The Evolution Theory in Perspective of Cyber Criminality on the Basis of Technological Components: Analyzing the Role of the Theory of Emerging Technologies in Facilitating Transnational Organized Crime

Authors : Tanmoy Basu

Abstract : The confluence of evolutionary paradigms and technological advancements offers an unprecedented vantage point for scrutinizing the mechanisms underpinning cyber criminality. This research delineates the instrumental role of emergent technologies in exacerbating transnational organized crime, conceptualized through the prism of evolutionary theory. By interrogating the scientific proposition of how adaptive strategies inherent to evolutionary principles converge with the acceleration of technological innovation, this study elucidates the profound metamorphosis in criminal methodologies within the digital milieu. The discourse commences with an exhaustive exegesis of evolutionary theory, emphasizing constructs such as adaptation, variation, and selective pressures transposed into the cybernetic domain. It postulates a cogent hypothesis: technological evolution, analogous to biological evolution, engenders adaptive capacities among cybercriminal entities, enabling them to proliferate and optimize operations across extraterritorial frontiers. Employing a multifaceted methodological framework, the study integrates longitudinal case analyses of cybercriminal enterprises, statistical interrogation of transnational cyber-offenses, and prognostic evaluations of technological trajectories. This approach elucidates the symbiotic relationship between technological sophistication and the operational stratagems of cyber criminals. Empirical findings unveil a deterministic nexus between technological innovation and the escalating intricacies of cybercrime. For instance, the incursion of blockchain technology has redefined the paradigms of financial obfuscation, while artificial intelligence has fortified the precision of nefarious activities such as credential harvesting and algorithmic fraud. The interpretative synthesis corroborates the hypothesis, asserting that evolutionary imperatives -adaptation and survival- are emblematic in the digital stratagems of cyber malefactors. The study culminates in advocating for a consolidated global architecture that harmonizes technological ingenuity with stringent cybersecurity frameworks to counteract the proliferation of transnational cybercriminal networks.

Keywords : artificial intelligence, cyber criminality, cybersecurity framework, cogent hypothesis, evolutionary theory, evolutionary imperatives, financial obfuscation, interpretative synthesis, statistical interrogation, transitional cybercriminal network, technological ingenuity

Conference Title : ICICLCJ 2025 : International Conference on International Criminal Law and Criminal Justice **Conference Location :** London, United Kingdom **Conference Dates :** June 26-27, 2025

1