# Impact of the Digital Transformation of Society on the Determination of Optimal Punishment Models to Counter Crime*

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**Abstract**

This study aims to define the essence of punishment from both retrospective and prospective perspectives, particularly in the context of the digital transformation of society. The study draws on qualitative methods, including a comprehensive analysis of contemporary scientific literature and expert interviews, to examine the evolving nature of punishment. The analysis is grounded in the views of prominent researchers and theorists, allowing the authors to develop their theoretical provisions regarding the moral nature of punishment. These provisions emphasize the importance of maintaining the human element in the penal system, arguing that the moral judgment inherent in punishment should not be entirely entrusted to digital instruments or artificial intelligence. Instead, the study advocates for a balanced approach that recognizes the potential of digital tools to enhance efficiency while cautioning against their excessive use in penological practice. Furthermore, the study highlights probation techniques as a key means of individualized crime prevention, suggesting that these techniques should remain central to the penal system in an era of digital transformation. By focusing on the human capacity for moral judgment and individualized prevention, the study proposes that the role of digital tools should be supplementary rather than central. In conclusion, the study recommends that legislators and practitioners prioritize the preservation of human judgment in punishment practices, using digital tools cautiously and ensuring that they do not undermine the moral and individualized aspects of justice. The findings suggest a need for further research into the ethical implications of digitalization in criminal justice, particularly regarding the balance between human and digital roles in punishment.

**Keywords:** Crime; Punishment; Digital Technology; Non-Repressive Paradigm; Penological Model.

## A. INTRODUCTION

The problem of the criminal penalty, its essence, and the attainability of its goals are among the most controversial topics in the criminal law doctrine. As an eternal companion of crime, punishment preoccupies the minds of renowned scholars, practitioners, and ordinary citizens, perhaps even more than the question of why people commit crimes. The transformation of social relations and the associated processes of criminalization or decriminalization bring discussions on the legal nature of criminal punishment, the actual applicability of the types of punishment stipulated by the criminal codes of various countries, and the rules of their imposition.

The initially seemingly immutable philosophical, legal constructions to which the category of punishment can be rightfully attributed are currently undergoing substantial changes. This primarily relates to the exponential development of science and technology, which not only leads to the transformation of the regular processes and objectives but also touches upon the conceptual foundations of human existence. At present, as digitalization processes penetrate our daily lives and we can no longer conceive the performance of many routine tasks without digital technology and artificial intelligence, the issue of drawing the line between content and form, essence and means, and objectives and tools for their achievement is becoming increasingly relevant. Otherwise, humanity will risk agreeing with the technical character of punishment without comprehending its nature, giving the arduous task of determining punishment and its execution to A.I.

The origins of punishment as a social, legal category lie in the roots of society itself. The most ancient monuments of juridical thought found on different continents mention punishment to restore disturbed relationships. Although the overwhelming majority of the sources of law preserved to the present day do not contain the concept of punishment or its essence and goals but only mention the types of sentences, analysis of the realized penological practices suggests the punitive nature of punishment.

Traditionally, science sees punishment as a type and measure of criminal responsibility for the committed crime (Krainova & Radoshnova, 2021, p. 162). Russian scientific sources believe that "punishment is a negative sanction that restores the previously violated integrity of interpersonal connections" (Budaeva, 2009, p. 3). Thus, punishment mostly shows its punitive effect. Researchers also consider punishment a "punitive sanction" for the committed crime, and this view is believed to be deeply entrenched in contemporary world culture. (Fondacaro & O'Toole, 2015, p. 477)

Analysis of the existing criminal legislation of most states gives reason to conclude that the punitive paradigm is being replaced by the resocialization and restorative paradigms. Punishment no longer pursues penalty alone but also has a corrective effect on the perpetrator and compensates for the damaged social status of both the perpetrator and the victim. This is evidenced by changes in the qualitative composition of the types of punishment, among which the non-custodial ones are predominant in most countries.

The indicators of custodial sentences show a downward trend worldwide. The global leader in terms of the imprisonment rate is the USA. According to the World Prison Brief, in 2021, the USA had about 25% of the total number of inmates worldwide (World Prison Brief, n.d.). The distribution of world countries by the number of incarcerated convicts (Figure 1) shows that the overall level is relatively low, confirming that non-custodial sentences prevail in the total number of sentences imposed.
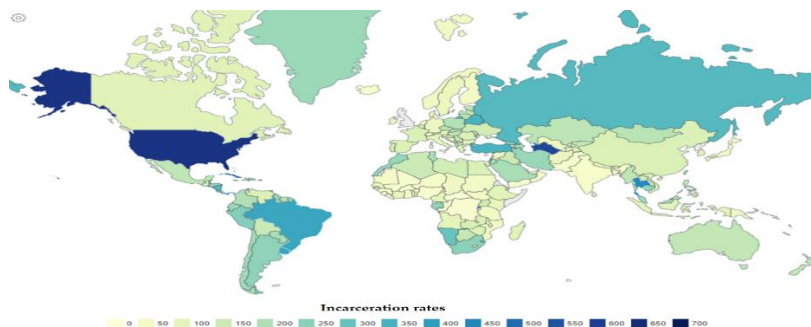


**Figure 1**. Statistics on the number of inmates in prisons

Source: World Population Review (2023)

A significant role in the transformation of punishment was played by the emergence of the institute of probation in social and legal practice to deal with convicts, which is used in some jurisdictions in conjunction with punishment and some jurisdictions instead. P.C. Friday argues (1979) that punishment cannot be the only means of crime prevention because it does not affect the convict's personality. The idea of probation relies on the influence on the individual's personality and consideration of their mental characteristics, social environment, and living conditions. Currently, probation is used in most European countries, the USA, Kazakhstan, Azerbaijan, Armenia, Baltic countries, Belorussia, etc. A relevant law was also adopted in Russia in 2023. (State Duma of the Federal Assembly of the Russian Federation, 2023)

Notably, despite expanding the global practice of probation, the institution of punishment is not losing its relevance. This allows researchers to propose unconventional theses about this social legal institute as not manufactured. Kh.D. Alikperov (2020b), in his theory, gives priority to admitting the non-human nature of punishment, which he sees as a "non-man-made phenomenon that emerged outside the cultural environment, existed long before Adam, and is used not only in society but in nature as well" (p. 27). Many researchers have noted the religious basis of criminal prohibitions and their essentially God-given nature (Bespalko, 2015, p. 13). However, in contrast to Alikperov, who substantiates the idea of non-man-made punishment as a criminal legal institution, the scientific literature is dominated by the concept of religious norms implemented in the legal fabric, of their embeddedness in manufactured law. Iu.V. Tikhonravov (1998) asserts that "as a result of religion being implemented in law, 'we essentially use law resorting to the help of Christianity'"(p. 61).

This argument can be accepted if the phenomenon of punishment is considered broadly, without correlation with the forms in which the legislator puts it, defining it as a measure of state coercion, i.e., coming from the state. Possibly (although there is no reliable knowledge about this), in the very origins of its inception, law was non-man-made, the same as all of its institutions. However, at present, it would be deceitful to assert that the hand of man is wholly irrelevant to the determination of punishment and its measure.

Well-established is the view of punishment as a penalty, a retribution for the crime committed, and the closely associated concept of the criminal, formulated by criminal law. After all, without crime, there would be no punishment.

The natural essence of punishment is more accessible to accept when it is considered as applied to the category of immutable crimes, which infringe on the natural rights of a person, such as murder, rape, theft, etc. However, it is rather challenging to think in these categories if we consider the acts that used to be crimes in criminal law but have long become a thing of the past. For instance, profiteering and sodomy, which not so long ago were seen as crimes and were punishable, are no longer so, and from a certain angle, even belong to socially acceptable forms of behaviour. Another example would be the criminal prohibitions recently introduced into Russia's Criminal Code, such as Article 207.1 (public dissemination of knowingly false information about circumstances that pose a threat to the life and safety of citizens) and Article 207.2 (public dissemination of knowingly false socially significant information, which entailed grave consequences) that appeared against the backdrop of the exponential

spread of COVID-19 and the ensuing mass hysteria. ([State Duma of the Federal Assembly of the Russian Federation, 2020](#))

Analyzing the constant processes of criminalization and decriminalization of various acts, the nature of both crime and punishment for it becomes evident. Furthermore, each era has its style and spirit of punishability: what was utterly mundane in the Middle Ages is now seen as savagery and barbarism.

Contemplation about the nature of crime and punishment leads scholars to radical ideas that the state, by defining the range of crime, shapes criminality and, consequently, punishability. As pointed out by [Ia.I. Gilinskii (2019),](#) "current criminal law in many states, including Russia, is excessive and *makes* each citizen a criminal" (italicized by [Gilinskii) (p. 8)](#). That is, the state, as it develops criminal legislation, forms the concept of the criminal by assuming punishment for the committed crime. Reasoning further, we can logically come to the following statement: if there is no crime, there will be no punishment. Yet, it is difficult to imagine a society that would manage to exist in this order, or rather disorder, of affairs. A society without legal order lacks the limits of permissibility, and the negative consequences are clear for those who cross them. Such a society would not be orderly or civilized, ultimately descending into anarchy and chaos. Therefore, the state has a vital need for criminal law, whose core categories are the concepts of crime and punishment. In other words, the essence of punishment shows itself in the very need for its existence.

Analyzing the various aspects of the phenomenon of punishment, [Alikperov (2020b)](#) comes to an exciting conclusion that:

> "Punishment is one of the sources of replenishment of the state budget, as a result of which: a) many states are not too interested in reducing both the number of crimes and the number of convicts, b) individual heads of law enforcement and judicial authorities have a vested interest in punishment, as the detained and arrested persons, persons under investigation and defendants, the accused and the convicted serve as a tool for 'pocketing' the state budget, a 'gold mine' for illicit enrichment, so it becomes clear how far we are from the true nature of punishment. (p. 28).

This understanding of punishment fits nicely into the overall image of punishment as a measure of state coercion and anchoring this criminal legal institute in modern criminal legislation.

Of particular interest in the concept proposed by Alikperov is the unique role of the judge in determining guilt and punishability and the unique role of digital technology as a tool contributing to identifying a just punishment. [Alikperov (2020a)](#) suggests using a particular program to determine the measure

of punishment, which would calculate a specific punishment for the criminal according to certain predetermined parameters. Nevertheless, the decision to apply this measure has to be made by a special commission. This position deserves attention and endorsement to the extent to which the decisive role in ruling belongs to a human in the face of the judge. That being said, introducing a special commission with little knowledge of the circumstances of the case appears to be excessive. In this light, a fair question is posed by the president of the St. Petersburg International Criminology Club, Doctor of Legal Sciences, Professor D.A. Shestakov (2020): "Why would that person have to be someone other than the judge handling the case?"

We live in an era of exponential development of digital technologies when speculations about A.I. as a subject of law no longer seem so improbable. Humanity is facing a great temptation to transfer most of its functions to inanimate objects and machines and to technologize processes. With all the seeming advantages of this approach, human beings should be warned against haste and ill-considered decisions. Digital technology is not necessary and reasonable in every sphere of public life at the cost of people's intellectual, moral, and spiritual development. Besides positive effects, using various software and A.I. in the legal sphere immanently carries risks. Researchers note that "often such systems are trained on the decisions or information created by humans; they may inherit human fallacies" (Dremliuga & Koshel, 2018, p. 56), so the development of technologies is potentially criminogenic. (Dremliuga et al., 2019)

The questions concerning the definition of punishability and building the system of punishment and sentencing appear to be the exact questions that should be left to humans due to the unique nature of punishment, its goal-setting, and its deep moral roots.

Discussing the moral basis of punishment, I.M. Ragimov (2016) concludes that "coercion with punishment, resistance to criminal acts can and should be justified. More than that, it is necessary specifically from the point of view of higher morality, but only if coercion with punishment is not violence against the person but, on the contrary, combats violence and evil" (p. 85).

The moral nature of punishment as a means of influencing the criminal and keeping other individuals from committing crimes is embodied in its humanity. Punishment should come from a person and be addressed to a person. In essence, punishment is intended to influence the person's inner world and trigger internal rethinking and reassessment of their behaviour and attitudes towards existing social norms.

Ideas about the morality of punishment primarily rely on the prominent works of J.-J. Rousseau, C. Beccaria, G.W.F. Hegel, and other scholars advocating for an appeal to the inner nature of man and social influence on it for individualized crime prevention. Punishment is perceived as a certainty stemming from the very fact of committing a crime: as Hegel (1990) asserted, the criminal themselves holds in their will a crime that needs to be remedied. The views of contemporary researchers constitute a transforming idea of just punishment as an attribute vital for a state that is intimidating but not applied. H. Hart (2007) stresses the importance of fear and the threat of punishment, a tool that prevents crime with the very fact of its existence, "a stimulus for abstention" (p. 51).

## B. METHODS

The research utilizes various approaches and methods focused on analyzing scientific literature, federal laws, and global statistics. At the core of the study lies work with scientific literature employing systemic and critical analysis and a brief review of opinions about punitive systems across the world at present and in a historical context.

## C. RESULTS AND DISCUSSION

Specialists point out that "creating a clear and universal ladder of crimes and punishment is an impossible task even today, in the age of great achievements in natural and exact sciences" (Ragimov, 2016, p. 146). History shows that attempts to build such a system and find an algorithm to observe the requirements of commensurability, proportionality, and justice in sentencing have been made numerous times. Now, in the era of digital technology, it appears that with the aid of software and A.I., the search for an ideal system and the required instruments will succeed. Researchers propose different methods of using technical systems and A.I. to investigate and create crimes. (Byrne & Marx, 2011) Nevertheless, we are convinced that even in today's scientific and technical progress era, the search will not yield results because we are looking in the wrong place.

It is now clear that humanity is developing a technological mode of social relations instead of spiritual and emotional. Such trends can be traced in all spheres of human life. We are diving deeper into technology, thinking about personal safety, trying to achieve it through the same technologies, and paying less attention to the capabilities of spiritual and social practices based on the

development of human potential. An increasing number of crimes are committed with the use of information and communication technologies, and a negative trend of radicalization of the informational space is noted. (Windisch et al., 2021)

In our view, in the context of the digital transformation of society, it is necessary to recognize the value of the person's inner world, along with the promise of abandoning excessive use of the repressive paradigm to substantiate the penological model and giving up the search for digital technology to determine the punishability of an act in favour of turning to various spiritual and social practices as instruments of anti-criminal influence. In this connection, the use of probation methods appears justified.

Analyzing the efficiency of various human behaviour regulators, A.V. Petrovskii concludes that a symbiosis of legislative acts and traditional social norms achieves the most excellent efficiency of impact on criminogenic determinants. Several social normative regulators, such as family, ethnic, conventional, and religious norms of behaviour, often play a prominent part in crime prevention on par with the fear of criminal and administrative punishment (Petrovskii, 2019). Agreeing with this statement, we should note that in the digitalization of social relations, the role of social normative (informal) regulators of behaviour is rising. This is clear because many relations are being transferred to the digital space, where the action of legal norms as regulators of real-life relations is hampered.

In the past five years, there has been an increase in the number of crimes committed using ICT (Figure 2). There is also a growing number of cyber-attacks on large institutions and organizations (Korobeev et al., 2019). Consequently, traditional *corpus delicti* provided for by the Criminal Code of the Russian Federation are acquiring the corresponding qualifying features. Changing realities demand new penological solutions appropriate to the situation. Traditional tools based on the punitive paradigm are no longer practical. In the context of universal digitalization and internalization, there is a greater complexity not only in investigating crimes committed using ICT but also in searching for an optimal penological model that would achieve the goals of punishment.

The very essence of punishment is transforming in the information society, as the punitive effect is almost levelled, and it is perceived by the information society from its moral nature and corrective effect on the offender. We believe the conceptual basis for the penological paradigm in the information society should be the non-repressive punishment paradigm with active use of spiritual and social practices.
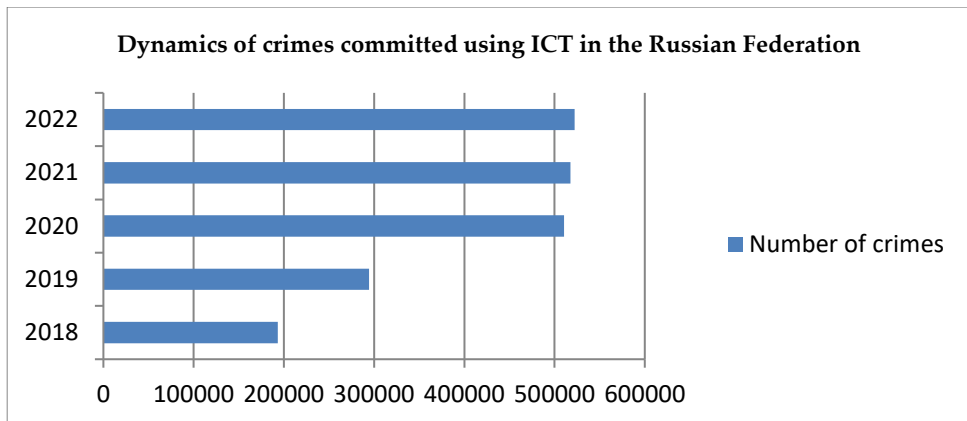
**Figure 2.** Ministry of Internal Affairs statistics on the number of crimes
Source: Ministry of Internal Affairs of the Russian Federation. (n.d.)

As emphasized by A.L. Gurinskaia (2018), "It is undeniable that a sense of conscience, shame, or fear of losing respect in society may have just as much deterrent power as administrative and criminal penalties" (p. 298). Modern penological models should focus on the use of psychological influence, appeal to a person's inner feelings, and search for deterrent motives that inhibit an individual's criminal activity. Without calling to abandon the use of punishment altogether but urging to change approaches to its application, including minimization of repression, we note that counteraction to crime solely by measures of criminal punishment is ineffective.

D.A. Shestakov (2006) rightly notes that

"The development of control over crime is accompanied by a realization that the effect of criminal punishment on the mass reproduction of crime in society is negligible, as well as by the emergence of non-punitive measures of response to crime associated, in particular, with social, psychological, and other help to persons who may commit a crime or become a victim of one due to unfavourable conditions of their development, as well as the given situation." (p. 245).

In our opinion, the scope of applying alternative criminal law measures should be increased, and the grounds for exemption from criminal liability should be extended. For instance, an exemption from criminal liability could be granted based on a person's involvement in performing tasks to ensure society's and the state's security and eliminate the consequences of environmental disasters, accidents, and catastrophes.

## D. CONCLUSIONS

The search for optimal models of counteraction to crime presupposes an investigation into the essence of the fundamental categories, which include crime and punishment. In a constantly changing external environment, it is vital to have a reference point to find an optimal toolkit. Such a foundation could be the idea of the moral essence of criminal punishment, the depreciation of its use as a last resort, and the expansion of the scope of non-punitive responses to crime. Amid the digital transformation of society, the essence of punishment is also perceived differently: the punitive effect is receding into the background, giving way to the idea of the moral basis of punishment. Punishment should be addressed to a person, come from a person, and be fully realized by the person. The use of digital technologies and A.I. in determining the measure of punishment and the methods of its execution and penitentiary practice should be minimized, as they entail unjustified risks.

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