

Risk analysis of the soft targets according to the methodology

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Abstract The article deals with the fact that religiously motivated terrorism has become more common in Europe, and more than 50% of the attacks have been focused on so-called Soft Targets. The purpose of this paper is to make a risk analysis of a particular Soft Target by the Ministry of the Interior methodology. The Tax Office of the Zlin region was chosen as a Soft Target. Auxiliary tables – Likelihood and Impact are necessary for this methodology. Performing an attack, Place of attack, and Time of attack are very important too. The Degree of Threat is determined as the product of Total Likelihood and Total Impact. Risk analysis shows that the highest risk factor is the possibility of a bomb attack that could happen inside the building during the daily working time. The risk analysis should help to find weaknesses of the soft targets, and the security managers should take precautions to reduce the risk.

1 Introduction

In recent years, religiously motivated terrorist attacks have become more common in Europe [1]. More than 50% of the attacks have been focused on so-called Soft Targets [2]. Soft Targets are places with a high concentration of people and low or no security measures against terrorism. For example:

- school facilities,
- theatres and cinemas,
- churches and church monuments,
- school facilities,
- canteens, libraries,
- hotels,
- bars, clubs,
- sport halls,
- religious monuments,
- train and bus stations,
- shopping malls [2,3,4,5].

On the other hand, so-called hard targets are crowded places with high-security measures against terrorism. For example, military facilities or government facilities [6,7].

Figure 1 shows that the number of religiously motivated terrorist attacks in the EU is increasing, although paradoxically, the number of victims falls down. The number of religiously motivated terrorist attacks in 2017 was 33. The number of victims fell down to 62 in the same year. The chart also shows that the number of terrorist arrests in the European Union has risen sharply since 2014. The number of attacks was calculated as a sum of realized, failed, and spoiled attacks.

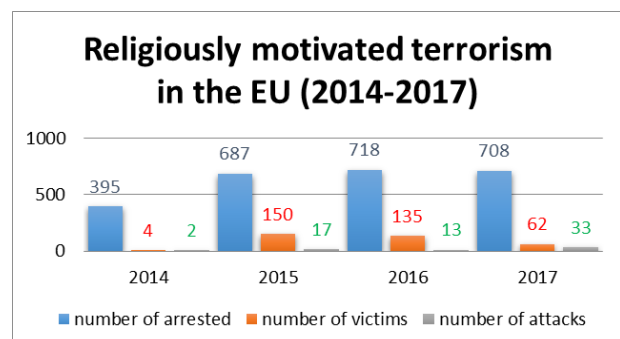


Fig. 1 Religiously motivated terrorism in EU [1].

“European Union Terrorism Situation and Trend Report 2018“ states that the number of failed, foiled or completed terrorist attacks occurred on European territory in 2017 increased to value of 205. The number of arrested suspects in 2017 grew up to value of 1219. [1]

An important aspect of security is a well-prepared risk analysis. Therefore, the aim of this study is to perform a risk analysis of a particular Soft Target by the Ministry of the Interior methodology. For this purpose, the Tax Office of the Zlin region was chosen as a Soft Target. The risk analysis shows the weaknesses of the chosen Soft Target.

The risk analysis is separated into columns like a Performing an attack, Place of attack, Time of attack, and two auxiliary tables – Likelihood and Impact. The result of the analysis is a Degree of Threat, which is determined as the product of Total Likelihood, and Total Impact. The results with a high value of Degree of Threat should be reduced to an acceptable risk level by the security managers.

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2 Analysis

The Ministry of the Interior issued a methodological manual "Basics of Soft Targets Protection Guidelines of the Czech Republic" in response to the events related to terrorist attacks. This manual is intended for operators, organizers, and security managers of these subjects.

Table 1 Auxilliary table – Likelihood [2].

Likelihood			
P.	Accessibility	Obstacles	Desirability
7	Without arms	An individual without the assistance of other people, a public place	It has already occurred many times in the Czech Republic
6	Commonly available (knife)	It requires the involvement of more people, a public place	It has been in the relevant foreign country many times
5	More commonly available weapons, a weapon of less commonly available (car)	Simple or one-off cooperation with local criminal a group, a public place	It has appeared several times in the Czech Republic
4	Gun on Permit or More, (Firearm)	More complicated or longer-term cooperation with the criminal group of the public is inaccessible	It has appeared several times in relevant foreign countries
3	A weapon obtainable by criminal activity (black market, etc.) without the need for professional training	One-time talks with a local terrorist group, a public inaccessible place	It occurred rarely in the Czech Republic
2	A weapon that can be acquired by criminal activities with the need for professional training with short delivery times	Coordinated actions at the local level with cooperation with a terrorist group, public inaccessible place	It has rarely occurred in the relevant foreign countries
1	The weapon can be obtained by criminal activity with the need for professional training and long delivery times	Internationally coordinated action by a terrorist group, accessible to the public or inaccessible to the public	It never appeared in the Czech Republic or in the relevant foreign countries

Table 1 shows the auxiliary table for determine Likelihood value. The Likelihood is separated into three categories. Every category has range of values from 1 to 7 points. As can be seen, value 1 represents the lowest likelihood. On the other hand, the highest Likelihood is

represented by value of 7 points. The Total Likelihood is calculated as the sum of Accessibility, Obstacles and Desirability with a maximum value of 21.

Table 2 Auxilliary table – Impact [2]

Impact				
P.	Damage to building	Threat to lives	Impact on community	Economical losses
7	Destruction of the object, eventually static disruption, cancellation of the event	Serious injuries to more people and the death of more people	Termination of participation / activity	Impact economically liquidated
6	Extensive limitation of the functionality of an object or possibility of organizing an event	Serious injuries to more people and death of individuals	Temporary interruption of activity	Impact over CZK 500,000, insurable by insurance
5	Limit the functionality of part of the object or part of the action	Serious injuries to more people	Real risk of people being involved in other activities	Impact over CZK 100,000, insurable by insurance
4	Local limitation of the functionality of the room or part of the action	Serious injury to individuals	General concern to be active in the community, more limitation of activities	Impact over CZK 100,000, solvable by insurance
3	Serious damage to the object or disturbance of the action without limitation of functionality	Light injuries to more people	Less activity restrictions	Impact in the order of tens of thousands
2	Minor damage to the object or disturbance of the action without limitation of functionality	Light injuries to individuals	Poor impact on individuals	Impact to 5000 CZK
1	No or negligible object damage or action disruption	Shock or minor injuries	Without an obvious impact on the community	No impact, or negligible

Table 2 shows the auxiliary table for determine Impact Value. The Impact is separated into four categories. Every category has range of values from 1 to 7 points. As can be seen, value 1 represents the lowest Impact Value. On the other hand, the highest Impact is represented by value of 7 points. The Total Impact Value is calculated as the sum of Damage to Building, Threat to Lives, Impact on Community and Economic losses which can result in a maximum value of 28. Reduce the impact of terrorist attacks is desirable.

The Degree of Threat is determined as the product of Total Likelihood and Total Impact with a maximum value of 588 and minimum value of 12 [2,8].

Table 3 Risk analysis of the Tax Office.

Performing an attack	Place of attack	Time of attack	Likelihood				Impact					DEGREE OF THREAT
			Accessibility	Obstacles	Desirability	Threat in total	Damage to building	Threat to lives	Impact on community	Economical losses	Threat in total	
K	IF	D	6	7	6	19	1	4	4	3	12	228
K	IF	E	6	7	4	17	1	5	3	2	11	187
K	IS	D	6	7	6	19	1	4	4	2	11	209
K	IS	E	6	7	4	17	1	4	5	3	13	221
S	IF	D	3	7	6	16	2	6	5	2	15	240
C	IF	E	3	7	4	14	2	6	4	3	15	210
B	IS	D	2	7	6	15	7	7	5	6	25	375
A	IF	E	2	3	4	9	3	5	4	5	17	153

Table 3 shows the calculation of the Degree of Threat of the Tax Office.

Column Performing an attack shows modus operandi of attack. For this paper were chosen these attacks:

- A**-Assassination
- B**-Bomb
- C**-Attack by car
- K**-Knife Attack
- S**-Shooting

Column Place of Attack determines, if the attack could happen in front of building (**IF**) or inside the building (**IS**)

Time of Attack determines, if the attack could happen by the daily working time (**D**) or Event for invited (**E**).

Each security manager determines an acceptable risk level. The author considers the value of 192 as a possibly acceptable risk level. Every higher value should be reduced to an acceptable risk level. However, this value is only indicative, and site security managers should work with it.

The risk analysis shows that the lowest risk factor with the value of 153 means that an assassination could happen during an event for invited guests. Moreover, it could happen inside or outside the building. On the contrary, the highest risk factor is the possibility of a bomb attack that could happen inside the building during the daily working time, and its value is 375.

The owner of the soft target, or the site security manager, should take these values into account and take precautions to reduce the risk.

Conclusion

This paper deals with the fact that most of the terrorist attacks that occurred in Europe were aimed at so-called Soft Targets. Therefore, a risk analysis was performed according to the methodology of the Ministry of the Interior ("Basics of Soft Targets Protection Guidelines of the Czech Republic"), and it was compiled for a specific soft target (Regional Office).

The risk analysis shows that the highest risk factor with the value of 375 for the Zlin Regional Office is a bomb attack inside the building during the daily working time. The paper further specifies that the lowest risk factor with the value of 153 means that an assassination could happen during an event for invited guests, both inside or outside the building. This analysis should help security managers in the risk identification and its subsequent reduction to an acceptable risk level. A very important aspect of protecting a soft target is prevention. One of the challenges for future research is to develop a new auxiliary table for the part of Performing an attack.

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References

1. TESAT, EUROPOL (2018)
2. Z. Kalvach, G. (2016)
3. P. Beňová, Š. Hošková - Mayerová, J. Navrátil, JSSI (2019)
4. L. Figuli, Z. Kubíková and M. Ivančo, IDCS 17(1-A), (2019)
5. L. Duricova, M. Hromada, J.Mrazek, PIDGSSW (2017)
6. J. Hesterman, STCM (2017)
7. M. Zineddin & L. Sherwood, WIT TTBE, (2013)
8. Š. Hošková – Mayerová, FA 16 (2016)