

# Technology Management in Terrorism

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**Abstract:** Terrorism is considered as a global threat in the 21st century. New alternatives for counterterrorism are emerging with the developing technology. The purpose of the study is to examine technology management in the fight against terrorism. Literature review method was used in this theoretically based study. According to the results of the study, the level of utilization of technology in the fight against terrorism is gradually increasing. There have been results that preventive actions on technology management have come to the forefront in fighting terrorism.

**Keywords:** Terrorism, Technology, Anti-Terrorism, Technology Management.

**Özet:** Terörizm, 21.yüzyılda küresel bir tehdit olarak kabul edilmektedir. Gelişen teknoloji ile birlikte terörizmle mücadelede yeni alternatifler ortaya çıkmaktadır. Bu çalışmanın amacı terörizmle mücadelede teknoloji yönetimini araştırmaktır. Kuramsal temelli olan çalışmada literatür taraması yöntemi kullanılmıştır. Çalışmada elde edilen sonuçlara göre terörizmle mücadelede teknolojiden faydalanma düzeyi giderek artmaktadır. Terörizmle mücadelede teknoloji yönetimi konusunda önleyici etkilerin öne çıktığı yönünde sonuçlar elde edilmiştir.

**Anahtar Kelimeler:** Terörizm, Teknoloji, Terörizmle Mücadele, Teknoloji Yönetimi.

## 1. Introduction

Terror and terrorism poses a common threat to the whole world. Since the September 11 terrorist attacks in the USA in 2001, a new era has begun in counterterrorism and countries reviewed their strategies for counterterrorism (Tangör and Sayın, 2012: 86). This process, which brings about a multi-dimensional approach in dealing with counterterrorism, is one of the main factors in choosing such a subject of study.

In today's world, terrorism is one of the greatest challenges faced by the international order. The developments in technology have led to the spread of terrorism more rapidly than in the past (Terzi, 2018: 89). However, technology plays an important role in

counterterrorism strategies. This dual effect should be taken into account in examining the role of technology in the fight against terrorism.

The purpose of this study is to examine combating terrorism through technology management. The study aims to identifying the role and importance of technology in the fight against terrorism.

Literature review method is used in this theoretically based study. Progress is being made by literature review on technology management, terrorism and counterterrorism. It is aimed to contribute to the understanding of how technology is used in the fight against terrorism at national and international level with this research. The study is also expected to set out recommendations for effective management of technology.

## **2. The Importance of Terrorism and Counterterrorism**

The concepts of terror and terrorism are described as follows: "Terror can be defined as an activities designed in abnormal ways involving the use of violence or the threat of violence. Terrorism, on the other hand, is a strategy aimed at using organized, systematic and ongoing terror" (Demir, 2019: 1).

In a broader definition, terrorism is described as follows: "Terrorism is a strategic approach that adopts organized, systematic and continuous use of terror as a method or is an act using force or threats to terrorize and intimidate people to adopt certain thoughts to them" (Kartal, 2018: 46). In this definition, it can be said that continuous and systematic actions related to terrorism come to the forefront.

Terrorism refers to defend acts of violence in an armed and organized form. One of the distinctive aspects of terrorism is that causes terror (extreme fear) on a mass scale. Terrorism often emerges and develops by the influence of defending an ideology. Political and economic chaos occurs depending on the magnitude of the actions involved within the scope of terrorism (Kalaycı, 2019: 226). Terrorism, which is also a threat to human health, seems to be a major problem to be fought against. With all this in mind, the fight against terrorism is a frequent issue.

The impacts of terrorism listed below show the necessity and importance of combating terrorism (Demirli, 2011: 68–69):

- i. Destructing of the social fabric of society

- ii. Prevailing fear in society,
- iii. Undermining the sense of unity,
- iv. Undermining security,
- v. Creating an environment of insecurity and undermining the sense of trust,
- vi. Creating psycho-social problems such as stress, anxiety, and depression at the individual and society level,
- vii. Loss of life,
- viii. Damaging physical infrastructure,
- ix. Loss of confidence in the economy,
- x. Causing long-term losses in unemployment, employment, investments, etc.
- xi. Causing political instability based on the decrease of trust in the country's administration.

As can be seen, terrorism damages to society in a multifaceted way. The loss of life is the biggest damage caused by terrorism in the short-term. However, it is understood through the information given that there are substantial damages both politically and economically in the medium and long term. These issues, which are content for the purposes of terrorism, also point to the importance of counterterrorism.

Although it may seem easy to examine the acts within the scope of terrorism, it is extremely difficult to detect the impacts of terrorism (Ağırman, Özcan and Yılmaz, 2014: 101). This is because the effects of terrorism spread over time and some effects manifest themselves in the medium-long term. In this period in which terrorism is recognized as a global threat, the importance of counter-terrorism is also increasing. Because terrorism is not only a threat to people's physical and psychological health, but is also the economic and political threat.

Terrorism has political, economic, psychological, sociological, legal, philosophical and geopolitical dimensions. Hence, it is not easy to set one clear framework for terrorism (Biçer, 2019: 112). The presence of different aspects of terrorism takes place in human life and continues its existence as a threat, demonstrates the importance and necessity of counter-terrorism strategies.

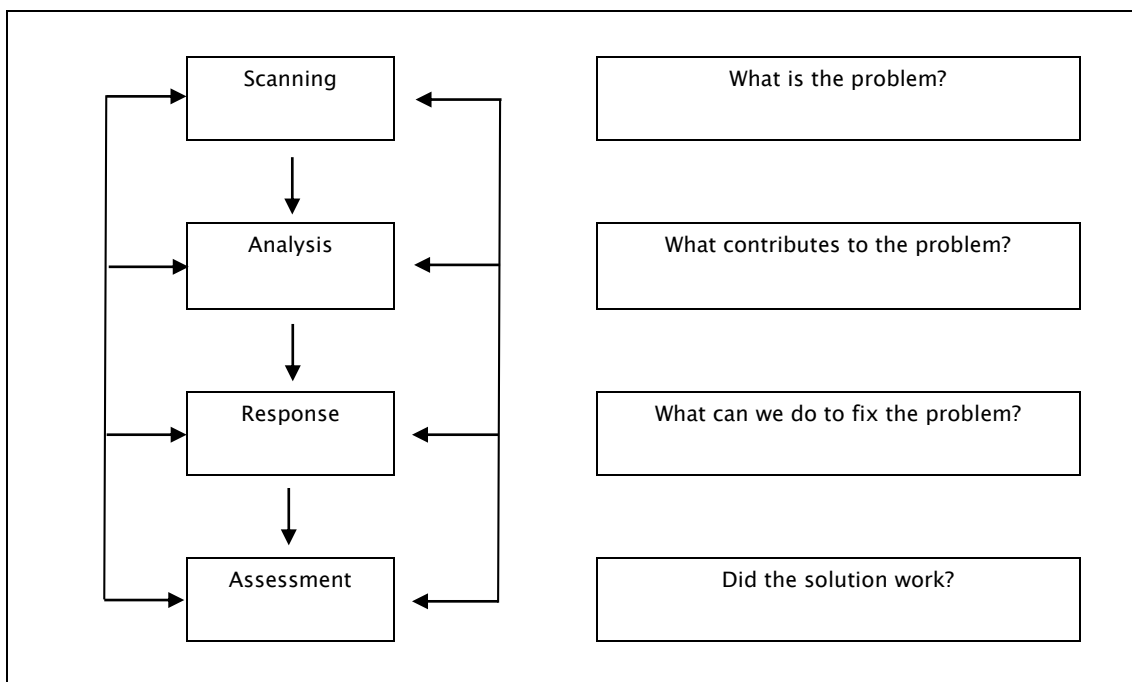
### **3. Counterterrorism Methods**

In the contemporary era, terrorism includes giving political or ideological messages through acts of violence (Akbulut and Beren, 2012: 260). For those who have committed terrorist acts, the loss of civilian lives, physical or psychological harm to people's health,

and the destruction that occurred in the area where the action took place is not important. These details indicate that the dimensions of terrorism can also be considered as the fight against terrorism should be multidimensional.

Terrorist organizations are fostered by the acts of violence and by doing so, they aim at making the political situation in a country questionable and damaging the economy. Counterterrorism, which is closely related to the political and economic stability of the state, appears to be a very delicate issue in this respect (Tangör and Sayın, 2012: 87). Naturally, comprehensive assessments of counterterrorism strategies are expected.

A problem-oriented approach to counterterrorism includes the following steps in the progress of the process.



**Figure 1. Problem Oriented Approach (Güçlü, 2014: 112)**

According to the information given in Figure 1, the problem should be detected correctly in the problem-oriented approach. Then, it is determined what contributed to the problem is determined by analysis. At the intervention stage, a decision is made about how to follow the way to eliminate the problem. Finally, in the evaluation stage, it is evaluated whether or not the solution strategies may be useful.

As of the current period, it is known that the fight against terrorism is not just an armed struggle. Besides political actors; economic actors and social actors have begun to play a more active role in the fight against terrorism (Akbulut and Beren, 2012: 257). This means that there is holistic approach to counterterrorism strategies is adopted. Following such a path in the fight against terrorism, take preventive measures for terrorism come to the forefront, and it is preferably to take the necessary measures before the attacks, i.e. to use preventive strategies, rather than to make efforts to reduce harm after attacks.

#### 4. Technology Management and Its Scope

Since the second half of the last century, the pace of development in technology is getting faster and the development of technology has constantly continued. In such an environment, technology needs to be managed effectively and the technology management term is evolved. Technology management is shaped around activities such as evaluating technologies, prioritizing technology, and following technology development (Altuntaş and Dereli, 2016: 106).

The elements that make up the environment of technology management are brought together in the figure below.

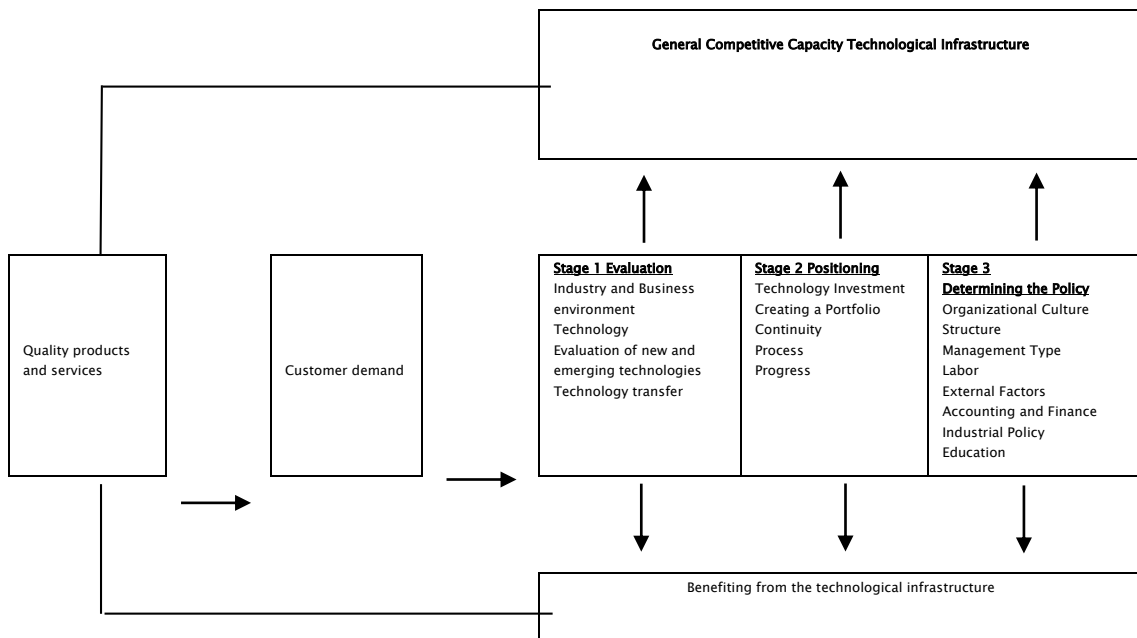


Figure 2. Environment of Technology Management (Yokuş, 2005: 16)

According to Figure 2, technology management is under the influence of factors such as technological infrastructure, quality, demand, investments, business environment and competition. It is seen that there are three basic stages in technology management: evaluation, positioning and policy determination.

Priorities in technology management are shown in the following table.

**Table 1. Priorities in Technology Management (%) (Ulusoy et al., 2000: 7)**

| Competitive priorities                      | Low       | Middle    | High      |
|---|-----------|-----------|-----------|
| <b>Product quality</b>                      |           |           |           |
| Design Quality                              | 5         | 45        | 50        |
| Compliance Quality                          | 0         | 14        | 86        |
| Durability                                  | 10        | 19        | 71        |
| Reliability                                 | 5         | 14        | 81        |
| Image / Brand                               | 14        | 24        | 62        |
| <b>Delivery Reliability</b>                 |           |           |           |
| Delivery capability to any desired location | 0         | 25        | 75        |
| Delivery at any time                        | 0         | 14        | 86        |
| Delivery capability in desired quality      | 0         | 10        | 90        |
| <b>Flexibility</b>                          |           |           |           |
| Product Flexibility                         | 0         | 25        | 75        |
| Lack of Production                          | 10        | 29        | 62        |
| Customer service                            | 5         | 35        | 60        |
| <b>Low price</b>                            | <b>10</b> | <b>75</b> | <b>15</b> |

According to the information given in Table 1, there are priorities in technology management such as product quality, delivery reliability, flexibility and price. It is understood through the information on the table that these priority areas are decisive factors in terms of competition and are seen as important at different levels.

Innovations in technology can be quickly copied or imitated by other actors in the market. Therefore, it is necessary to establish a meaningful technology and a connection between technology elements (Çelikçapa and Kaygusuz, 2000: 181). It is important to take into consideration these issues in order to talk about an effective technology management.

## 5. Technology Management in The Fight Against Terrorism

In parallel with the continued development of technology, advanced technologies have started to take place in the security systems of countries (Sökmen Alaca, 2020: 495). Hence, innovations in technology affect the strategies used by countries in the fight against terrorism.

Today, the first thing that comes to mind related to technology management in combating terrorism is unmanned aerial vehicles. Unmanned aerial vehicles classification is as shown in the following table.

**Table 2. UAV Classification (Katrancı, 2020: 1)**

| UAV class        | Level of Use  | Principal User                                 |
|------------------|---|--|
| <b>Micro</b>     | One Person / Team   | Special Forces and Intelligence Organizations  |
| <b>Mini</b>      | Single soldier, team, squad, team, company and battalion, single vessel | Army Forces and Naval Forces, Corps of Marines |
| <b>Small</b>     | Regiment and brigade, naval task group                                  | Army Forces and Naval Forces, Corps of Marines |
| <b>Tactics</b>   | Army corps, army, naval task force                                      | Army Forces and Naval Forces, Corps of Marines |
| <b>Operative</b> | Operating area  | Air Forces                                     |
| <b>Strategic</b> | Operation area  | Air Forces                                     |

According to Table 2, there are micro, mini, small, tactical, operative, strategic UAVs and it is possible for different units in the army to use them. Features such as having different levels of use and providing the flow of information needed in the fight against terrorism are made UAVs to have significant impact to the fight against terrorism. Although the use of technology in the fight against terrorism is not limited to UAVs, it was considered necessary to include this information, as these vehicles initiate a new era in combating terrorism.

Technology management in the fight against terrorism has a particularly important role in terms of preventive mechanisms. In the first place, besides the use of technologies to prevent human losses, the presence of preventive measures against other risks brings technology to an important position in the fight against terrorism.

## 6. Conclusion

The study that investigated the technology management in the fight against terrorism, emphasized that terrorism is a global threat, and countries' strategies for

counterterrorism have changed after the 9/11 attacks at the beginning of the 21st century. With the rapid progress of technology, the role and importance of technology in the fight against terrorism has gradually increased.

According to the results of the study, terrorism is a phenomenon associated with politically, economically, psychologically, and socially damaging to society. It has been stated that the fight against terrorism, which has short and long-term effects, is one of the priority agenda items for countries and is an international problem.

The results obtained regarding the technology management in the fight against terrorism demonstrate that there are significant effects especially in preventive initiatives. This constitutes an opportunity for a sustainable success in the fight against terrorism and creates the expectation that technology management will become more prominent in the fight against terrorism.

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