of Police work, adequate infrastructure and modern monitoring system influence the

effectiveness of preventive measures and allow for the quick identification of perpetrators. The organizer and the dedicated services share the duty of securing a mass event with the local authorities. The organizer of an event is liable for the damage connected with it. Therefore in case of an event where admission is paid, the organizer is obliged to conclude a civil liability insurance agreement for damages to event participants. In order to reinforce safety conditions, it is necessary to begin cooperation with locally competent fire and rescue services. Also, it is important to state what additional elements (attractions, services, accompanying events) should and can be included in the main event. In consequence, decisions must be made about the choice of entities providing these elements, and about the rules of cooperating with them.

In addition to general planning activities, it is important to observe aspects regarding information transparency, documentation and controlling possibilities and the exchange and storage of information in order to guarantee comprehensive support for all of the activities and participants in the entire event management process [22]. Answering the above questions allows to properly prepare the organization of a mass event. The difficulty is that events are never the same.

5. CONCLUSION

Organizing a mass event poses a massive strategic and logistical challenge. Its important element is recognition of organizational and legal conditions which are decisive in classifying an enterprise as a mass event of a particular character, and also influence the resources and their transfers in the entire system of the event. The decision tree presented in this article facilitates classifying an enterprise and indicating the consequences of this classification. The question path presented here allows identification of logistical processes and their elements with the inclusion of the 7R concept as the foundation for this particular logistical approach. The presented issues form the basis for further research into logistical processes in the analysed area and will be systematically developed in their course.

REFERENCES

- [1] ATKINSON, Joshua D. *Journey into Social Activism: Qualitative Approaches* Fordham University, series: Donald McGannon Communication Research Center's Everett C.Parker Book Series, 2017. p. 152
- [2] SCHULENKORF, Nico. An ex ante framework for the strategic study of social utility of sport events In: *International Journal of Tourism and Hospitality Research*, 2009, Vol. 9, No 2, pp.120-131
- [3] CHRISTOPHER, Marti. *Logistics and supply chain management. Strategies for reducing cost and improving service*. London: Prentice Hall, 1998. p.13
- [4] SWAMIDASS, P.M. Seven "Rights" Of Logistics. In: *Encyclopedia of Production and Manufacturing Management*. Boston: Springer, 2000. [viewed 2019-01-25]. Available from: https://link.springer.com/referenceworkentry/10.1007%2F1-4020-0612-8_871#howtocite
- [5] GRIFFIN, Ricky W. *Management*. Warszawa: PWN, 2017. p. 82
- [6] Act of 20 March 2009 on mass events security, Dz. U. of 21 April 2009, No. 62, item 504, as amended.
- [7] Ustawa Prawo budowlane z dnia 7 lipca 1994 r. Dz.U.1994, No 89, item 414, as ammended.
- [8] European Cultural Convention, Paris, 19/12/1954 , Dz.U. 1990 No. 8, item 44, as ammended.
- [9] Convention on an Integrated Safety, Security and Service Approach at Football Matches and Other Sports Events, adopted by the Committee of Ministers of the Council of Europe on 4 May 2016, Dz. U. of 14 Nov 2017, item 2099.
- [10] Ustawa o ochronie osób i mienia z dnia 22 sierpnia 1997 r. Dz.U. 1997, No 114, item 740, as ammended.
- [11] Ustawa Kodeks postępowania administracyjnego z dnia 14 czerwca 1960r. / Obwieszczenie Marszałka Sejmu Rzeczypospolitej Polskiej z dnia 8 czerwca 2017 r. w sprawie ogłoszenia jednolitego tekstu ustawy - Kodeks postępowania administracyjnego Dz.U. 2017, item 1257, as ammended.
- [12] Ustawa o utrzymaniu czystości i porządku w gminach z dnia 13 września 1996 r., Dz. U. 1999r No 132 item 622, as ammended.



- [13] Ustawa o ochronie przeciwpożarowej z dnia 24 sierpnia 1991 r. Dz. U. 1991, No 31, item 351, as ammended.
- [14] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji w sprawie zakresu instrukcji postępowania w przypadku powstania pożaru lub innego miejscowego zagrożenia w miejscu i czasie imprezy masowej z dnia 13 sierpnia 2009 r. Dz.U. z 2009, No 135, item 1113, as ammended.
- [15] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji w sprawie sposobu utrwalania przebiegu imprezy masowej z dnia 10 stycznia 2011 r. Dz.U. z 2011, Nr 16, item 73, as ammended.
- [16] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji w sprawie warunków bezpieczeństwa, jakie powinny spełniać stadiony, na których mogą odbywać się mecze piłki nożnej z dnia 10 czerwca 2010 r. Dz.U. 2010, No 121, item 820, as ammended.
- [17] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji w sprawie wymogów jakie powinien spełniać kierownik do spraw bezpieczeństwa, służby porządkowej i służby informacyjnej z dnia 30 sierpnia 2011 Dz.U. 2011, No 183, item 1087, as ammended.
- [18] KOTSIANTIS, S. B. Decision Trees: A Recent Overview. In: Artificial Intelligence Review. Springer, April 2013, Volume 39, Issue 4, pp. 261-283
- [19] SONG, Yan-yan and LU, Ying. Decision tree methods: applications for classification and prediction In: Journal List, Shanghai Arch Psychiatry. April 2015v.27(2), pp.130-135 [viewed 2019-01-25]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4466856/>
- [20] GETZ Donald. Event tourism: Definition, evolution and research IN: *Tourism Management*. 29 (2008), pp.403-428 [viewed 2019-01-25]. Available from: <https://pdfs.semanticscholar.org/7867/d2fcbe661f403f7a533d0a470c7b6eae82c1.pdf>
- [21] Rozporządzenie Ministra Zdrowia w sprawie minimalnych wymagań dotyczących zabezpieczenia pod względem medycznym imprezy masowej z dnia 6 lutego 2012, Dz.U. 12.0.181 z dnia 17 lutego 2012 r., as ammended.
- [22] THOMAS, Oliver, HERMES, Bettina, LOOS, Peter, Reference Model-Based Event Management, *International Journal of Event Management Research*. Volume 4, Number 1, 2008 pp. 38-57