

**Golovaty R.R.**

*Postgraduate student*

*Lviv State University of Life Safety*

*Ukraine*

## **SAFETY MANAGEMENT IN PROJECTS OF CREATION THE SHOPPING MALLS**

*Abstract: In this paper are analyzed trends and the current state of identification the hazards in terms of congestion of shopping malls. The model of project environment in projects of improving the life safety in shopping malls and topological model of increasing the life safety of project at the objects of shopping malls are proposed.*

*Keywords: shopping mall, security-oriented approach, topological model.*

### **Introduction**

Life safety of shopping malls – one of the most urgent problems of modern cities, because the current state of society development shows a growing tendency for exploitation the objects of critical infrastructure. Appears a large number of new facilities of various types that are targeted to a higher standard of functioning that became the result of optimization the legislation, improvement of financial sources and significant advantages in updated technologies of construction the buildings and structures [1]. Ensuring the conditions of life safety of visitors (spectators) in objects of critical infrastructure is achieved through the provision of emergency situations appearance based on the use of innovative mechanisms to manage the security of objects with mass stay of people [2,3]. In the shopping malls (SM) are always presented a large crowd of people, workers, staff and visitors. Therefore in conditions of modern industrialization in cities is raising the question of providing a stable system of SM exploitation, which consists of the proper organization of security settings.

### **Main part**

The modern shopping center (mall) – is a complex organizational-technical system, with mass stay of people, business processes that typically includes the domestic service companies [4].

As a rule SM consists of several areas:

- Zone of trade rows;
- Zone of shops;
- Zone of entertainment facilities;

- Zone of cafes and restaurants;
- Game zone and cinema;

Additional part of SM consists of a warehouses, residential and office rooms, premises for the security services, and others.

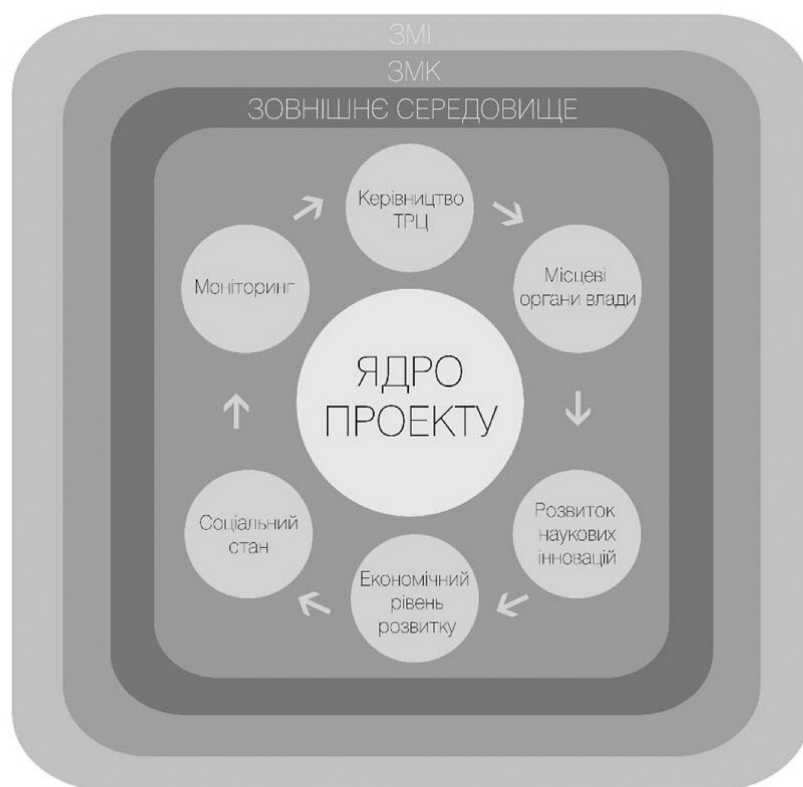
In EU, the USA, China and other countries are realizing the projects and programs of ensuring not only the life safety of OMSP (objects with mass stay of people), but a comfort of objects [5,6]. Developing the security systems of shopping mall, we must establish a mechanism that will allow for object's owner to get the maximum benefit (profit) from investment. Particularly are developing the concepts for the reliable functioning of systems that in case of unfavorable conditions may lead to significant human and material losses: fire safety, anti-terrorist security [5], security of buildings and constructions and others.

On the basis of foreign experience can be created a project environment for our project's model that will include a core of the project, part of which is monitoring the security of the shopping mall, social and physiological status of the population, economical level of shopping mall development and their regional location, the development of scientific innovations in the field of construction and IT technologies, foresight of companies management and local authorities (Img. 1).

In general, the internal environment of the project includes such components as:

- project management style (*characterized by psychological atmosphere in the team, which affects the efficiency and creativity of the project team*);
- project organization (*characterized by the ratio between the project participants, distribution of rights and responsibilities, which in turn affects the success of the project*);
- economic conditions (*which are closely related to the budget of the project, all prices, tariffs and taxes, management of safety components and the system of benefits and penalties*);
- social conditions (*defined by providing the standard living conditions for all participants who are involved in the project; this includes the provision of social conditions, provide the salaries, vacation, etc.*);

To the external environment of project improvement of life safety of SM are owned economic and political conditions in which the project will be implemented. Project manager has is little opportunity to influence to the external environment of the project, because it is actually a system of constraints that the project manager should monitor and take into account all of its influence to reach the success of the project. Each project has limitations in the form the external environment. The main component which has an impact on the external environment of the project is state policy, including government regulation of all aspects concerning the investment attractiveness of production processes, tax incentives and financial regulation.



**Img. 1. Model of project environment in projects of improvement the life safety of shopping malls**

Having regard to the concept of a Development Program of Ukraine [7], we can confidently say that the state through the implementation of reforms only wants to promote the successful implementation of projects, including projects in the field of civil protection.

Regarding to mass media (MM) and communication (MMC), they are not only an important part of the internal environment of the project team, which determines the probability, speed and completeness of information exchange between all stakeholders. Mass communication is also a process of disseminating the information among the press, television, radio and internet audience on progress or problems of the project realization.

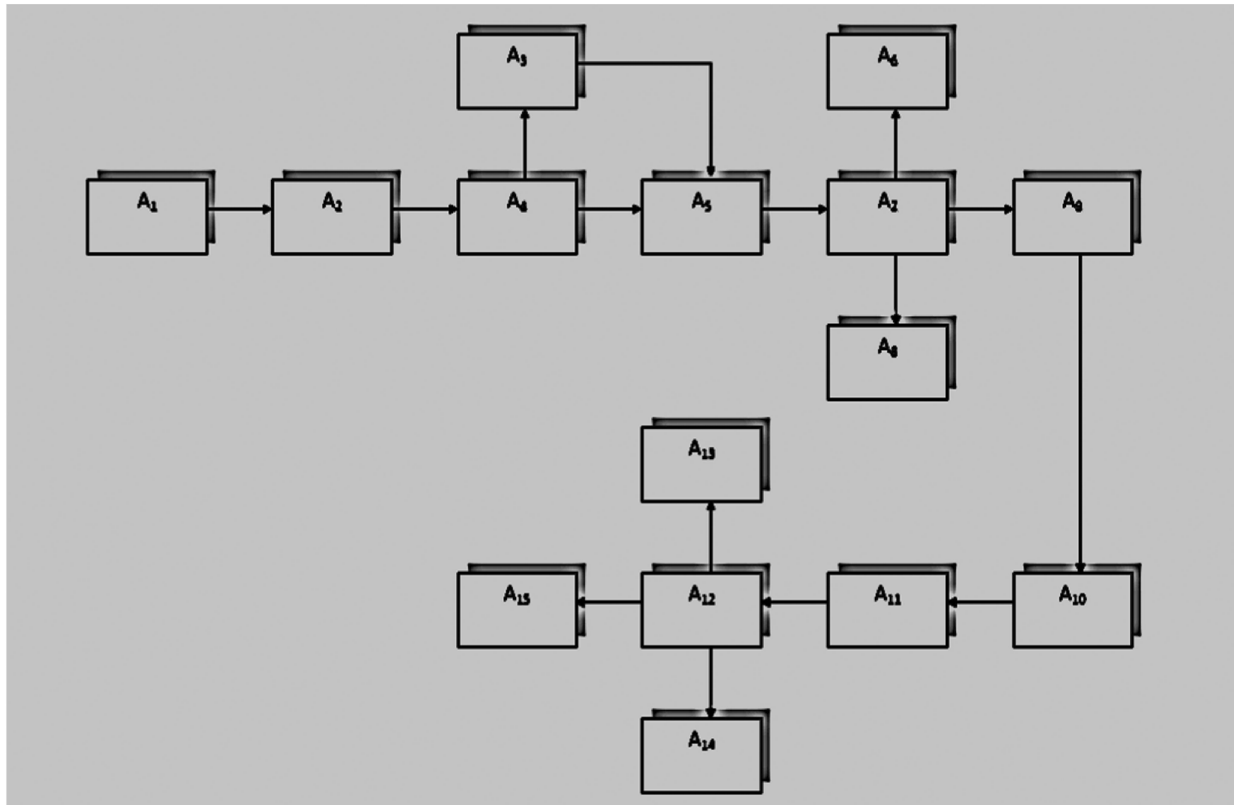
To the means of mass communication in the life safety projects belong special transmitters and channels through which are spread information messages throughout the region.

Building of the project environment of improving the life safety of shopping malls allows determining the factors that have an impact to the project. This allows increasing the quality of project implementation through the clear review and analysis of the environment in which the project is developed.

In the project of shopping malls life safety during designing the project activities it is necessary to analyze all stages of project's topology production line to identify the violations of the continuity of project implementation; this approach minimizes risks, financial overruns, as well as assessing the impact of the turbulence to the external environment. Can be regulated the procurement performance of project and calculate the time complexity of implementation. The analysis of technological chain of the project is identified in two ways:

- uterine function of calculation zones of accumulation the information that is a hindrance of SM project life safety;
- combined diagram of evident information about problem areas in the implementation of projects of OMSP.

In this project arose the time complexity at the stages of implementation, that's why with application of new technologies and communications we can reduce time at problem areas of this project.



**Img. 2. Topological model of project increasing the life safety at the objects of SM.**

To initiation phase refers the regional target program of security ensure at the objects with mass stay of people. This program is a portfolio of projects. One of the projects is to increase the life safety at the objects of SM.

To the next phase are included the works associated with the planning of our project. This introduction of reporting and monitoring the system for the project ( $A_3$ ), the development of project plan ( $A_4$ ), identification of possible risks ( $A_5$ ), resource planning ( $A_6$ ), quality ( $A_7$ ) and goals ( $A_8$ ). Completion the planning phase is the formation of project estimates ( $A_9$ ).

Implementation phase includes delivery of resources ( $A_{10}$ ), processing the level of SM security by scientists and leading programmers in the field of life safety ( $A_{11}$ ), software development ( $A_{12}$ ), which includes information security, economic security and imitation the processes of evacuation out of mall, implementing a model of the

project on the basis of research scientists ( $A_{13}$ ) and determining the structure of model of SM project life safety ( $A_{14}$ ).

Completion phase includes the result of development the model of project – enhancing the level of life safety of shopping malls and ensuring a comfortable stay level of visitors inside. ( $A_{15}$ )

It was analyzed and identified the bottlenecks, they are blocks  $A_{10}$  – delivery of resources,  $A_{11}$  – processing the security level of shopping mall by leading scientists and programmers in the field of life safety,  $A_{12}$  – software development.

### Conclusions

From the conducted research we can state the following implementation of project-organizational management of projects of SESM (safe exploitation of shopping malls) based on modeling the processes of life safety, ensuring the improvement of life safety for premises of closed type with mass stay of people. Received the following results:

1. Developed the model of project environment in projects of improvement the life safety of shopping malls to ensure the effective functioning of the unified triad concept of project management: time, quality of the project and the resources available to perform the tasks.

2. Proposed the topological model of the project of increasing the life safety at the SM objects.

### References

1. Vorobiev Yu.L. Security problem in buildings with mass stay of people [electronic resource] / Yu.L. Vorobiev, N.P. Kopylov;
2. Rak Yu.P. Ensuring conditions of fire safety during exploitation of sports and entertainment facilities at the conceptual stage of the project life cycle [electronic resource] / Yu.P. Rak, O.B. Zachko, A.I. Ivanusa;
3. Nozhenkova, L.F. Problems of building the management systems of decision-making support at occurrence the risks of fire safety at the objects of science and education / L.F. Nozhenkova.
4. Marketing, Shopping Center. «ICSC-International Council of Shopping Centers.»New York (2001) ;
5. Kajakin V.V. Estimating the probability and the risk of terrorist attacks at a hydraulic engineering structures/ V.V. Kajakin // Hydraulic engineering building 4 / V.V. Kajakin, 2009. – pp. 15-18;
6. Ivanusa A.I. Project management approaches of safe people evacuation from the stadiums in emergency situations / A.I. Ivanusa, Yu.P. Rak // Eastern European Journal of Advanced Technologies. – 2013. – №1 / 10 (61). – Part 3. – pp. 145-147;
7. Decree of the President of Ukraine from June 25, 2013 №344 / 2013 «About the National Strategy for Development the Education in Ukraine for the period until 2021».