

Career Paper

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Cyber Security and Social science

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5 April 2024

Social Science and Digital Forensics

Digital forensic analysts play an essential role in safeguarding digital spaces and the integrity of information systems against malicious activity. Digital forensics analysts use the concepts and research of social science to navigate the framework of human behavior linked with cyber activity. This essay examines how social science research and social science principles are necessary and important for digital forensics professionals in their line of work, it also examines how fundamental ideas from the classroom are applied in the field, it investigates the relationship between the field and marginalized groups and the difficulties they encounter; as well as examines the relationship between the field and society.

The Role of Social Science in Digital Forensic

Digital forensics analysts lean on social science research and principles because they understand that cyber activity involves more than just technology, it also involves human behavior. By assisting them in understanding the motives behind the actions of cybercriminals, social science helps them detect and recognize threats more effectively. Additionally, during investigations, it guides their moral judgment, guaranteeing privacy protection and a balance between security requirements and moral considerations. For example, according to the study *A Digital Forensic Investigation Model and Tool for Online Social Networks* "...digital forensics investigators attempting to resolve such types of network based cyber crime, to help ensure that any digital evidence recovered can be used in a court of law" (Zainudin et al 2011, p.27). Incorporating social science into their use not only improves the technical capabilities of digital forensics analysts, but also guarantees that their approach is socially and ethically responsible, reflecting the human aspect of cyberspace.

Key Concepts

As demonstrated in the modules digital forensic analysts skillfully combine ideas from sociology and psychology to improve cybersecurity procedures. They use their knowledge of human behavior, the psychological underpinnings of cybercrime, and the effects of technology on society to defend against online fraud, cyberbullying, and other online dangers. Analysts create systems that are not just safe but also inclusive and user-friendly, particularly for underrepresented groups, by taking into account social forces like the economy, healthcare, and education as well as human factors. By using an interdisciplinary approach, cybersecurity measures are developed with a thorough understanding of the intricate interactions between social structures, human behavior, and technological advancements, resulting in equal and safer digital spaces for all users.

Marginalized Groups and The Challenges

By putting in place cybersecurity measures that shield vulnerable populations from frauds, cyberbullying, and other online threats that frequently target marginalized communities, digital forensics analysts have a significant impact on both society and marginalized groups. They work to empower all facets of society by advancing digital literacy and guaranteeing fair access to cybersecurity. Additionally, they push for policy changes that will make the digital world safer and more inclusive for all people by utilizing their expertise “Empowering this marginalized group with digital literacy and cybersecurity awareness will not only protect them from cyber threats, but also foster inclusively to bridge the digital divide” (Deepika 2022, pg.95). This comprehensive strategy emphasizes their critical role in creating a digital environment that safeguards and supports all users, especially those from disadvantaged backgrounds.

Connections to society

Protecting the digital world and greatly enhancing our collective well-being, digital forensic analysts play a big part in our society. By protecting company and personal data from online dangers like malware and hacking, they contribute to the stability and trust of society by ensuring that vital services like banking and healthcare run smoothly. In addition to cybersecurity, they support digital rights and privacy, preserving democratic principles of the internet. According to *Elsevier* “As more decisions in society depend on data and actions..., the reliability and security of these systems are critical. In a smart society that strives to make intelligent decisions on the basis of reliable information, digital investigators can play a critical role”(Eoghan 2017, pg.2). Their efforts to stop cyberattacks lessen the possibility of financial losses, supporting stability and expansion in the economy. They also help to create a safer internet for all users, including minorities and children, by protecting vulnerable communities from dangers encountered online. They encourage digital literacy through public education, equipping people to safely navigate online obstacles.

Conclusion

Digital Forensics Analysts work to keep online spaces safe and rely on social science to help them understand people's behavior and society's rules. This mix of technology and social science insight makes their work better and fairer, ensuring that everyone, especially those often left out, is considered. The relationship between digital forensics and social sciences will be essential to building a resilient, secure, and equitable digital society as these spaces continue to change. As the online world grows and changes, the partnership between social science and digital forensics will continue to be crucial for a secure, fair, and strong digital community.

Resources

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Zainudin, N. M., Merabti, M., & Llewellyn-Jones, D. (2011, July). A digital forensic investigation model and tool for online social networks. In *12th Annual Postgraduate Symposium on Convergence of Telecommunications, Networking and Broadcasting (PGNet 2011)*, Liverpool, UK (pp. 27-28).