



EVALUATING THE ROLE OF TORT LIABILITY IN REDUCING CYBERSECURITY BREACHES

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BEST CITATION – SARAH SHARMA, EVALUATING THE ROLE OF TORT LIABILITY IN REDUCING CYBERSECURITY BREACHES, *ILE WEEKLY REVIEW (ILE WR)*, 1 (7) OF 2023, PG. 15-21, APIS – 3920 – 0037 | ISBN – 978-81-964391-3-2.

ABSTRACT

As technology continues to advance so do the risks and potential damages caused by cyber breaches. Tort liability for cybersecurity breaches is a aspect of holding individuals and companies accountable for their actions and negligence in protecting sensitive data. Through tort, victims of cyber breaches can seek legal recourse and compensation for damages suffered. As the number of cyberattacks, it is important to establish a clear set of legal standards for data protection and privacy. The consequences of cyber breaches can be severe and far, affecting not only individuals but also entire organizations and even the economy. It is crucial for companies invest in adequate cybersecurity measures individuals to remain vigilant in protecting their information. Overall, the importance of tort liability in breaches cannot be overstated in today's digital age, with the rapid growth of and the increasingly digital nature of businesses, the protection of sensitive data has become a critical aspect of cybersecurity. Organizations that fail to adequately safeguard confidential data risk significant financial, as well as damage to reputation and credibility. The legal landscape surrounding tort liability in various organizations is still evolving. This paper explores analyzing the various threats , legal consideration in cyber security ,types of torts that have been used to hold organizations accountable for breaches, and assessing the effectiveness of tort remedies in incentive stronger cybersecurity practices. As cyber threats continue to evolve and become sophisticated, understanding the legal implications of inadequate data protection is becoming increasingly important for organizations of all sectors.

Keywords- cybersecurity, hacking, phishing, tort, strict liability, negligence, malware

i. INTRODUCTION

Tort liability for cybersecurity breaches refers to the legal responsibility for harm or damage caused by a breach of cybersecurity. This type of has become increasingly relevant in today's digital age data breaches and cyber attacks are becoming more prevalent. Tort law a means for individuals, businesses, and organizations to seek compensation for losses damages caused by a cybersecurity breach Such damages may include expenses incurred in responding to the breach, loss data, reputational harm, and liability to customers or clients The responsibility

for cybersecurity breaches may fall on various parties, including the that suffered the breach, the individual who breached the system or, or a third party such as a vendor or service provider. The framework for tort liability for cybersecurity breaches is still developing, but is essential for organizations to understand their potential liability and appropriate to prevent cybersecurity breaches. Tort liability refers to the legal responsibility for harm caused to person or entity. In the case of cybersecurity breaches, tort can arise when such breaches lead to, whether financial or reputational to

individuals or businesses. The of tort liability in cybersecurity breaches lies in its ability to hold responsible parties accountable for their actions and to incentivize the implementation of proper cybersecurity. Tort liability can also serve as a deterrent for negligent behavior and can provide a means victims to obtain compensation for incurred due to cybersecurity breaches. The increasing frequency and severity of cyber attacks have prompted significant developments cybersecurity law and regulations. around the world are implementing new laws regulations, and updating existing, to address the evolving threat. Some of the main being addressed include data breach notification requirements, data ownership privacy, liability for cyber incidents and regulation of critical infrastructure.

As businesses increasingly store sensitive online, the risk of cyberattacks and data breaches continues to. Inadequate protection of information can result in legal action against the organization. The burden of proof in cybersecurity claims lies with, who must demonstrate that the organization failed to meet its duty of care to protect sensitive information. This can be challenging as the standards what constitutes adequate protection are constantly evolving, and the of proof may be higher for organizations that handle particularly sensitive information. Nonetheless, businesses must take cybersecurity seriously avoid costly battles and reputational damage. Tort remedies may offer incentives for to take appropriate cybersecurity measures, they highlight the importance of a proactive and comprehensive approach to protecting sensitive.

ii. Types Of Cyber Security Breaches

Cybersecurity breaches can occur in various forms and types. may include malware attacks like viruses, worms, and Trojan horses Phishing scams, where criminals trick users into disclosing their personal information, are also. Distributed denial of service (DDoS) attacks are another that involves the overload of a target

system or network, causing a disruption of service. Insider threats where employees intentionally or unintentionally leak sensitive information, are also a significant risk. Another type is ransomware, where criminals encrypt and payment to release data or system access. Lastly, SQL injection attacks exploit vulnerabilities in web applications to gain unauthorized access to. Understanding the different types of cybersecurity breaches is essential in mitigating and protecting systems and data.

Cybersecurity breaches come in many forms, from hacking and to phishing and network intrusions. These attacks exploit vulnerabilities in systems, often resulting in the theft or compromise of sensitive information. Hacking gaining unauthorized access to a or network, while malware is a type of software designed to cause damage or steal data. Phishing attacks use fake emails or websites to trick users into confidential information, such as passwords and credit card numbers. Network intrusions involve access to a company's network allowing attackers to steal data or cause other damage. Understanding the various types of cybersecurity breaches is crucial for companies effectively protect their networks and respond to incidents when they occur.

- Hacking

Hacking refers to the use of a computer system or network gain unauthorized access to information or resources. This can be done a variety of reasons, including financial gain, political, or simply for the thrill breaking into a system. Hacking range from relatively harmless activities such as exploring a website's security vulnerabilities, to more activities such as stealing confidential data disrupting critical infrastructure. In recent years, as more and more of our daily lives move, the risks posed by hacking have become increasingly severe. As result, governments and businesses are taking steps to increase their measures and to hold hackers accountable for any damages they may cause.

Hacking is the unauthorized access, modification or destruction of computer systems and networks, and it can result in cybersecurity breaches in ways. instance, hackers can gain access to sensitive data such as financial or information, or they can install malware that can cause damage to system or allow them continued access. Several high-profile hacking incidents have resulted in brought against the companies responsible for safeguard the data. One example is the 201 Equifax breach which affected over 147 million people and led several class-action lawsuits. Another is the Marriott International breach where nearly 400 million guests' data was stolen, leading a \$123 million settlement agreement.

- Malware

Malware, short for software, is a type of intentionally designed to harm,, or infiltrate computer systems networks, and devices without the knowledge or consent of their owners Malware can take the form of viruses, worms, Trojans, spyware, ad, ransomware, and other of malicious code that can infect computers steal sensitive data, damage and hardware, launch phishing attacks, and provide access to networks and systems. Malware can be spread through email attachments, infected websites, phishing scams social engineering, other methods of exploitation. The impact of malware on individuals, companies, and governments be severe, in financial losses, reput damage, legal liabilities, and national security threats. Therefore, and detecting malware attacks is crucial ensuring cybersecurity and minimizing tort. Malware can result in by infiltrating a computer system and exploiting vulnerabilities to gain access to sensitive data. Malware can in various forms, such as viruses,, Trojans, and ransomware. Once a computer is infected with malware, it can used to steal information remotely control the system. Malware can also spread through a network, infecting multiple systems and causing widespread damage.

Furthermore, There have been numerous instances where malware attacks have resulted in lawsuits being filed against responsible parties Some of the most notable examples include the Target Corp data breach of 2013, where customers' personal financial information was exposed due a malware attack on the company's payment systems, resulting in class-action lawsuits against the company., Equifax faced a barrage litigation after a data breach in 2017 exposed the information of over 147 million people. Other examples Anthem Inc, Yahoo Inc, and Uber Technologies Inc, all whom faced lawsuits after falling victim to malware attacks that compromised customer data. These cases have highlighted importance of companies being proactive in their cybersecurity efforts and have emphasized the potential consequences of failing to do so.

- Phishing

Phishing is a common type of cyber-attack where a hacker disguises themselves as a trustworthy or entity to gain sensitive information the victim. This type of attack can result in serious breaches of cybersecurity as the hacker can use the obtained to gain unauthorized access to systems, steal sensitive data or install malware. Phishing emails are often designed to look like legitimate emails from banks, credit companies, or other financial institutions. The victim is prompted to click on link within the email which can lead to malware or the submission of personal information on a fake website that mimics the legitimate one As phishing emails become more, it becomes increasingly difficult for individuals and businesses to detect them, making it crucial to have cybersecurity in place.

Cybersecurity breaches resulting phishing attempts have led to several-profile lawsuits. These incidents targeted individuals, small businesses, and larger corporations. Notably, 2016 phishing incident exposed the sensitive information of over 500,000 Yahoo users. This in several lawsuits against the company, including a class-action lawsuit that ultimately led to a \$.5 million settlement. These case serve as

examples of how costly impactful phishing incidents can be, the importance of implementing robust cybersecurity to this ongoing threat.

iii. Legal Considerations In Tort For Security Breaches

As cybersecurity breaches become more prevalent, businesses are facing an increasing risk of being held liable for incurred by their customers and other third parties. This has led a growing body of tort law that focuses specifically on cybersecurity breaches. In order for a business to held liable, it must have breached its duty of care to protect sensitive information and must have caused to a plaintiff a result. There are also several legal standards that must be considered in these cases, including, strict liability, and intentional. Businesses understand these legal considerations in order to properly protect themselves from liability. Cybersecurity breaches can significantly harm to individuals and businesses. As a result, cyber tort liability has become a critical aspect legal consideration in cybersecurity. Tort law provides a legal framework for individuals and organizations to pursue for damages caused by cybersecurity breaches. Tort liability for cybersecurity breaches is founded on different theories, including, strict liability, and intentional. To establish liability, a must prove that the defendant breached its duty of care and that the breach harm. Tort liability for cybersecurity breaches raises many complex legal issues, including causation, damages, and the standard of required of in protecting against cyber threats. As such, it is essential to understand the legal implications of cybersecurity breaches in to manage the risks associated with the technological landscape.

- Negligence

Negligence refers to a failure to take reasonable care in something, resulting in damage or injury to another person. In of cybersecurity breaches, negligence can refer to a failure on the part of a or individual to take appropriate measures to protect data or networks from access.

Negligence can take many forms, as failing to update software or security measures, not training employees safe online practices, or failing to implement appropriate security protocols. Negligence cybersecurity breaches when a party fails to take steps to protect against cyber, resulting in a breach. Negligence can occur in a variety of, including failure to update software failure to implement proper security measures, or failure to train employees cybersecurity best practices. Negligence can arise from third-party actions, such as hiring a vendor with cybersecurity protections. Companies who fail to take reasonable care prevent cybersecurity breaches can face significant legal liability the form of tort claims, as negligence or breach of.

Factors determining negligence includes is the to act reasonably under the circumstances that causes harm to another. In the context of cybersecurity breaches, determination of negligence is critical in determining tort liability Factors that may be considered in determining negligence include the defendant's of care, breach of duty, causation, damages. Duty of care refers to the responsibility of the defendant to take reasonable measures to protect the's information from cyber threats. Breach of duty occurs if the fails to take necessary steps to protect the's information. Causation refers to the defendant's actions oraction that directly caused the plaintiff's harm. Lastly, damages the harm or losses suffered by plaintiff due to the defendant's negligence. These are essential in determining the liability the defendant and the resulting for the plaintiff. Negligence lawsuits in breaches have become increasingly common in recent years. In these cases individuals or organizations have been accused of failing to take reasonable steps to protect data and information, resulting in a breach that exposes personal or information to unauthorized individuals. These types of have brought against a wide range of defendants, including retailers, financial, and healthcare providers.

- Strict Liability

Strict liability refers to the responsibility that a defendant holds, regardless of fault or intention. In cybersecurity, this type of liability arises when a breach occurs, and the defendant is held responsible for the resulting harm, even if they took reasonable precautions. Strict liability is often applied in cases where the activity involved is inherently risky, such as with hazardous materials or animals. While it can be difficult to prove negligence or intention in cybersecurity breaches, strict liability places the burden of responsibility on the defendant to ensure that they have taken all available steps to prevent harm. Strict liability in cybersecurity breaches refers to the legal responsibility of a party for any losses or damages by a breach of their cybersecurity, regardless of whether they were negligent or intended to cause harm. In other words, the victim doesn't have to prove that the company was negligent or malicious in handling their data, it's up to the company to show that a breach occurred and that the victim suffered damages as a direct result. Strict liability can be an effective mechanism for holding companies accountable for protecting sensitive data, especially in cases where negligence or malicious intent is difficult to prove. As cybersecurity threats continue to evolve, strict liability could play an increasingly important role in incentivizing companies to invest in better security measures and take a more proactive approach to protecting their customers' information.

In order to prove strict tort liability for a cybersecurity breach, there are certain elements that must be present. These include the defendant's involvement in the production or distribution of the product, the defectiveness of the product, and the plaintiff's injury from the defect. Additionally, the injury must have arisen from the use of the product, and the plaintiff must not have substantially altered the product from its original state. Proof of negligence is required to establish strict tort liability in this context. In cybersecurity breaches, intentional misconduct refers to the act of knowingly and purposefully engaging in actions that cause harm or damage to a system or network. Intentional misconduct

could involve hacking into a system to steal sensitive information, spreading viruses, or disrupting operations. Such actions are considered intentional as the perpetrator is fully aware of the harm they are causing at the time of the breach.

Intentional misconduct occurs when a person or organization deliberately engages in actions that will cause harm or injury to another individual or entity. In order to prove intentional misconduct in cybersecurity breaches, certain elements must be present. These include knowledge that their actions would result in harm, intent to cause harm, and the evidence that the actions were intentional. There have been high-profile cases of intentional misconduct in the realm of cybersecurity breaches. One example is the Yahoo data breach in 2013, where the company delayed disclosure of the breach despite knowing the severity of the situation.

Defenses against tort liability include various legal justifications or arguments which may be used by an individual or organization to escape or minimize damages claimed against them in a cybersecurity breach case.

These defenses often vary with the type of tort claim and the jurisdiction, and the court. In general, potential defenses may include contributory or comparative negligence, assumption of risk, consent, immunity, preemption, and statutory or common law doctrines.

To assert these defenses successfully, a party must provide enough evidence to demonstrate that they did not breach their duty of care or that they exercised reasonable care to prevent a breach. Furthermore, it may also be necessary to show that the plaintiff was aware of the risk and still proceeded with the action leading to the breach.

iv. The Effectiveness of Tort Remedies Incentivizing Cybersecurity

Tort remedies offer a solution for holding organizations accountable for failing to protect sensitive information from attacks. These remedies provide a legal avenue for individuals and entities to seek damages for cybersecurity breaches, which may incentivize organizations

to invest stronger cybersecurity practices. However, the effectiveness of tort remedies in incentivizing cybersecurity practices is not fully, as there are many factors that come into play when the impact of legal liability on organizational behavior. Ultimately, the success of tort in this area will depend on a variety of factors, including the strength of the legal framework, the severity of the penalties imposed, and the ability of individuals to pursue legal action against those that do not adequately protect sensitive information. Tort law has played an increasingly significant role in promoting cybersecurity practices in recent years. By imposing liability on organizations that fail to adequately protect sensitive information from cyber threats, tort remedies incentivize companies to take cybersecurity more seriously and implement stronger measures to safeguard their data. The potential financial and reputational costs with data breaches and cyber-attacks forced companies to invest in cybersecurity defenses and take steps to improve their security posture. As tort law continues to evolve in this area, it is likely that organizations will continue to prioritize cybersecurity as a business imperative, leading to more effective and robust security across all sectors of the society.

In cases of cybersecurity breaches, victims may suffer significant harm, including financial and reputational damages. Tort remedies, such as negligence and breach of contract claims, have been used to compensate victims for their losses. The effectiveness of these remedies in cybersecurity incidents, however, remains a point of debate. Some argue that tort claims provide the needed accountability for organizations that fail to adequately protect sensitive information, while others suggest that these remedies may be limited in their ability to deter future breaches. Ultimately, the effectiveness of tort remedies in compensating cybersecurity victims will depend on various factors, including the nature and extent of the harm suffered, the strength of the evidence supporting the claim, and the regulatory frameworks in place.

Furthermore, tort remedies have limitations as a tool for incentivizing cybersecurity practices. While the threat of being sued for damages resulting from a breach can encourage companies to take cybersecurity more seriously, it cannot guarantee that all organizations will prioritize it. Litigation can be a long and costly process, and the potential damages may not be enough to outweigh the costs of implementing robust measures. Additionally, the legal landscape surrounding cybersecurity liability is still evolving, making it difficult for companies to know what their obligations are. Finally, tort law does not provide specific guidelines or standards for adequate practices, leaving organizations to determine their own best practices.

v. Future Directions And Challenges In Tort Liability For Security Breaches

As technology continues to evolve, so does the landscape of tort for security breaches. The development of new technologies and the sophistication of cyber-attacks pose significant challenges for organizations seeking to protect their information. As such, the evolution of tort liability for security breaches is likely to be characterized by a focus on emerging risks and new forms of harm, as well as the development of more complex legal frameworks to address these issues. The increasing internationalization of cybercrime means that organizations will navigate diverse legal systems and cultural contexts as they seek to manage the risks associated with security breaches. The legal landscape surrounding cybersecurity is constantly evolving. One potential approach to incentivizing organizations to implement robust cybersecurity practices is the imposition of regulatory frameworks for cybersecurity liability. These frameworks could be at the national or international level and could include requirements for organizations to implement specific cybersecurity measures, such as multi-factor authentication or encryption. They could also include penalties for non-compliance, such as fines or legal liability.

The challenges of cybersecurity liability arise from the complexity and constantly evolving

nature of cyber threats. can be difficult for organizations to determine what constitutes "ade" protection of sensitive information, and regimes may vary across different jurisdictions. Additionally, assessing the efficacy of tort in incentivizing cybersecurity practices can be challenging, as the cost of preventative measures may outweigh the potential liability. There is the concern that imposing liability on organizations may discourage them from disclosing breaches and cooperating with law enforcement. These highlight the need for a comprehensive flexible approach to cybersecurity liability, which takes into account both the risks and of different tort remedies.

As technology continues to advance, so does the risk of cybersecurity. Organizations that fail to protect sensitive information are increasingly facing legal action under tort law. This evolving landscape of tort liability has implications for cybersecurity practices and the overall approach to data protection. The impact on tort liability for cybersecurity breaches highlights the need for organizations to prioritize cybersecurity measures, invest in robusting technology, and implement proactive risk management strategies. The legal system's use of remedies to incentivize cybersecurity practices is aimed at protecting individuals and businesses and promoting safer and more secure online environment.

vi. Conclusion

The evolving landscape of tort liability for organizations regarding their protection of sensitive information has forth a new wave of cybersecurity practices. The threat of legal action, coupled with and losses business face in the aftermath of a cybersecurity breach, has incentivized entities to implement new preventative measures and procedures. However, the effectiveness of remedies in incentivizing cybersecurity practices is debatable. While some argue that the potential liability is not enough to encourage active prevention, others that the threat of legal action has been a vital driver in the development of stricter security protocols and practices.

Ultimately, primary goal of tort liability organizations is to promote and enforce protection and care of sensitive data, preventing data breaches, and minimizing the risk of and losses for its customers. As technology advances and cyber become more prevalent, tort liability for security breaches will increasingly become topic of concern. Despite the potential for victims of cyber-attacks to seek damages in court, there several limitations to tort liability in area. Firstly, establishing causation can be difficult as it may be challenging to conclusively prove that a breach was the direct cause of any resulting harm. Furthermore, assigning blame can be complex as multiple parties may be involved in a security breach. Moving forward, future developments in tort liability cyber security breaches may include legislative changes to better define the scope of liability as well as the of new technology to help from occurring in the first place. The potential for devastating consequences, both financially and reputationally, makes imperative for all parties to their part in mitigating the risks cyber breaches. This includes implementing strong security measures and protocols, conducting risk assessments, and staying up to date on the latest threats and vulnerabilities. As the legal landscape continues to evolve, it is likely we will see further developments in this area, and it will be important for businesses and individuals to stay informed proactive in their approach to cyber security.

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