Empowering EU Law Enforcement: Teaching Security Risk Analysis With the Frontex Common Integrated Risk Analysis Model (CIRAM)

Anastasios-Nikolaos Kanellopoulos
ORCID: 0009-0001-1875-9264
Athens University of Economics and Business, Greece

Abstract. The security landscape of the European Union (EU) is in constant flux, shaped by a myriad of complex, cross-border threats. To safeguard their citizens and protect vital institutions, EU law enforcement agencies require enhanced capabilities in security risk analysis. This paper highlights the critical importance of teaching security risk analysis, with a specific focus on the Frontex Common Integrated Risk Analysis Model (CIRAM), in fortifying the capacities of EU law enforcement. Originally crafted to address EU border security challenges, CIRAM offers a universal framework for assessing security risks and vulnerabilities systematically. It encompasses threat identification, vulnerability assessment, and the estimation of potential security incident consequences. Teaching EU law enforcement agencies the principles and applications of CIRAM empowers them to tackle both region-specific security challenges and encourages collaboration among EU member states. The research methodology of this paper combines academic literature and the author’s practical expertise. It conducts a comprehensive review of existing academic and official literature about CIRAM, laying the theoretical foundation for the study. Furthermore, the author’s certified risk analyst trainer status with Frontex provides unique insights into the practical aspects of CIRAM, offering a holistic understanding of its utilisation in training EU law enforcement personnel and its application in real-world operational scenarios. This dual-pronged approach ensures a well-rounded exploration of CIRAM’s role in enhancing security risk analysis for EU law enforcement, providing valuable insights for policymakers, practitioners, and trainers.

Keywords: Law Enforcement, Security Risk Analysis, CIRAM, FRONTEX

Introduction

The security landscape of the European Union (EU) is constantly evolving, shaped by an array of complex and interconnected threats that transcend national borders. To safeguard the well-being of its citizens and maintain the integrity of its institutions, the EU relies on the dedication and expertise of its law enforcement agencies. In this pursuit, there is a growing need to equip these agencies with the skills, knowledge and tools necessary to effectively analyse and manage security risks. This article sheds light on the critical importance of teaching security risk analysis and underscores the specific significance of the Common Integrated Risk Analysis Model (CIRAM) in enhancing the capabilities of EU law enforcement agencies.
Security risk analysis serves as the foundation upon which any proactive security strategy is built. It involves a methodical assessment of potential threats, the identification of vulnerabilities and the formulation of strategies to mitigate or manage these risks. In an era characterised by rapid technological advancements, transnational threats and shifting societal dynamics, law enforcement agencies across the EU face a formidable challenge in staying ahead of the curve.

CIRAM emerges as an invaluable asset in this endeavour. Developed by the European Border and Coast Guard Agency (FRONTEX), this model provides a structured framework for assessing security risks and vulnerabilities in a comprehensive and systematic manner. While initially designed to address the specific security challenges encountered by the EU in managing its borders, CIRAM offers a universal approach that can be effectively applied to a wide spectrum of security scenarios. Its methodology encompasses threat identification, vulnerability assessment and the estimation of potential consequences resulting from security incidents.

Teaching EU law enforcement agencies the principles and applications of the Frontex CIRAM not only empowers them to address region-specific security challenges but also fosters collaboration among EU member states. By offering a common risk analysis framework, CIRAM enhances interagency cooperation, ensuring a unified approach to security risk assessment. Furthermore, the model’s global relevance equips law enforcement agencies to adapt and respond to emerging international security threats. As the EU strives to safeguard its citizens and institutions, teaching CIRAM plays an instrumental role in strengthening the capabilities of its law enforcement agencies, enabling them to anticipate, mitigate, and respond to evolving security challenges in an ever-changing world.

Research Methodology

The research methodology employed in the present paper reflects a dual foundation rooted in formal academic and public literature on CIRAM and the substantial expertise of the author, who is a certified risk analyst and trainer accredited by FRONTEX. This distinctive blend of theoretical knowledge and practical experience lends a comprehensive and credible perspective to the study.

In this research, the author leverages a rigorous, multifaceted approach. Firstly, a thorough review of existing academic literature and official documentation regarding CIRAM is conducted, ensuring that the research builds upon the established body of knowledge in the field of security risk analysis. The examination of these scholarly sources forms the theoretical framework for the study, allowing the paper to present an accurate portrayal of CIRAM’s principles and applications.

Furthermore, the author’s expertise provides invaluable insights into the practical aspects of CIRAM. This expertise includes firsthand knowledge of how CIRAM is utilised in training EU law enforcement personnel and applying security risk analysis within the context of real-world operational scenarios.
Understanding the Common Integrated Risk Analysis Model (CIRAM)

Origins of CIRAM

The Schengen Catalogue (of 2002) laid down the principle that border checks, controls and management activities should be grounded in risk analysis. In subsequent years, pivotal developments reshaped the landscape of European security measures. The year 2004 saw the European Parliament grant Frontex new responsibilities, including the task of conducting security risk analysis. By 2006, a comprehensive plan for Integrated Border Management (IBM) procedures was established.1 This evolution of the IBM system persisted until 2013, ultimately culminating in the establishment of EUROSUR regulations. EUROSUR emerged as the inaugural intelligence-sharing system for European border protection and law enforcement agencies, facilitating the exchange of information and analyses at both operational and strategic levels.2

The legislative and institutional advancements within the European framework led to the creation of specialised channels for sharing classified information at the analytical level. The need for a ‘common analytical language’ became apparent, a development motivated by the central role that Risk Analysis was expected to play, in line with the directives of the European Council in Seville in 2002 and Helsinki in 2003. These directives ultimately paved the way for a specialised Risk Analysis Model that catered to the intelligence requirements of both border security and law enforcement agencies.3

In 2006, the regulation establishing the Schengen Borders Code was implemented, introducing common rules for crossing the external borders of the EU and designating risk analysis as the primary tool for data and information analysis. This legislation set the stage for the Frontex regulation of 2011, which reinforced FRONTEX’s role in managing the external borders of the EU and firmly embedded border risk analysis procedures into its functions.4

In a collaborative effort with EU member states, Frontex crafted the inaugural version of CIRAM in 2012, (Frontex, 2012). CIRAM stands as the conceptual framework developed by FRONTEX, aimed at aiding in the preparation of risk analyses within the Schengen Zone. Its primary objective is to foster a shared understanding of risk analysis and contribute to greater coherence in the management of external borders.5,6

---

5 S. Léonard, pp. 92–121.
Of particular note, CIRAM adopts a managerial approach to risk analysis, defining risk as a composite of threat, vulnerability and impact. This approach aligns seamlessly with the spirit of the Schengen Borders Code, which identifies risk analysis as the pivotal instrument for optimising resource allocation within the constraints of budget, staffing and equipment efficiency. The model offers a blueprint for conducting risk analyses, facilitating FRONTEX and Member States in making well-informed decisions regarding border management and resource allocation. Through the analysis of diverse factors such as threats, vulnerabilities and potential impacts, CIRAM enables the identification and evaluation of risks associated with cross-border activities, which are insights that make it possible to implement suitable measures to address or mitigate the identified risks.7,8

Furthermore, the Schengen Zone comprises EU Member States and Schengen-associated countries that share common external borders. Preserving the integrity of the Schengen area hinges on ensuring the security and effectiveness of these shared borders. CIRAM assumes a substantial role in supporting Member States and Schengen-associated countries by delivering analyses and insights into cross-border crime and risks. This information equips them to take the requisite measures to counteract the identified risks and uphold border security.9,10

---

CIRAM Intelligence Cycle

Intelligence lies at the very core of CIRAM, playing a pivotal role in ensuring the security and effectiveness of border management within the Schengen Zone.11 CIRAM leverages the Intelligence Cycle procedures, a systematic and structured approach to the collection, analysis and dissemination of intelligence.12 The Intelligence Cycle encompasses several key steps, each of which is vital in providing a comprehensive and accurate assessment of security risks.13

Tasking: The first step in the Intelligence Cycle involves identifying specific intelligence requirements and objectives. It sets the overall direction and guidance for the intelligence effort, ensuring that the focus remains aligned with the broader security goals and priorities.

Collection: In the collection phase, pertinent information is gathered from a variety of sources, which may include human intelligence (HUMINT), open-source intelligence (OSINT), technical intelligence (TECHINT) and more. The objective is to acquire data and insights that contribute to a deeper understanding of potential threats and vulnerabilities.
Evaluation: The evaluation step serves several crucial purposes. It involves the assessment of information quality, the validation of intelligence by comparing it with other sources, cross-referencing data to ensure accuracy and identifying intelligence gaps. This critical assessment ensures the reliability and integrity of the information.

Collation: During the collation phase, the collected information and data are consolidated and organised. This step is vital for identifying patterns, connections, and potential anomalies within the information. It aims to prevent oversights and missing critical details that could impact the accuracy of the intelligence analysis.

Analysis & Interpretation: The core purpose of this step is to identify intelligence patterns and trends based on the collated data, information and intelligence. Analysis and interpretation are crucial for deriving useful insights and conclusions. This process transforms raw data into actionable intelligence.

Reporting: Reporting is an essential component of the CIRAM Intelligence Cycle. It involves the production and dissemination of intelligence reports based on the analysis and interpretation of collected information. The reports convey the findings and insights to relevant stakeholders, decision-makers and consumers of the intelligence.

Dissemination: The dissemination step is of paramount importance, as it involves the distribution of finished intelligence reports and findings to the intended consumers. These consumers may include policymakers, security agencies or risk management teams. The objective is to ensure that the relevant stakeholders receive the information effectively and promptly, enabling them to utilise it for decision-making and risk management.

Review: The final step in the Intelligence Cycle occurs after the completion of the intelligence analysis. During this phase, the effectiveness and accuracy of the entire intelligence process are assessed. Key aspects of the review include evaluating the accuracy and completeness of the analysis, verifying the findings, incorporating feedback for future analytical procedures and continuously improving the analysis methodologies.

Utilising the Intelligence Cycle within CIRAM ensures a systematic and rigorous approach to risk analysis. By following these structured steps, FRONTEX and Member States can effectively gather, assess and disseminate intelligence that is instrumental in safeguarding the Schengen Zone’s external borders. This intelligence-driven approach is essential for identifying and addressing emerging threats, vulnerabilities and risks, allowing for well-informed decision-making and proactive risk management.

Moreover, it is important to note that the Intelligence Cycle is a continuous and iterative process, as security risks evolve over time. The feedback and learning from each cycle contribute to the refinement and enhancement of future analytical procedures, making CIRAM a dynamic and adaptive tool in the ever-changing landscape of border security and management. In a world where security challenges constantly evolve, the Intelligence Cycle within CIRAM remains a critical instrument in maintaining the security and integrity of the Schengen Zone.

14 J. Livdāne, I. Arbidāne, pp. 27–34.
17 J. Livdāne, I. Arbidāne, pp. 27–34.
18 Frontex, 2012.
CIRAM Threat, Vulnerability and Impact components

As previously mentioned, the application of the model hinges on a triad of factors: threat, vulnerability, and impact.\(^{19}\) The determination of the final risk is an assessment of these three components, adhering to the principles set forth by ISO 31000 and ISO 31100. In the realm of its function, this model offers a systematic approach to risk analysis and management.\(^{20}\)

Risk Assessment Formula: \( R = f(TVI) \)

This equation embodies the essence of risk assessment within CIRAM. It is a manifestation of how the interplay between threat (\(T\)), vulnerability (\(V\)), and impact (\(I\)) collectively defines the level of risk. Let us delve deeper into the evaluation process.

---

\(^{19}\) R. Paul, pp. 689–706.

\(^{20}\) Frontex, 2012.
and its key components, with a particular focus on the integration of qualitative and quantitative data, as well as the temporal and geographical dimensions.

**Threat Assessment**

At the heart of the risk assessment lies the concept of threat, which is defined as a force or pressure acting upon the external borders. Threat, as defined by FRONTEX in 2012, possesses two critical dimensions: the magnitude and the likelihood. The analyst’s task is to identify, describe and measure the factors influencing the threat, both inside and outside the European Union.²¹ The threat assessment encompasses the following key aspects:

- **Modus Operandi**: This dimension refers to the methods or patterns of operation employed, especially in the commission of criminal activities, acts of terrorism or any illegal actions. Understanding the modus operandi is fundamental to devising effective countermeasures.

- **Who, Where, When**: These are the foundational questions in the realm of threat assessment. By answering ‘who’ is involved, ‘where’ the activities are occurring and ‘when’ these events are most likely to take place, analysts can lay the groundwork for informed decision-making.

- **Trends and Predictions**: The analysis involves examining quantitative indicators derived from past statistical reports, which, in turn, lead to predictions about future occurrences. A comprehensive understanding of trends and predictions is essential for proactive risk management.

- **Push Factors**: Push factors are indicators and elements that propel individuals to leave their current locations and journey towards other destinations. These factors may encompass a range of influences, such as economic hardships, political instability or environmental factors and understanding them is essential for predicting population movements.

- **Routes and Access to Facilitation**: This aspect revolves around identifying the travel routes taken by individuals and the presence of facilitation in specific areas. Knowing the routes and access to facilitation is crucial for addressing and managing border-related risks.

**Vulnerability Assessment**

Vulnerability assessment is a comprehensive evaluation of the vulnerabilities inherent in border management systems and processes. It encompasses the challenges that lie ahead, the monitoring of situations along the external borders and the assessment of Member States’ contributions to the rapid reaction pool.²² The vulnerability assessment includes the following crucial dimensions:

- **Border Permeability**: Border permeability pertains to the ease or difficulty with which individuals, goods, or illicit activities can cross a border. This assessment considers various factors, including terrain, infrastructure, capabilities and the flows of people and goods that influence the ability to control and secure the border.

²¹ Frontex, 2012.
²² Frontex, 2012.
• Operational Activities: Operational activities encompass a wide array of actions and tasks integral to border management and security operations. These activities range from border surveillance and patrolling to intelligence gathering, risk assessment and response planning.

• Effectiveness of Countermeasures: An effective countermeasure evaluation involves a detailed comparison of the measures implemented both within the external and internal EU areas. This assessment takes into account the success levels of the measures in alignment with EU border protection guidelines.

• Pull Factors: Pull factors are related to migration or mobility patterns and encompass elements that attract individuals or communities to specific locations or countries. These factors could include economic opportunities, employment prospects, social benefits or favourable conditions that make a particular destination appealing for migration.

**Impact Assessment**

The final phase of the risk assessment process revolves around impact assessment, which involves the evaluation and analysis of potential consequences associated with identified threats while taking into account the vulnerabilities associated with these threats. Impact assessment encompasses the following significant dimensions:

• Border and Internal Security: This dimension addresses the potential impacts on border and internal security, including law enforcement, border security personnel, infrastructure as well as the physical and economic assets of states and governments.

• Ability to Manage Legitimate Passenger Flow at Borders: This aspect assesses the EU member states’ ability to effectively manage the flow of legitimate passengers at border crossing points. It is a critical consideration for ensuring seamless border operations.

• Humanitarian Impact: Humanitarian impact assessment focuses on the effects on human lives and well-being. This dimension takes into account the humanitarian consequences that may arise from border management decisions and policies.

In essence, CIRAM provides a structured framework for evaluating and managing risks associated with border security. By considering the interplay between threats, vulnerabilities and potential impacts, CIRAM equips decision-makers with the necessary insights to proactively address security challenges and implement measures to safeguard the external borders of the EU. The integration of qualitative and quantitative data, as well as the temporal and geographical dimensions, ensures a comprehensive and dynamic approach to risk assessment within CIRAM, fostering effective risk management strategies that adapt to the evolving landscape of security threats and challenges.

---

23 Ibid.
CIRAM’s Impact on EU Law Enforcement

CIRAM stands as a transformative tool in the realm of EU law enforcement, exerting a profound impact across multiple dimensions, notably enhancing situational awareness, informed decision-making, collaboration and information sharing, dynamic resource allocation, strengthening border security, and ultimately, saving lives. CIRAM’s integration into the EU’s security apparatus has marked a significant step forward in managing and mitigating threats, making it a linchpin in safeguarding the Union’s external borders.24

Strengthening Border Security

The primary goal of CIRAM is to strengthen EU border security. Through its risk analysis model, CIRAM assists law enforcement agencies in identifying and addressing weaknesses and vulnerabilities in the EU’s external borders. By conducting thorough threat assessments and evaluating vulnerabilities, agencies can implement targeted security measures, enhance surveillance and deploy personnel where they are most needed.25 This proactive approach to border security deters illegal activities, such as smuggling, trafficking and terrorism, while facilitating legitimate cross-border movements. Ultimately, CIRAM contributes to the safeguarding of the Schengen area and the overall security of the EU.26

---

24 Ibid.
25 R. Liashuk, A. Tsaruk, op. cit.
26 Frontex, 2012.
Enhanced Situational Awareness

CIRAM, through its comprehensive approach to risk assessment, empowers EU law enforcement agencies with an unprecedented level of situational awareness. By systematically analysing data related to threats, vulnerabilities and potential impacts, CIRAM provides law enforcement officials with a holistic view of the security landscape. This enhanced situational awareness provides a more accurate understanding of the risks and challenges faced at the EU’s external borders. Law enforcement agencies can better anticipate, prepare for and respond to emerging threats and security breaches. This heightened awareness is crucial in staying one step ahead of criminal activities and ensuring the safety and security of EU citizens.

Informed Decision-Making

CIRAM’s data-driven approach equips EU law enforcement agencies with the insights and intelligence needed to make informed decisions. By quantifying risks and vulnerabilities and providing a clear assessment of potential impacts, CIRAM enables law enforcement officials to prioritise their actions effectively. It allows decision-makers to allocate resources, personnel and assets where they are most needed, ensuring that efforts are directed towards the most critical areas of concern. Informed decision-making is the cornerstone of an efficient and effective law enforcement strategy, ensuring that resources are used efficiently and that actions are aligned with the most pressing security challenges.

Collaboration and Information Sharing

CIRAM fosters a culture of collaboration and information sharing among EU law enforcement agencies. The model encourages the exchange of data, intelligence and insights between different stakeholders, including national and international law enforcement bodies, border security agencies and other relevant entities. This collaboration ensures that all relevant parties are working in unison to address common threats. Moreover, CIRAM facilitates the development of a ‘common analytical language’ enabling different agencies to communicate effectively and share their findings. This collaborative approach not only enhances the overall security posture but also promotes synergy in addressing security challenges that transcend national borders.

Dynamic Resource Allocation

One of CIRAM’s key strengths lies in its ability to support dynamic resource allocation. Law enforcement agencies can adapt and allocate resources in real-time based on the evolving threat landscape. By providing continuous risk assessments, CIRAM enables agencies to shift their resources to respond effectively to emerging threats or vulnerabilities. This flexibility is vital in a rapidly changing security environment, where criminal activities and risks can shift swiftly. Dynamic resource allocation ensures that the right resources are deployed at the right time and place, maximising the impact of law enforcement efforts.

27 R. Liashuk, A. Tsaruk, op. cit.
28 Frontex, 2012.
29 Frontex, 2012b.
30 Ibid.
Saving Lives

Perhaps the most critical impact of CIRAM on EU law enforcement is its potential to save lives. By providing law enforcement agencies with the tools and intelligence needed to respond to threats and vulnerabilities, CIRAM can prevent or mitigate security incidents that could lead to loss of life. Whether it is thwarting human trafficking operations, intercepting terrorist threats or ensuring the safety of migrants and refugees, CIRAM plays a pivotal role in preserving human lives. Furthermore, its emphasis on humanitarian impact assessment underscores the EU’s commitment to protecting vulnerable populations and minimising the human cost of border security operations.31

In conclusion, CIRAM’s multifaceted impact extends from enhancing situational awareness to saving lives. By promoting informed decision-making, collaboration, and dynamic resource allocation and strengthening border security, CIRAM equips law enforcement agencies with the tools and intelligence needed to address the complex and evolving security challenges facing the EU. CIRAM is not just a risk analysis model; it is a comprehensive security framework that empowers EU law enforcement to proactively manage threats, protect its borders, and ensure the safety and security of its citizens.

Teaching Security Risk Analysis with CIRAM

A five module training program

The Course for CIRAM Risk Analysts is a five-module program that covers all aspects of CIRAM, from the identification of risks to the development of risk management strategies.32

The first module of the course covers the basics of risk analysis and introduces students to the CIRAM. This module includes lectures and seminars that provide an overview of the model and its components. Students will also participate in exercises that help them identify and use CIRAM’s components in practice.

Module II focuses on models of risk analysis and includes lectures and seminars related to CIRAM. This module also includes exercises related to the identification and use of CIRAM’s components in practice. Students are required to complete a minimum of 20 hours of experiential learning at home before joining module IV.

Module III covers the identification and assessment of risks. This module includes lectures and seminars on the identification of risks and the development of risk assessment strategies. Students will also participate in exercises that help them identify and assess risks using CIRAM.

Module IV covers the development of risk management strategies. This module includes lectures and seminars on the development of risk management strategies and the implementation of risk management plans. Students will also participate in exercises that help them develop risk management strategies using CIRAM.

Finally, module V covers the evaluation and improvement of risk management strategies. This module includes lectures and seminars on the evaluation of risk management strategies and the development of improvement plans. Students will

---

32 Frontex, 2012b.
also participate in exercises that help them evaluate and improve risk management strategies using CIRAM.

**Academic Theories included in Teaching Security Risk Analysis**

Teaching Security Risk Analysis is an interdisciplinary field that draws upon various academic theories and frameworks to educate individuals in assessing, managing and mitigating security risks. This field is crucial in preparing professionals in law enforcement, intelligence and security analysis to address complex and evolving security challenges effectively. Below are some academic theories and principles that underpin the teaching of Security Risk Analysis.33

**Risk Management Theories**

Risk management theories are fundamental to the field of border security training, providing a structured framework for understanding, assessing, and mitigating the various risks associated with border management and control. These theories enable border security professionals to identify potential threats and vulnerabilities, helping them make informed decisions in allocating resources and implementing protective measures. The concept of Risk Assessment is at the core of risk management, allowing practitioners to systematically evaluate the likelihood and consequences of various security breaches or incidents.34

Additionally, Risk Communication theories emphasise the importance of clear and effective communication strategies in managing and responding to border security risks, ensuring that relevant information is disseminated to the right stakeholders in a timely manner. By integrating risk management theories into border security training, professionals are equipped with the tools and methodologies necessary to proactively address threats and vulnerabilities, ultimately enhancing the overall safety and security of their borders.35

**Geopolitical and Critical Security Theories**

Geopolitical theories are integral to the study of border security and play a crucial role in shaping the strategies and policies used in border security training. These theories provide a deep understanding of the political, economic, and strategic factors that influence the dynamics at international borders.36 For instance, Realism emphasises the importance of state power and national interests, guiding border security professionals in assessing potential threats and formulating robust defence strategies. Neorealism extends this perspective to the international system, helping to identify and address the challenges of cross-border conflicts and cooperation.37

Furthermore, geopolitical theories such as Geopolitical Economy draw attention to the economic dimensions of border security, highlighting the significance

33 Ibid.
35 Frontex, 2012b.
of trade, resources, and economic interests in shaping border dynamics. Geopolitical theories also consider the impact of globalisation and transnational actors, contributing to a more holistic understanding of contemporary border security challenges. By incorporating these theories into border security training, professionals are better prepared to navigate the complex geopolitical landscape and develop effective strategies for protecting their nations’ borders in an ever-changing world.

**Criminology Theories**

Criminology theories are indispensable tools in the realm of border security training, offering invaluable insights into understanding and combating the multifaceted challenges that characterise this field. These theories provide a framework for comprehending the motivations, behaviours, and dynamics of individuals and groups involved in activities such as counterterrorism, serious organised crime, drug smuggling, and human trafficking. For example, theories such as Strain Theory and Control Theory shed light on the psychological and social factors that drive individuals towards or away from criminal activities, helping us devise effective strategies against counterterrorism.

Moreover, Rational Choice Theory informs us about the decision-making processes of offenders involved in serious organised crime, enabling us to implement interventions that increase the risks and costs associated with such criminal enterprises. Routine Activities Theory offers insights into the situational factors that facilitate or deter criminal acts at the border, aiding in the development of preventative measures. Moreover, theories such as Social Learning Theory and Labelling Theory highlight the importance of addressing social dynamics and stigmatisation in the context of drug smuggling and human trafficking. By incorporating these criminology theories into border security training, professionals are better equipped to tackle the evolving and interconnected threats they face, fostering a more comprehensive and effective approach to safeguarding our borders.

**Decision-Making Theories**

Teaching students about Rational Choice Theory and Prospect Theory can significantly enhance their understanding of decision-making processes and risk analysis in various contexts, including criminology and security. Rational Choice Theory, with its emphasis on cost-benefit analysis, helps students grasp the motivations behind criminal behaviour. By exploring the factors that criminals weigh in their decision-making, students can better comprehend the rationale for criminal acts and in turn, develop more effective strategies to counteract them.

Incorporating Prospect Theory into the curriculum provides a valuable perspective on risk assessment and decision-making under uncertainty. In the field of security, students can apply this theory to analyse how individuals and

---

40 Frontex, 2012.
42 Frontex, 2018.
organisations evaluate security threats. Understanding how perceptions of risk and potential rewards influence decision-making can aid in the development of more robust security measures. This includes crafting policies and strategies that account for human behaviour in the face of uncertain threats, ultimately leading to more effective risk management and mitigation efforts.

**Intelligence Theories**

The Intelligence Cycle theory is a crucial framework for educating students about the systematic and comprehensive process of collecting, analysing and disseminating intelligence in the context of security risk analysis. By breaking down the intelligence process into distinct stages, including planning, collection, analysis and dissemination, students gain a deep understanding of the intricacies involved in acquiring and utilising intelligence for risk assessment and management.

Incorporating this theory into the curriculum empowers students with the knowledge and skills necessary to gather and process information systematically. They learn how to identify sources of intelligence, plan and execute collection methods and critically analyse the data gathered. They also gain insights into the ethical considerations surrounding intelligence gathering and sharing, which is a crucial aspect in the field of security.

The Intelligence Cycle theory also underscores the significance of effective communication and dissemination of intelligence. This is pivotal in facilitating a rapid response to potential security threats. Students learn how to convey critical information to the appropriate stakeholders in a clear and timely manner, ensuring that security risks are managed efficiently.

**Strategic Security Analysis Theories**

Security strategic analysis theories, including the SWOT analysis and PEST analysis, provide essential frameworks for evaluating security situations and making informed decisions. SWOT analysis, which stands for Strengths, Weaknesses, Opportunities and Threats, allows security professionals to assess internal and external factors affecting an organisation’s security posture. By identifying strengths and weaknesses within an organisation, security teams can capitalise on their advantages and address vulnerabilities. Simultaneously, evaluating external opportunities and threats helps in anticipating potential risks and planning proactive measures.

PEST analysis, which stands for Political, Economic, Social and Technological factors, focuses on the external macro-environmental factors influencing

---

an organisation’s security strategy. By analysing political factors, such as government regulations and stability, economic factors such as inflation and market trends, social factors including cultural norms and demographics and technological factors such as innovations and cybersecurity threats, security experts gain a comprehensive understanding of the broader context in which security decisions are made.50

Both SWOT and PEST analyses are invaluable tools for security strategic planning. The SWOT analysis aids in identifying internal strengths and weaknesses, enabling organisations to align resources effectively and minimise vulnerabilities. Meanwhile, the PEST analysis provides a holistic view of the external environment, helping security professionals anticipate emerging threats and capitalise on strategic opportunities. Together, these analyses empower security strategists to craft robust, adaptive security plans that address current challenges and prepare for future contingencies. By integrating these theories into their strategic approaches, security professionals can enhance their ability to protect assets, mitigate risks, and respond effectively to a dynamic and evolving security landscape.

Incorporating these academic theories and frameworks into security risk analysis education ensures that students gain a holistic and multidisciplinary understanding of the field. It equips them with the knowledge and tools needed to assess security risks, make informed decisions, and contribute to the effective management of security challenges in today’s complex and interconnected world.

**Bridging the Gap between Theory and Practice**

**Interdisciplinary Learning**

Bridging the gap between theory and practice is a fundamental challenge in teaching security risk analysis, and one powerful way to achieve this is through interdisciplinary learning using CIRAM.

Interdisciplinary learning in security risk analysis is vital because it mirrors the reality of the security landscape. Security risks are seldom isolated; they often transcend traditional boundaries and encompass economic, social, political and environmental factors. CIRAM reflects this by considering a wide array of variables and parameters, which is crucial for students aspiring to work in the security sector.51 Interdisciplinary learning, facilitated by CIRAM, equips students with the skills and knowledge to dissect complex problems, recognising that solutions require a holistic understanding of these multifaceted issues.52

Furthermore, CIRAM’s interdisciplinary nature encourages students to adopt a dynamic and adaptable mindset, which is essential for effectively addressing evolving security threats. By engaging with diverse data sources and learning to synthesise information from different fields, students gain experience in critical thinking, problem-solving and risk assessment. This equips them with the ability

---

51 Frontex, 2018.
52 Frontex, 2012b.
to analyse emerging challenges, adapt to changing circumstances, and develop innovative strategies for security risk management.\textsuperscript{53}

Moreover, interdisciplinary learning using CIRAM encourages ethical considerations and an understanding of the social and cultural dimensions of security. Students are not merely focused on risk assessment but also on the broader impact of security policies and measures on individuals and communities. This broader perspective, grounded in ethics and social awareness, is essential for cultivating responsible security professionals who are not only capable of managing risks but also of doing so in a way that upholds human rights and dignity.\textsuperscript{54}

**Practical Exercise on Open-Source Intelligence Collection Software**

Bridging the gap between theory and practice is essential in teaching security risk analysis and incorporating practical exercises using open-source intelligence (OSINT) collection software within the context of CIRAM can be a powerful approach. CIRAM, developed by FRONTEX, provides a comprehensive framework for assessing security risks across various dimensions, including border control, migration, and cross-border crime. Integrating practical OSINT exercises into CIRAM-based teaching allows students to experience firsthand how theoretical concepts and models are applied in real-world security scenarios.

In these exercises, students are introduced to OSINT collection software such as Maltego, Hootsuite and Echosec, which are commonly used by security professionals to gather and analyse publicly available information from online sources. Students are given a realistic scenario, perhaps involving a border security threat or organised crime network. They are tasked with utilising OSINT tools to collect, analyse and synthesise information from various online platforms, including social media, news websites, and public databases.

These OSINT exercises teach students to identify relevant sources of information, evaluate the credibility of data and discern patterns or anomalies. They learn to navigate the vast online landscape, separating noise from actionable intelligence. They may also use data visualisation techniques to present their findings, mirroring the tasks they would undertake in a real-world security risk analysis role.

**Practical Exercise on Intelligence management and Analysis Software**

Bridging the gap between theory and practice is an essential aspect of teaching security risk analysis effectively, and incorporating practical exercises using intelligence analysis software, as well as standard office tools such as Excel and Access, within the context of CIRAM can be an invaluable approach. Integrating practical exercises into CIRAM-based teaching allows students to experience firsthand how theoretical concepts and models are applied in real-world security scenarios.\textsuperscript{55}

In these exercises, students engage with intelligence analysis software such as Palantir or IBM i2 Analyst’s Notebook. They are presented with a realistic scenario, possibly involving cross-border criminal activity, and tasked with gathering, analysing, and visualising intelligence data using the software. They learn to connect the

\textsuperscript{53} Frontex, 2018.
\textsuperscript{54} Ibid.
\textsuperscript{55} Ibid.
dots, identify patterns, and derive actionable insights from diverse data sources. These software tools provide students with practical experience in intelligence analysis, mirroring the tasks they would perform in a security risk analysis role.56

Furthermore, while intelligence analysis software is instrumental for complex data analysis, students also need proficiency in using standard office tools, such as Microsoft Excel and Access. These exercises can involve data management, creating databases, or developing spreadsheets to organise and analyse information relevant to security risk analysis. For instance, students might compile and analyse border control statistics, track migration patterns, or manage law enforcement resources efficiently using Excel and Access. These practical exercises not only enhance students’ data analysis skills but also illustrate the importance of versatility in security risk analysis, where multiple tools and techniques are often employed.

Real-World Case Studies
Real-world case studies offer students a window into the multifaceted world of security risk analysis. Through these studies, students explore the challenges faced by security professionals when dealing with issues such as human trafficking, border security, and transnational crime. A case study might revolve around a realistic scenario where a criminal organisation is engaged in smuggling operations across borders. Students learn how to assess the vulnerabilities, threats, and opportunities within the context of the case, mirroring the complexities that security analysts encounter. They can employ CIRAM as a tool to structure their analysis, taking into account a wide array of factors such as geographical locations, migration patterns, and law enforcement capabilities. This application of theory to real-world cases promotes critical thinking and allows students to understand the practical implications of security risk analysis.57

Practical exercises further reinforce the connection between theory and practice in the context of CIRAM. Students engage in activities such as risk assessments, strategic planning, and crisis simulations, where they must apply their knowledge to address the security issues featured in the case studies. For example, students could simulate a crisis situation where a breach in border security has occurred due to a sudden surge in illegal migration. They are tasked with developing an immediate response plan, considering factors such as resource allocation, coordination among agencies, and communication strategies. By using CIRAM to structure their responses, students gain experience in managing real-world security situations, preparing them for the complexities they will encounter in their future careers.

Simulation of Case Studies
A case study can simulate a real-world scenario, such as an investigation into a human trafficking network operating across international borders (Frontex, 2018). Students can be provided with a detailed background on the case, including information about the criminal organisations involved, the victims, the routes, and the law enforcement agencies collaborating on the case. Some real-world case studies and practical examples include the following.58

57 Frontex, 2018.
58 Frontex, 2012b.
Scenario on Border Security in Europe

Scenario: A sudden increase in irregular border crossings is observed in a European country. This case study delves into the intricacies of border security, encompassing geographical vulnerabilities, migration patterns, and organised crime involvement.

Practical Exercise 1 — Risk Assessment: Students analyse the situation using CIRAM, considering factors such as border control capabilities, geographical features, and recent migration trends. They identify potential threats, such as human trafficking, drug smuggling, and illegal migration, and assess vulnerabilities in the border security infrastructure.

Practical Exercise 2 — Strategy Development: Students act as security analysts tasked with developing a comprehensive strategy to address the increasing irregular border crossings. They employ CIRAM to create a multifaceted plan that combines enhanced surveillance, international cooperation with neighbouring countries, and public awareness campaigns.

Scenario on Terrorist Organisations

Scenario: Students are presented with a case study involving a fictional but realistic scenario of a transnational terrorist organisation, operating across multiple countries. The organisation is involved in planning and executing attacks with significant international implications, making it a critical concern for national security agencies and international cooperation.

Practical Exercise 1 — Risk Assessment: In this exercise, students are tasked with conducting a risk assessment of the terrorist organisation’s activities using CIRAM. They analyse the organisation’s structure, financing, recruitment methods, and potential targets. Students also evaluate the vulnerabilities in the regions where the group operates and the response capabilities of the affected countries. This exercise teaches them how to assess the level of risk and identify potential threats within a complex, real-world scenario.

Practical Exercise 2 — Strategy Development: Students act as security analysts and develop a strategy to counter the terrorist organisation’s activities. Employing CIRAM, they create a comprehensive plan that involves intelligence sharing, international cooperation, border security enhancements, and counter-radicalisation programs. This exercise guides students in formulating strategies that address multifaceted security threats posed by transnational terrorist organisations.

Scenario on Transnational Organised Crime

Scenario: An international criminal syndicate is involved in drug trafficking across multiple countries. This case study exposes students to the complexities of transnational organised crime, covering aspects such as illicit supply chains, corruption, and international law enforcement cooperation.

Practical Exercise 1 — Risk Assessment: Students use CIRAM to analyse the risks associated with the criminal syndicate’s operations, examining factors such as the routes used for drug smuggling, the involvement of corrupt officials, and the challenges in international cooperation.
Practical Exercise 2 — Strategy Development: Students are tasked with developing a strategy to disrupt the criminal syndicate’s operations. CIRAM guides them in crafting a multifaceted plan that combines intelligence sharing, coordinated law enforcement actions, and diplomatic efforts to tackle the transnational criminal network.

Conclusions

In conclusion, the dynamic and multifaceted security landscape of the EU demands a proactive and collaborative approach to risk analysis in order to safeguard the well-being of its citizens and protect the integrity of its institutions. This article has underscored the paramount significance of teaching security risk analysis and highlighted the pivotal role played by CIRAM in enhancing the capabilities of EU law enforcement agencies.

Security risk analysis, as the cornerstone of any effective security strategy, involves the systematic assessment of threats and vulnerabilities, a task made increasingly complex by rapid technological advancements, transnational threats, and shifting societal dynamics. EU law enforcement agencies are confronted with the formidable challenge of staying ahead of this curve. CIRAM emerges as an indispensable tool in addressing this challenge. Developed by FRONTEX, it offers a structured and comprehensive framework for assessing security risks, encompassing threat identification, vulnerability assessment, and potential consequence estimation. This model is versatile and adaptable, making it applicable to a wide range of security scenarios.

Teaching EU law enforcement agencies the principles and applications of CIRAM not only equips them to address region-specific security challenges, but also fosters collaboration among member states. By providing a common risk analysis framework, CIRAM promotes interagency cooperation, ensuring a unified approach to security risk assessment. Moreover, its global relevance enables EU agencies to respond effectively to emerging international security threats. As the EU strives to protect its citizens and institutions, the education and implementation of CIRAM emerge as pivotal tools in strengthening the capabilities of its law enforcement agencies, allowing them to anticipate, mitigate, and respond to evolving security challenges in an ever-changing world. In this age of interconnected threats that transcend borders, it is clear that CIRAM represents a vital asset in fortifying the EU’s security posture.

References

Empowering EU Law Enforcement: Teaching Security Risk Analysis With the Frontex Common...


About the Author

Anastasios-Nikolaos Kanellopoulos, PhD candidate of the Athens University of Economics and Business, holds a Master’s in International Relations, Strategy and Security from the University of Neapolis Pafos in Cyprus, a Bachelor in Business Administration from the Athens University of Economics and Business and a Bachelor in Public Security from Hellenic Police Academy. In addition, he is a certified Security Risk Analyst from FRONTEX and the Hellenic Ministry of Citizen Protection. His research interests include the application of Competitive Intelligence and Counterintelligence frameworks in the modern business environment. E-mail: ankanell@aueb.gr

Streszczenie. Krajobraz bezpieczeństwa Unii Europejskiej (UE) podlega ciągłym zmianom, kształtowanym przez niezliczone złożone, transgraniczne zagrożenia. Aby chronić swoich obywateli i ważne instytucje, organy ścigania UE potrzebują zwiększonych możliwości w zakresie analizy ryzyka dla bezpieczeństwa. Niniejszy dokument podkreśla kluczowe znaczenie nauczania analizy ryzyka bezpieczeństwa, ze szczególnym uwzględnieniem wspólnego zintegrowanego modelu analizy ryzyka Frontex (CIRAM), we wzmacnieniu zdolności organów ścigania UE. Pierwotnie opracowany w celu sprostania wyzwaniom związanym z bezpieczeństwem granic UE, CIRAM oferuje uniwersalne ramy do systematycznej oceny zagrożeń bezpieczeństwa i słabych punktów. Obejmuje on identyfikację zagrożeń, ocenę podatności na zagrożenia oraz szacowanie potencjalnych konsekwencji zdarzeń zagrażających bezpieczeństwu. Nauczenie organów ścigania UE zasad i zastosowań CIRAM umożliwia im radzenie sobie zarówno z wyzwaniami bezpieczeństwa specyfickimi dla regionu, jak i zachęca do współpracy między państwami członkowskimi UE. Metodologia badawcza niniejszego artykułu łączy literaturę akademicką i praktyczną wiedzę autora. Przeprowadzono kompleksowy przegląd istniejącej literatury akademickiej i oficjalnej na temat CIRAM, tworząc teoretyczne podstawy badania. Ponadto status certyfikowanego trenera analityków ryzyka we Frontexie zapewnia unikalny wgląd w praktyczne aspekty CIRAM, oferując całościowe zrozumienie jego wykorzystania w szkoleniu personelu organów ścigania UE i jego zastosowania w rzeczywistych scenariuszach operacyjnych. To dwutorowe podejście zapewnia wszechstronną eksplozję roli CIRAM w ulepszaniu analizy ryzyka bezpieczeństwa dla organów ścigania UE, zapewniając cenne spostrzeżenia dla decydentów, praktyków i trenerów.

Resumen. Resumen. El panorama de la seguridad en la Unión Europea (UE) se encuentra en constante cambio, configurado por una gran variedad de complejas amenazas transfronterizas. A fin de proteger a sus ciudadanos y a las instituciones de mayor relevancia, las fuerzas y cuerpos de seguridad de la UE necesitan una mayor capacidad de análisis de las amenazas a la seguridad. El presente documento destaca la vital importancia de la enseñanza del análisis de riesgos para la seguridad, con especial atención al Modelo Común Integrado de Análisis de Riesgos Frontex (CIRAM), a la hora de reforzar las capacidades policiales de la UE.
Desarrollado originalmente para abordar los retos de la seguridad fronteriza de la UE, el CIRAM ofrece un marco universal para la evaluación sistemática de los riesgos y vulnerabilidades en materia de seguridad. Incluye la identificación de amenazas, la evaluación de la vulnerabilidad y la estimación de las posibles consecuencias de los incidentes de seguridad. La formación de los cuerpos y fuerzas de seguridad de la UE sobre los principios y aplicaciones del CIRAM les permite hacer frente tanto a los retos de seguridad específicos de la región como fomentar la cooperación entre los Estados miembros de la UE. La metodología de investigación del presente artículo combina la literatura académica y los conocimientos prácticos del autor. Se llevó a cabo una revisión exhaustiva de la literatura académica y oficial disponible sobre el CIRAM, lo que proporcionó una base teórica para el estudio. Asimismo, el estatus de formador analista de riesgos certificado de Frontex proporciona una visión incomparable de los aspectos prácticos del CIRAM, ofreciendo una comprensión holística de su uso en la formación del personal policial de la UE y su aplicación en escenarios operativos en la vida real. Con este doble enfoque, se analiza a fondo el papel que desempeña el CIRAM en la mejora del análisis de riesgos para la seguridad de los cuerpos y fuerzas de seguridad de la UE, aportando valiosas ideas a los responsables políticos, los profesionales y los formadores.


Резюме. Безопасность Европейского Союза (EC) подвергается постоянным изменениям, формируясь под воздействием множества сложных трансграничных угроз. Чтобы защитить своих граждан и важные учреждения, правоохранительные органы EC нуждаются в расширении возможностей анализа угроз в сфере безопасности. В данной статье подчеркивается ключевое значение обучения анализу рисков безопасности, с особым акцентом на общую интегрированную модель анализа рисков Frontex (CIRAM), для укрепления потенциала правоохранительных органов EC. CIRAM, изначально разработанная для решения задач по обеспечению безопасности границ EC, предлагает универсальную основу для систематической оценки рисков и уязвимостей в сфере безопасности. Она включает в себя идентификацию угроз, оценку уязвимости и потенциальных последствий инцидентов, угрожающих безопасности. Обучение сотрудников правоохранительных органов EC принципам и применению CIRAM позволяет им справляться с вызовами безопасности, характерными для данного региона, и способствует развитию сотрудничества между государствами-членами EC. Методология исследований данной статьи совмещает научную литератuru и практические знания автора. Проведён всесторонний обзор существующей академической и официальной литературы по CIRAM, в рамках которого была создана теоретическая база для исследования. Кроме того, статус сертифицированного инструктора по анализу рисков в Frontex дает уникальное видение практических аспектов CIRAM, предлагая полную картину его использования в обучении сотрудников правоохранительных органов EC и применения в реальных оперативных сценариях. Такой двусторонний подход позволяет полностью изучить роль CIRAM в совершенствовании анализа рисков безопасности для правоохранительных органов EC, представляя ценные указания для лиц, принимающих решения, практиков и инструкторов.