Factors influencing the effectiveness of proving criminal offences during trial

Фактори, що впливають на ефективність доказування кримінальних правопорушень в судовому процесі

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Abstract

Proving effectiveness is a guarantee of protection of human rights, which is especially important for countries with a transitional legal system. Proving is influenced by a number of factors, including those the negative consequences of which are threatening the achievement of the goals of justice. Possibilities of minimizing their impact determine the relevance of the issue under research. The aim of the study is to determine the factors affecting the proving effectiveness and the prospects for improving this process in the context of human rights protection. The study involved the following practical methods: doctrinal approach, comparative method, forecasting. The dependence between crimes and types of evidence of their commission was established. The types of digital evidence were summarized, among which the OSINT technique prevails. The factors are classified into general and special. It was demonstrated that objective organizational factors prevail among the factors of proving crimes related to armed conflicts. It is proposed to focus on the legal regulation of the latest technologies and improving the professional training of the subjects of proving. It is appropriate to develop international recommendations for the

Anotacja

Eфективність доказування є гарантією захисту прав людини, що є особливо важливим для країн із перехідною правовою системою. На доказову діяльність впливає низка факторів, серед яких ті, чиї негативні наслідки є загрозливими для досягнення цілей правосуддя. Можливості мінімізації їх впливу обумовлюють актуальність теми дослідження. Метою дослідження є визначення факторів, що впливають на ефективність доказування, та перспектив удосконалення доказової діяльності в контексті захисту прав людини. У дослідженнях були використані наступні практичні методи: формально-юридичний, порівняльний, прогнозування. В результаті дослідження встановлено залежність між злочинами та видами доказів їх вчинення. Узагальнено види цифрових доказів, серед яких переважає методика OSINT. Класифіковано фактори на загальні та спеціальні. Доведено, що серед факторів доказування злочинів, пов’язаних зі збройним конфліктом, переважають об’єктивні організаційні чинники. Запропоновано акцентувати увагу на нормативному регулюванні новітніх технологій

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use of digital evidence, including artificial intelligence.

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**Introduction**

The appropriateness of the functioning of criminal justice is determined by ensuring the standards of the rule of law (Carrera et al., 2021). Therefore, proving in criminal proceedings requires thoroughness and completeness of the study of evidence in accordance with the law (Fedoriv, 2022), contested action and freedom in the submission of evidence by the parties to the court and in proving their persuasiveness (Van Kempen, 2014). In turn, the judge shall determine all the circumstances that must be proven, provides his/her arguments regarding the evaluation of the evidence of the parties (Hnatenko, 2022).

However, proving criminal offences during trial remains insufficiently effective. In general, this is explained by limited resources, organizational imperfections, and the complexity of criminal justice systems (Dela Rama, 2022). This determines a number of factors that negatively affect proving, in particular:

- non-compliance with international standards for the protection of human rights as a result of violations of the assessment of certain evidence (European Court of Human Rights, 2022);
- changes in the structure of crime, for example, the emergence of types of criminal offences associated with the use of the latest technologies (Office of National Statistics, 2022);
- lack of developed algorithms for working with digital evidence (Lewulis, 2022) and the use of communication and data exchange platforms that do not take into account the specifics of criminal justice (Carrera et al., 2021);
- insufficient attention to the protection of complainant's rights. Criminal trials are a communicative interaction with crime victims and the wider population (Eskauriatza, 2021). Accordingly, proving criminal offences requires "sensitivity to victims" (UNODC, 2019).

The situation with the effectiveness of proving in countries with transitional justice, which face difficulties in complying with international standards, is even more difficult (Mayans-Hermida & Hola 2020). In particular, a typical problem is the lack of real equality of the parties in collecting and obtaining evidence, the contested action of the parties in proving (Mazur, 2020).

Although human rights affect almost all aspects of criminal procedural law, regardless of the specifics of the criminal justice system (Van Kempen, 2014), the issue of the effectiveness of proving is especially acute during armed conflicts. In particular, this is related to: a) the specifics of the crime and the objective impossibility of properly collecting evidence (Schmitt, 2022); b) staying of persons who possess the evidence in the occupied territory; c) the need to use digital evidence; d) reluctance of victims to report crimes committed against them (Fedoriv, 2022); e) introduction of remote court hearings (Carrera et al., 2021), etc.

All studies on the issue are useful. However, their authors mainly focus on particular aspects. The identification and analysis of factors affecting the effectiveness of proving criminal offences during trial will contribute to the strengthening of guarantees of human rights in the field of criminal justice.

**Aim**

The aim of this study is to consider the factors that affect the effectiveness of proving criminal offences during trial, and outline the prospects for improving human rights protection in this area. The aim involved the fulfilment of the following research objectives:

- Determine the essence of evidence during trial and its specifics in relation to different categories of criminal offences;
- Identify factors that influence the effectiveness of proving in a criminal trial,
and find out the specifics of such an influence;
- Determine promising directions for improving the effectiveness of proving criminal offences during trial taking into account modern challenges.

**Literature review**

The studies on the issue under research covers both general aspects of proving and problems related to particular legal situations or those existing in certain states.

Regarding the general aspects, experts emphasize the assessment by the court based on the “beyond a reasonable doubt” standard of each piece of evidence separately and the totality of evidence from the perspective of: a) reliability of information; b) legality/illegality of the method of obtaining it (Criminal Law Center, 2023; Khanin, 2023; Nasinnyk, 2022). However, commentators on ECHR case law draw attention to problems with compliance with evidentiary standards and conformity of decisions with the requirements of the European Convention in terms of proving procedures (McBride, 2009). As a result, courts issue decisions that are later appealed to the ECHR because of the ineffective proving (for example: European Court of Human Rights (2006a); European Court of Human Rights (2006b)), etc.

Some authors believe that this criticism is exaggerated. The low effectiveness of prosecution can be due to objective factors: the adoption of new legislation, crime trends, priorities in the work of law enforcement agencies (McGrath & Healy, 2021; Zarubei et al., 2021). Besides, there are disagreements between law enforcement officers regarding the sufficiency of collected evidence (OECD, 2021).

Regarding specific problems, the following is worth noting:

1. Specialists pay attention to the correlation between crimes and features of proving, in particular, regarding crimes in the field of the latest technologies (Office of National Statistics, 2022). At the same time, traditional evidence (for example, witness statements or DNA tests) cannot be used in such cases. However, for other crimes – murder, rape, burglary – this evidence is the most effective (Amankwaa & McCartney, 2021; Dela Rama, 2022).

A difficult issue is ensuring the effectiveness of proof in specific situations, in particular, in conditions of armed conflict. For example, the ECHR emphasizes the unconditional adoption of all measures to investigate violations of the right to life (European Court of Human Rights, 2011). However, Ukraine’s experience shows significant procedural difficulties in ensuring the effectiveness of proving such crimes (Fedoriv, 2022).

2. The discussion on the place of victims in the discourse regarding the effectiveness of proving occupies a separate place:
   - the influence of the category of victims on the effectiveness of proving, because there is a pattern between the type of crime and the category of victims (Warner et al., 2017; Office of National Statistics, 2022);
   - the influence of the position of the victims on the effectiveness of proving. Although trials are a form of public communication (Jeßberger & Steinl, 2022), courts sometimes do not clarify the goal pursued by the victim (Kompanets, 2021). A consequence of this is the low activity of victims regarding requests for compensation for the harm caused (The right of victims).

3. Regarding the evidence that is mainly taken into account in trials, experts most often note: a) the problem of false testimony and methods of levelling their influence on proving (Luke et al. 2016; Dela Rama, 2022); b) problems of data collection on the Internet and their use in proving (Lewulis, 2022; Council of Europe, 2020).

4. The study of the experience of different countries (Australia, Latvia, Poland, Ukraine, etc.) is a separate direction of research. Positive aspects are noted regarding: a) the effectiveness of proving in jury trials (Warner et al., 2017); b) availability of guidelines for proving certain categories of crimes (OECD, 2021). However, negative aspects are also identified, for example, the lack of legal tools for processing open online information (Lewulis, 2022). In Ukraine, as a state with a transitional legal system, the regulation of the powers of the defence attorney to collect evidence and present it during trial remains imperfect (Mazur, 2020).

Regarding the improvement of proving procedures, attention is paid to regulating the use of the latest technologies (Turner, 2020), in particular, the introduction of artificial intelligence (D’Alessandra & Sutherland, 2021; Shi, 2022). Along with this, it is proposed to
The literature presents a number of conclusions and proposals regarding the effectiveness of proving criminal offences during trial, but they do not constitute a complete system and do not fully take into account the current context.

Methods

In order to achieve the aim and fulfil the research objectives, the sources, which deal with the legal and organizational issues of proving during trial, and the factors influencing the effectiveness of proving, were selected and generalized. For this purpose, a) conventional provisions in the field of human rights protection, ECHR case law and comments on its individual provisions; b) analytical reports on current problems of proving crimes; c) the experience of Ukraine and foreign countries regarding the proving procedures and factors influencing their effectiveness were used. This made it possible to a) generalize the understanding of the nature of proving in the legal process; b) determine the specifics of proving various categories of criminal offences; c) identify general and specific factors influencing the effectiveness of proving during trial; d) find out the prospects for proving improvement with due regard to the technological progress and the current security situation. Research design is shown on Figure 1.

**Figure 1.** The research design (developed by authors)

The study involved the following methods:

- **the system approach** was used to understand the place of proving criminal offences in the system of human rights protection in the field of criminal justice;
- **the descriptive analysis** was used to study the components of proving and generalize the factors that influence the effectiveness of proving;
- **the doctrinal approach** made it possible to generalize the main provisions of international standards, the ECHR case law in the field of proving criminal offences in general and certain categories of acts in particular;
- **the comparative method** was applied to compare the experience of Ukraine and foreign countries with regard to the main factors that influence proving and the neutralization of negative factors;
the forecasting method was used to determine the prospects for improving the effectiveness of proving during trial with due regard to the development of technologies and the current security situation.

Results

The study of factors that influence proving of criminal offences during trial is part of the general discourse of human rights protection in the field of criminal justice. Proving must be based on the principles of the rule of law and the principle of legality. Each piece of evidence is evaluated in terms of relevance, admissibility, credibility, and the totality of the collected evidence must meet the requirements of sufficiency and interconnectedness. This provides an insight into the essence and structure of proving (see Figure 2).

**Figure 2.** The nature and structure of proving criminal offences (developed by authors)

In this context, it is fundamental to emphasize that ensuring the effectiveness of proving is the task of all subjects depending on the stage. However, it is the court that ultimately examines and evaluates the evidence, using it to make a decision about the guilt/innocence of a person in a criminal offence.

Given the trends in the structure of crime, the share of criminal offences, proving which is impossible without digital evidence (cybercrimes, economic torts, etc.) is increasing. Digital evidence can be differentiated by its relevance in criminal proceedings. This is reflected in the share of its main types used by the subjects of proving (see Figure 3).
This context is important to ensure the effectiveness of proving crimes related to armed conflicts. A significant number of such crimes and their partial localization in temporarily occupied territories lead to the widespread use, first of all, of open data posted on the Internet - open-source intelligence (OSINT).

So, the nature and structure of proving, comparison of crimes and types of evidence determines the set of the main factors that influence the effectiveness of proving criminal offences during trial. These factors are supposed to mean phenomena (conditions) that can change the level of effectiveness of proving. These factors can be general or special depending on their effect in most or some criminal proceedings. The classification of these factors on different grounds is presented below (see Figure 4).

**Figure 4.** Classification of factors that influence the effectiveness of proving (developed by authors)

The presented division of factors gives grounds to generalize the correspondence of the most common general factors to their classification types (see Table 1).
Table 1. Correspondence of general factors to classification types

<table>
<thead>
<tr>
<th>Factors</th>
<th>By nature</th>
<th>By consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>dynamics of national legislation</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>incomplete compliance of national legislation with international standards</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>changes in the structure of crime</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>introduction of the latest methods of proving</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>prejudiced attitude towards the victim</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>insufficient preparation of the subjects of proving</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>organization of communication with civil society institutions</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

The proposed correspondence is the basis for the following conclusions:

- the dynamics of national legislation cannot be assessed unambiguously. The positive impact of legislative changes consists in improving the quality of the regulatory text and eliminating regulatory gaps and collisions. At the same time, negative consequences are usually revealed when the subjects of proving have not adapted to the new regulations;
- changes in the structure of crime are associated with an increasing share of intellectual types of criminal activity, an increasing latency level, etc.

Special factors will be illustrated by using the example of factors that influence the effectiveness of proving crimes related to armed conflicts. Under such conditions, the subjects of proving operate in extreme conditions and provide evidence for thousands of crimes. This is connected with a special set of factors, the vast majority of which significantly complicate proving (see Figure 5).

The main factors influencing the effectiveness of proving criminal offences related to armed conflicts

- Organizational:
  - impossibility of access to a significant area for the purpose of collecting evidence;
  - the need to simultaneously involve a large number of investigators and experts, including conducting a large number of various examinations;
  - difficulties in ensuring the participation of defenders;
  - difficulties in evaluating individual digital evidence (for example, screenshots, fragments of website content, social network pages);

- Threats to the security of subjects of proving (because of hostilities and mining of a large area)

- Communication with victims:
  - peculiarities of the physical and psychological state of the victims, especially in case of violence;
  - reluctance of victims to report crimes committed against them (in particular, related to sexual violence)

Figure 5. Factors influencing the effectiveness of proving crimes related to armed conflicts (using the example of Ukraine)

So, the vast majority of factors in proving crimes related to armed conflicts are objective organizational factors with a negative impact.

The objective factors that increase the effectiveness of proving include the introduction of OSINT techniques, as well as cooperation...
with international organizations and foreign countries.

The identified aspects provide an insight into the main possibilities for improving the effectiveness of proving by the authorized subjects. It is considered appropriate to identify conceptual directions within which the set of measures is variable and adaptive to existing conditions (see Figure 6).

**Figure 6. Directions for improving the effectiveness of proving criminal offences during trial**

Regarding special factors, it is necessary to draw attention to the development of the algorithm and the normalization of its use in proving artificial intelligence. This is extremely important when proving crimes related to armed conflicts (for example, to identify those who died during hostilities, persons who committed war crimes, or persons who were subjected to forced deportation). However, we emphasize the need for a clear legal regulation of such an evidence base. It is proposed to develop international recommendations for national law enforcement and judicial bodies on this issue.

So, the following directions appear to be promising: a) development of techniques for handling digital evidence and legal regulation of the use of the latest technological developments in proving; b) improvement of the professional training of subjects of proving.

**Discussion**

This work showed the appropriateness of addressing the issues of the nature and structure of proving (Khanin, 2023), which determines the interest of all subjects of proving in its effectiveness. At the same time, this research showed that these studies do not fully take into account current challenges, in particular, the problems of proving crimes related to armed conflicts.

In the context of compliance with international standards, it is appropriate to subscribe to the position that national criminal justice systems are vulnerable to objective factors (McGrath & Healy, 2021; OECD, 2021). Therefore, non-compliance with the European Convention may be a temporary consequence of the process of adapting the law enforcement system to changes in legislation, crime dynamics, etc.

Emphasis on the importance of taking into account the position of victims (Warner et al., 2017; Kompanets, 2021) is positive. It is supplemented in this study by an understanding of the specifics of communication with victims of crimes related to armed conflicts as a special factor that is determined by the scale and consequences of human rights violations during an aggressive war.

It should be agreed that an important part of the professional discourse is the operation of digital evidence and the problems of regulatory regulation of proving in this regard (Lewulis, 2022; Council of Europe, 2020). We share the point of view about the growing importance of this problem, taking into account changes in the structure of crime (Turner, 2020; Office of National Statistics, 2022). However, this study generalizes the types of digital evidence and identifies their features in relation to crimes related to armed conflicts.
The following propositions were made with regard to increasing the effectiveness of proving crimes committed under martial law:

- paying special attention to proving the harm caused to victims of crimes related to armed conflicts (Schmitt, 2022);
- increasing awareness of the use of journalistic investigative materials and digital technologies for evidence collection and their use in courts (D'Alessandra & Sutherland, 2021, 26).

In general, this vision can be shared, but it is fragmentary. This study proposes a classification of factors that influence proving of crimes related to armed conflicts. This gives grounds to conclude that the vast majority of such factors are objective organizational factors with a negative impact.

There is no doubt that considerations regarding the need to regulate the use of the latest technologies are productive (Turner, 2020). Along with this, it is important to train specialists to provide evidence in certain categories of complex cases (OECD, 2021). However, this study suggests to clarify the mentioned propositions in view of the need for:

- improvement of methods of handling digital evidence, without which regulatory regulation of proving algorithms is impossible;
- professional training of all subjects of proving, not only those specialists who investigate complex cases.

We support the debate on the introduction of artificial intelligence (D'Alessandra & Sutherland, 2021, 25; Shi, 2022). However, such a decision must depend on the crime category and requires careful methodical preparation. This study emphasizes the appropriateness of using artificial intelligence in proving crimes related to armed conflicts (for example, to identify persons who committed war crimes or forced deportees).

In general, these considerations can be the basis for the implementation of legal, organizational and procedural mechanisms to increase the effectiveness of proving criminal offences during trials.

Conclusions

The conducted research gives grounds for drawing a number of conclusions regarding the factors that influence proving criminal offences during trials.

It is shown that the essence and structure of proving condition the involvement of all subjects of proving to ensure its effectiveness. However, the court occupies a central place in the system of these subjects. Emphasis is placed on the connection between the committed criminal offences and the types of evidence used by the subjects of proving. A generalization of the types of digital evidence is presented and their features as applied to crimes related to armed conflicts are clarified. A classification of factors that influence the effectiveness of proving is proposed on different grounds (by nature, consequences, and spread). Correspondence of individual factors to specific characteristics was identified. The significance of the factors influencing the effectiveness of proving crimes related to the armed conflicts was established. It was proved that the vast majority of such factors are objective organizational factors with a negative impact.

Promising areas of improving the effectiveness of proving criminal offences were identified. Special emphasis is placed on improving the methods of handling digital evidence and the legal regulation of the use of the latest technological developments in proving, as well as on improving the professional training of the subjects of proving. It is proposed to pay special attention to the regulatory support for the use of artificial intelligence in proving crimes related to armed conflicts. It is appropriate to develop international recommendations for national law enforcement and judicial bodies regarding the use of digital evidence in general and artificial intelligence in particular.

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