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## The effect of digitalization on the extent of criminal activity in the context of the pandemic

### Вплив цифровізації на масштаби злочинної діяльності в умовах пандемії

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#### Abstract

The process of digitalization has impacted various aspects of social life, and the growth of digital technologies has led to significant changes in communication in society. During the pandemic, digitalization has been particularly noticeable as it has enabled continuous communication despite restrictions. However, this has also affected the level of crime, and it is crucial to understand how digitalization has impacted crime rates globally. This study aims to investigate the specifics of digitalization's impact on crime during the pandemic, examining the causal relationship between the two. The research focuses on the social relations comprised during digitalization in the criminal-legal aspect. Findings suggest that the pandemic has revolutionized the usual law and order among the population, affecting both law-abiding citizens and criminals. Digitalization has also changed the nature of certain crimes, leading to a shift in the level of crime. It is expected that the pandemic will continue to impact society and

#### Анотація

Процес цифровізації вплинув на різні аспекти суспільного життя, а розвиток цифрових технологій призвів до значних змін у моделі спілкування в суспільстві. Під час пандемії цифровізація була особливо помітною, оскільки вона дозволила безперервно спілкуватися, незважаючи на обмеження. Однак це також вплинуло на рівень злочинності, тому для вирішення цього питання слід зрозуміти, як саме цифровізація вплинула на рівень злочинності в усьому світі. Метою цього дослідження є вивчення особливості впливу цифровізації на злочинність під час пандемії, вивчаючи причинно-наслідковий зв'язок між ними. Дослідження зосереджено на суспільних відносинах, які виникають в сфері цифровізації, у кримінально-правовому аспекті. Отримані дані свідчать про те, що пандемія революціонізувала звичайний закон і порядок серед населення, вплинувши як на законослухняних громадян, так і злочинців.

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crime rates for an extended period. Therefore, it is vital to consider the impact of innovative information technologies on crime levels when implementing measures in Ukraine and globally.

**Keywords:** crime, IT criminality, digital technologies, cybercrime, criminal-legal protection.

## Introduction

Various factors are causing changes in social relations in modern times. Notably, digitalization has had a profound impact on these changes. In addition, the Covid-19 pandemic has led to new forms of interaction between people, with online communication becoming increasingly permanent. The use of information and communication technologies is closely linked to digitalization. Nowadays, personal computers, mobile phones, mobile communications, ATMs, bank terminals, electronic banking on mobile devices, contactless payment technologies like PayPass, and others have become indispensable parts of our lives.

Despite the positive effects of digitalization during the pandemic, there are still negative and dangerous behaviors that exist in society, including criminal activities that continue to evolve and take on new forms. As a result, the pandemic has become a significant threat to national security due to its impact on crime, which is an integral part of social relations within a country.

It can be argued that society is a complex system consisting of interrelated processes and elements, that changes in one element can have ripple effects on others. With the Covid-19 pandemic affecting the social life of many countries worldwide, the usual lifestyles and routines of millions of people have been disrupted, leading to changes in the level of criminal activities.

Interpol has reported a significant rise in the sales of counterfeit medicines such as antimalarials and vitamins, fake protective masks, and disinfectants since the beginning of the pandemic. The organization has also issued a warning about the increase in sexually motivated crimes against children due to the restrictive measures implemented during the pandemic. These measures include the closure of schools,

Цифровізація також змінила характер певних злочинів, що призвело до зміни рівня злочинності. Очікується, що цифровізація продовжуватиме впливати на суспільство та рівень злочинності протягом тривалого періоду. Тому важливо враховувати вплив інноваційних інформаційних технологій на рівень злочинності під час реалізації заходів в Україні та світі.

**Ключові слова:** злочинність, IT-злочинність, цифрові технології, кіберзлочинність, кримінально-правовий захист.

increased time spent by children on the Internet, restrictions on international travel and repatriation of foreigners, and limited access to social support services and teaching staff who play a crucial role in detecting cases of sexual exploitation of children.

The impact of the pandemic on crime rates varies in different countries. In Ukraine, for instance, the level of crime decreased by 30% between March and July 2020, but there was a corresponding increase in cybercrime, including criminal offenses committed using computer equipment, information technologies, and global networks. There was also an increase in fraud committed through the use of Internet technologies.

Given these developments, it is crucial to understand the impact of digitalization on crime rates during the pandemic, including the need for legal regulation of this area. It is necessary to analyze this issue, establish the cause-and-effect relationship, and pay attention to international experiences that have contributed to reducing the level of crime during the pandemic.

The research questions which the authors decided to solve in the present article include the following ones. How has digitalization during the pandemic impacted the overall levels and structure of crime? What are the specific types of "coronavirus crimes" that have emerged during the pandemic as a result of digitalization? How has the increase in online services, purchases, and electronic payments during the pandemic contributed to the rise in cyberattacks and cybercrimes? What are the experiences of different countries, such as the United States, Great Britain, and Bulgaria, in terms of the impact of digitalization on crime during the pandemic?

The answers to the stated research questions are reflected in the conclusions of this article.

### Theoretical Framework or Literature Review

In their article, Arkusha and Mandrychenko (2020) provided a general overview of criminal activity that occurred during quarantine conditions. They identified various crimes related to digitalization, including fraud using internet resources to sell low-quality goods, gathering information for criminal activities, spreading false information, and cybercrimes aimed at accessing confidential information and conducting illegal transactions.

Meanwhile, Bandurka O. M. and Bandurka I. O. (2020) investigated the theoretical aspects of crimes committed during the pandemic. Similarly, Batyrgareeva, Borisov, Yevteeva, Kalinina, Kolodyazhnyi, and Shramko (2020) focused on socio-legal and criminological issues caused by the Covid-19 pandemic in Ukraine. They highlighted the high mortality rate as the most severe consequence of the pandemic and outlined other negative consequences on various aspects of society, including human rights, legal regulations, economy, social life, information space, and law and order.

Furthermore, Golovkin (2017) explored the characteristics of utilizing electronic crime prevention systems in large cities. In the study conducted by Golovko, Shpak, and Mykyta (2021), the authors extensively discussed the trends of offenses during the Covid-19 pandemic, focusing on domestic violence and cyber-violence. Unfortunately, the authors found that the quarantine led to an increase in certain types of offenses, particularly cybercrimes and domestic violence.

In addition, Denisova (2020) analyzed the manifestations of crime during the pandemic. Zabarnyi (2021) examined the experiences of both Ukrainian and foreign crime patterns before and after the pandemic. The author noted that the pandemic significantly altered the structure of crime, as there was a decrease in traditional "street" crimes during the initial month of the pandemic, accompanied by an increase in cybercrimes, fraud using IT technologies, domestic violence, and theft.

Additionally, Kalinin (2020) presented a criminological prediction regarding the impact of the virus pandemic on the legal system. According to the author, the COVID-19 pandemic and its associated quarantine measures

may lead to an increase in several types of crimes, such as violations of sanitary rules and norms related to infectious disease prevention (Article 325 of the Criminal Code of Ukraine), fraud, vandalism, looting, hooliganism (particularly during the nighttime), cybercrime, domestic violence, violent crimes, sexual crimes committed within households, and crimes associated with alcoholism, drug addiction, suicides, homelessness, and illegal migration.

Kryzhanovskiy's (2020) article explores the immediate and long-term effects of COVID-19 pandemic and the quarantine measures imposed by various countries on law and order. Kulyk (2019) investigated the use of Smart Building technology for crime prevention in Ukraine.

Meanwhile, Litvinov (2020) discussed the implementation of digital tools and emphasized the need to understand the role of numbers in human life before introducing technological innovations. Novikov and Novikova (2021) examined the theoretical and legal aspects of cyber-violence, a crime that gained prominence during the pandemic. Finally, Romanov (2020) focused on the impact of digitization on human rights and ensuring their protection during the pandemic.

E. Streltsov and L. Streltsov (2020) conducted a thorough analysis of the crime during and after the coronavirus pandemic. According to the authors, studying the phenomenon of crime in the context of the pandemic requires a comprehensive and systematic approach. It involves isolating coronavirus-related crimes and examining their quick and long-term consequences, some of which are predictable today, while others are probabilistic or unknown. In the context of the pandemic, Tretyak (2020) examined economic crimes and fraud while Shevchuk (2020) explored the impact of COVID-19 on crime. Shevchuk concluded that the pandemic has had a negative effect on all social processes, particularly economic ones. The implementation of quarantine measures has significantly impacted the country's economy, thereby reducing the well-being of nearly all citizens. This may potentially lead to an increase in self-serving and violent crime. However, the consequences of the pandemic on crime rates and the emergence of new criminal offenses are likely to materialize in the future.

Bradley B. (2020) analyzed the impact of quarantine on the crime rate in Chicago, while Tisdell C. A. (2020) examined the moral and ethical concerns arising from COVID-19 policies

and factors affecting crime. Although researchers and legal experts have expressed interest in the impact of the pandemic on crime, a comprehensive analysis of the influence of digitization on crime rates during the pandemic is currently lacking.

Given the relevance and significance of this topic, further examination is necessary.

### Methodology

During the study of the impact of digitization on crime levels during the pandemic, philosophical methods were employed. Specifically, the use of philosophical-dialectical laws and categories helped to understand how digitization affects the transformation of crime in the modern world. These laws and categories were necessary and sufficient for studying information about crime during the pandemic.

As legal questions about crime are transformed into cognitive ones, a theoretical understanding of the relevant social phenomena is necessary to learn the essential basis of factors affecting crime levels. This involves including the entire system of temporal characteristics of legal reality, such as social and historical conditioning, interrelationships, connections, dependencies, and the interaction of all legal factors.

The most fruitful methodological basis for explaining the cause-and-effect relationship between the pandemic, digitization, and crime levels is provided by principles and laws of dialectics such as the law on the general, universal connection of objects and phenomena in the surrounding world, the concept of social determinism, and the principle of historicism. The concept of cause-and-effect relationship plays an important methodological function because understanding the causes and conditions under which a specific consequence occurs allows for the prediction and generation of necessary consequences.

The systematic method was used to analyze the doubts and contradictions in the study of crime during the pandemic in the context of digitalization. Crime was considered a relatively independent, dynamic, and probabilistic social system, with its own characteristics and regularities. Logical methods such as induction, deduction, and synthesis were employed to reveal the content of digitization and the influence of various factors on the growth and decline of crime rates in different countries. These methods helped in comprehensively

understanding the phenomenon of digitalization and its impact on social relations, as well as the changes brought about by the pandemic and related restrictions. Overall, the use of philosophical and logical methods at both theoretical and empirical levels provided new insights and helped in forming clearer conclusions for this study.

The study extensively examined the changes in crime rates, considering various factors through the use of statistical analysis. The statistical method provided a comprehensive approach to investigating the relationship and connection of data in comparing the state of crime before and during the pandemic. By collecting and analyzing statistical data, and observing trends, it helped to identify common characteristics, processes, and patterns regarding the impact of digitalization during the pandemic on the level of crime.

### Results and Discussion

The pandemic, with its widespread anti-epidemic measures, has impacted every aspect of social life. As a result, it has increased the criminogenic potential in society, leading to the repurposing of crimes and a change in the structure of crime. According to the Interpol report, criminals quickly exploited the crisis, adapting their illegal activities or resorting to new types of criminal acts. Cybercrime, fraud, the sale of counterfeit medical and sanitary products, personal protective equipment, and the emergence of a new "quarantine" type of organized crime have all seen an upsurge. This type of organized crime involves groups of offenders who carry out pre-designed scenarios, such as scams, by impersonating representatives of authorities and doctors to commit fraud and theft (Interpol, 2020).

Through an analysis of scientific literature and statistical information, several trends and consequences of the impact of digitization during the pandemic on crime levels can be generalized. The rise in computer-related crimes and exploitation of information technology has led to an increase in criminal offenses. The pandemic has impacted both law-abiding citizens and criminals, who have quickly adapted to the changes in society and intensified their online activities. Moreover, inadequate protection of personal information on home computers and increased online shopping and payment using bank cards have facilitated criminal activities. Fraudsters have taken advantage of the pandemic-induced social imbalances to engage

in deception and abuse of trust, resulting in an increase in fraudulent activities involving the use of information technology (Shevchuk, 2020).

The interaction between digitalization, the pandemic, and crime has resulted in various consequences, including the following:

The pandemic has prioritized the need for survival, and the use of convenient tools for public interaction has become an opportunity for internet fraud and security breaches.

While certain types of crime remained latent, the pandemic did not affect their manifestation, such as criminal activities related to road traffic safety and transportation.

A significant trend observed during the pandemic is the increase in cybercrime.

We will now examine how different countries have been affected by digitization during the pandemic and its impact on the structure of crime.

According to statistical data, Ukraine experienced a significant decrease in many types of criminal offenses during the first month of the pandemic compared to the same period in 2019. However, cybercriminals in Ukraine created over 10,000 fake resources related to the pandemic, resulting in an increase in cyber fraud by more than 200% by the end of March 2020. Similarly, After the introduction of a special regime in Bulgaria, there was a significant decrease in the total number of crimes registered. Analyzing crime trends in Bulgaria in the first few months of the past three years, there was a decrease in crime indicators in February and an increase in March 2020. However, the quarantine period provided favorable conditions for cybercrime and fraud. During the state of emergency in Bulgaria, cybercrime increased by approximately one-third compared to previous months. Almost half of these cases involved hacking attacks on corporate networks for industrial espionage and extortion, while the rest targeted personal data and financial theft (Zabarnyi, 2021). The first month of the coronavirus pandemic saw a decrease in crime of more than 70% (Zabarnyi, 2021). Spain and the United Kingdom also saw crime decrease by more than 70% during the first month of the pandemic. Meanwhile, in the US, the level of crime decreased in certain states such as Illinois, Pennsylvania, and Indiana, as the number of calls to the police decreased due to the pandemic. However, the expanded use of online stores and

services, as well as online payments, significantly increased the number of frauds, especially cybercrimes, highlighting the impact of quarantine restrictions and digitalization on crime.

## Conclusions

The pandemic has had a significant impact on human civilization, creating new opportunities for population interaction through digitalization tools, while also bringing new risks that lead to new forms of crime and affect overall crime levels.

The impact of digitalization during the pandemic has affected crime in both coronavirus and post-coronavirus conditions. A new type of crime, known as "coronavirus crime," has emerged due to the impact of the pandemic and digitalization. This type of crime is characterized by its content, which reflects both the viral disease itself, as well as the methods of interaction and measures taken to limit, reduce or stop the spread of the disease. The experiences of various countries, including the United States, Great Britain, and Bulgaria, show that digitalization during the pandemic has led to changes in the structure and level of crime. Specifically, there has been an increase in cyberattacks and cybercrimes against organizations and individuals due to the rise in online services, purchases, and electronic payments. Additionally, the loss of jobs among the population has contributed to an increase in online fraud.

Moving forward, it is crucial to conduct further scientific research on the specifics of crimes committed in the digital environment during the pandemic and explore ways to prevent them.

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