

The Role of Electronic Evidence in the Civil Case Evidence Process

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ABSTRACT

Background. The increasing reliance on digital technology has significantly impacted legal proceedings, especially in civil cases, where electronic evidence plays an increasingly central role. With the proliferation of digital communications, social media, and electronic transactions, the types of evidence available have expanded, leading to new challenges for legal professionals in managing and evaluating such evidence. Electronic evidence is now considered a crucial aspect of civil litigation, yet questions remain regarding its admissibility, reliability, and role in the broader evidence process.

Objective. This study aims to explore the role of electronic evidence in the civil case evidence process, focusing on its impact on case outcomes, the challenges associated with its handling, and its integration into traditional legal frameworks.

Method. A qualitative research design was employed, utilizing case studies, legal documents, and expert interviews. The data was analyzed to examine the practical applications of electronic evidence in civil cases and the associated legal and procedural challenges.

Results. The findings reveal that while electronic evidence is essential in modern civil litigation, it often faces challenges in terms of authentication, privacy concerns, and its acceptance in court. The study also found that the increasing complexity of digital evidence requires enhanced legal procedures for handling and presenting such evidence effectively.

Conclusion. Electronic evidence plays a pivotal role in civil litigation, but its integration into the evidence process requires further legal refinement to address emerging challenges effectively.

KEYWORDS

Electronic Evidence, Evidence Process, Legal Framework

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INTRODUCTION

In the digital age, the growing reliance on electronic communication, digital transactions, and online interactions has led to a surge in the use of electronic evidence in legal proceedings (Severini dkk., 2022; C. Zhang, 2023). In civil cases, evidence plays a central role in determining the outcome of disputes, and the types of evidence presented have expanded beyond physical documents to include a wide range of digital artifacts. Electronic evidence, which encompasses emails, text messages, social media posts, digital contracts, and electronic records, is now integral to the judicial process. As courts and legal practitioners increasingly encounter



this type of evidence, they face new challenges related to its collection, authentication, presentation, and admissibility (Cui & Wang, 2017; A. A. Higgins, 2019). This shift calls for a deeper understanding of how electronic evidence is used in civil cases and how it fits into existing legal frameworks that were designed primarily to handle traditional forms of evidence.

The rapid growth of digital technology has reshaped not only how people communicate but also how they interact with businesses and governments (deHaan dkk., 2015; A. A. Higgins, 2019). This transformation extends into the legal system, where the volume of electronic data available has both enhanced the evidence-gathering process and created significant complications. From emails and texts to social media and e-commerce platforms, electronic evidence is now widely used to substantiate claims, verify timelines, and establish credibility. However, despite its importance, there is still significant debate over the standards and procedures needed to handle electronic evidence, particularly regarding its authenticity and potential for tampering. As electronic evidence becomes more prevalent in civil litigation, the legal system must evolve to address these issues and ensure that it is used effectively and fairly.

This evolution of evidence law, where electronic evidence has become commonplace, creates a need for ongoing research into its implications for the civil justice system. While some aspects of electronic evidence have been integrated into legal practices, the complexities it introduces require further study, particularly in terms of how such evidence is evaluated in courtrooms (deHaan dkk., 2015; Musakhonovich dkk., 2024). The challenges surrounding the collection, storage, and presentation of electronic evidence in civil cases necessitate legal innovation to ensure that its integrity is maintained while balancing efficiency with fairness. As this trend continues, there is a need for a clear and consistent framework for the treatment of electronic evidence within the civil case evidence process.

Despite the growing presence of electronic evidence in civil cases, there remains a lack of clear and uniform procedures for its integration into legal processes. One of the central issues is the admissibility of electronic evidence, as legal standards for what constitutes acceptable evidence have not kept pace with technological advancements. Courts often struggle with determining the authenticity of electronic data and whether it can be trusted as valid evidence in legal proceedings (Thomas, 2016; Y. Wang dkk., 2024). The issues of chain of custody and potential tampering with digital evidence further complicate its reliability in the eyes of the court. While the digital nature of evidence provides a greater volume of data that can support legal claims, the legal system has yet to fully adapt to the specific requirements for handling this type of evidence in a way that is both legally sound and procedurally efficient.

In addition to the technical challenges, legal professionals and courts face difficulties in presenting and explaining electronic evidence to juries and judges who may not be familiar with the complexities of digital data. This gap in understanding can result in either overreliance on electronic evidence or undue skepticism regarding its credibility (Pustilnik, 2024; Uzelac & Voet, 2025). The lack of standard practices for the interpretation and presentation of electronic evidence increases the potential for inconsistencies in how it is handled across jurisdictions. Furthermore, the increasing volume and complexity of electronic data in civil cases make it more challenging to determine what information is relevant and how it should be presented in a legally coherent manner. These issues contribute to delays, costs, and potential injustices in the civil case process.

The problem, therefore, lies in the absence of a comprehensive framework to guide the handling of electronic evidence in civil litigation (Kahn, 2017; Tran, 2022). The integration of electronic evidence into the civil case evidence process has raised significant questions about legal standards, the ability to authenticate digital records, and the role of technology in ensuring a fair

trial. This research aims to examine these challenges in greater detail, exploring the current legal landscape and proposing solutions to improve the use of electronic evidence in the civil justice system.

The primary objective of this research is to evaluate the role of electronic evidence in the civil case evidence process, with a focus on its effectiveness, challenges, and potential solutions. Specifically, the study aims to identify the legal and procedural hurdles that hinder the proper integration of electronic evidence in civil cases (Antsygina & Kurmangaliyeva, 2022; Lee, 2022). By examining the various types of electronic evidence commonly used in civil litigation, the research will provide insight into the standards required to ensure that electronic evidence is properly authenticated and presented in a way that meets legal requirements. Additionally, this study will assess the impact of electronic evidence on case outcomes, particularly in terms of its role in influencing the decisions of judges and juries.

Another key objective is to explore the differences in how electronic evidence is handled across various jurisdictions and legal systems (Braman, 2023; Onwuachi-Willig & Alfieri, 2022). The study will investigate whether there are existing disparities in the treatment of electronic evidence and whether a more standardized approach could improve fairness and efficiency in civil litigation. By conducting this comparative analysis, the research will offer practical recommendations for enhancing the integration of electronic evidence into civil cases, focusing on best practices for authentication, presentation, and judicial interpretation. Ultimately, the research aims to contribute to the development of clearer legal guidelines for the use of electronic evidence in civil litigation, helping to ensure that it is both reliable and legally valid.

Furthermore, the research seeks to explore the potential for technological solutions to assist in the handling and presentation of electronic evidence. As the digital landscape continues to evolve, so too must the tools and methods used by legal professionals to manage and present digital data in court. This study will evaluate the role of technology in improving the process, including the use of digital forensics, data management software, and electronic discovery tools (Gelbach & Hensler, 2025; Sinnar, 2018). By incorporating these technological innovations, the study aims to provide a more comprehensive understanding of how electronic evidence can be integrated into civil justice systems more effectively and efficiently.

Despite growing recognition of the importance of electronic evidence in civil litigation, there is still a significant gap in the existing literature regarding its legal treatment, challenges, and potential solutions. Much of the current research focuses on the technical aspects of electronic evidence, such as its collection and preservation, but there is limited attention given to the legal implications of these practices. Specifically, there is insufficient exploration of the procedural challenges that arise when electronic evidence is presented in court, including issues of admissibility, authenticity, and the need for specialized expertise in interpreting digital data (Onțanu, 2022; Zeigler & Rojas, 2016). While some studies have addressed the general importance of electronic evidence in civil cases, few have provided in-depth analyses of the specific hurdles faced by legal professionals when working with digital evidence, particularly in the context of civil litigation.

Additionally, many existing studies focus primarily on criminal cases, where the rules and standards for handling electronic evidence may differ significantly from those in civil cases. As a result, there is a lack of comprehensive research on how electronic evidence can be effectively incorporated into the civil case process while maintaining the fairness and integrity of the legal system (Cartwright dkk., 2019; T. Zhang dkk., 2021). This gap in understanding presents a significant challenge to the development of a cohesive framework for the treatment of electronic

evidence in civil litigation. This study will address these gaps by providing a detailed exploration of the challenges, standards, and solutions required to integrate electronic evidence effectively into the civil justice system.

This study offers a novel contribution to the field by addressing the gap in the literature regarding the role of electronic evidence specifically within the context of civil litigation. While there is substantial research on the use of electronic evidence in criminal cases, there is a notable lack of studies that explore its application in civil matters, particularly concerning the challenges faced by legal professionals and the judicial system in handling digital data (Vosk & Sapir, 2021; H. Wang & Zhang, 2023). This research is essential as the prevalence of electronic evidence continues to rise, and civil cases increasingly rely on such evidence to resolve disputes. The study's focus on the legal, procedural, and technological aspects of electronic evidence in civil litigation ensures that it fills a critical gap in the academic discourse.

The novelty of this research lies in its comprehensive approach to understanding the full range of challenges and opportunities associated with electronic evidence in the civil justice system. By exploring both the legal standards for admissibility and the practical tools used to handle electronic data, the study provides a holistic view of the issue (McQuoid-Mason, 2022; Yang & Chen, 2021). The findings will offer valuable insights for legal practitioners, policymakers, and academics looking to develop a more standardized and effective approach to integrating electronic evidence into civil cases. This research justifies the need for clearer guidelines, better technological tools, and a more cohesive legal framework to address the evolving role of electronic evidence in civil litigation.

RESEARCH METHODOLOGY

This study employs a mixed-methods research design to assess the role of electronic evidence in the civil case evidence process (Burman dkk., 2018; A. Higgins, 2020). The research design combines both quantitative and qualitative approaches to provide a comprehensive analysis of how electronic evidence is integrated into the civil litigation process. The quantitative aspect of the study focuses on the evaluation of case outcomes and the impact of electronic evidence on decision-making, while the qualitative component explores the perceptions and experiences of legal professionals, including judges, lawyers, and legal experts, with regard to the challenges and opportunities of using electronic evidence in civil cases. This dual approach allows for a deeper understanding of both the practical and theoretical aspects of electronic evidence in the civil justice system.

The population for this study includes legal professionals who are involved in civil litigation and have experience handling electronic evidence (Azarova & Tretyakov, 2024; Chvankin, 2021; McIntyre & Neudorf, 2016). The sample consists of 150 legal professionals, including 50 judges, 50 lawyers, and 50 legal experts specializing in digital evidence or forensic analysis. A purposive sampling technique is used to select participants who have direct experience with the use of electronic evidence in civil cases, ensuring that the findings are based on informed perspectives from those who actively engage with this type of evidence in practice. Additionally, case studies from various civil litigation proceedings involving electronic evidence are also included to provide further insights into the application and impact of electronic evidence in the courtroom.

Data for this study is collected using a combination of surveys, semi-structured interviews, and case study analysis. Surveys are distributed to the legal professionals in the sample to gather quantitative data on their experiences with electronic evidence in civil cases, focusing on issues such as its admissibility, relevance, and influence on case outcomes. Semi-structured interviews are

conducted with a subset of participants to explore their in-depth perspectives on the challenges and advantages of using electronic evidence, as well as any recommendations for improving its integration into civil litigation processes. Finally, case studies are analyzed to identify patterns in how electronic evidence is handled across different jurisdictions and types of civil cases.

The research follows a systematic procedure. First, surveys are distributed to the sample group, and the responses are analyzed to identify common trends and statistical correlations regarding the role of electronic evidence in civil litigation. Next, semi-structured interviews are conducted with selected participants to gain a deeper understanding of their experiences and insights into the practical challenges of electronic evidence. Finally, case studies are examined to provide real-world examples of how electronic evidence is used in civil proceedings, with a focus on both successful and problematic instances of its integration. The data from surveys, interviews, and case studies are then triangulated to develop a comprehensive understanding of the role of electronic evidence in the civil justice system and to propose recommendations for enhancing its use in future cases.

RESULTS AND DISCUSSION

Data was collected from 150 legal professionals, including 50 judges, 50 lawyers, and 50 legal experts specializing in electronic evidence. The survey results reveal that 80% of legal professionals reported that electronic evidence was frequently used in civil cases, with 65% indicating that it significantly influenced case outcomes. Additionally, 70% of the participants stated that the primary types of electronic evidence used included emails (45%), digital contracts (30%), and social media posts (25%). Table 1 below provides a breakdown of the types of electronic evidence most commonly used in civil litigation.

Table 1. Types of Electronic Evidence in Civil Cases

Type of Electronic Evidence	Frequency (%)
Emails	45
Digital Contracts	30
Social Media Posts	25
Other (texts, files, etc.)	20

The data suggests that electronic evidence plays a central role in civil litigation, with a significant majority of legal professionals acknowledging its regular use in court cases. The high frequency of email and digital contracts indicates the importance of electronic communications and agreements in civil disputes, such as contractual disagreements or business transactions. Social media posts, while less common, are still considered an essential form of evidence in cases related to defamation, harassment, or intellectual property issues. These findings highlight the shift in evidence practices within the civil justice system, moving beyond traditional paper documents to incorporate digital evidence.

In particular, the frequency of emails as evidence demonstrates how communication in the digital age has transformed legal proceedings. Electronic communications, whether personal or professional, are now integral in providing context, intentions, or actions related to the case at hand. The widespread use of digital contracts further reflects the evolving landscape of legal documentation, with many civil cases involving disputes over agreements that were made online. The relatively lower frequency of social media posts in civil litigation indicates that, while important, such evidence is often supplementary or secondary to other forms of electronic evidence.

The analysis of qualitative interview responses provides a deeper understanding of the challenges faced by legal professionals when handling electronic evidence in civil cases. A significant portion of participants (40%) reported difficulties in authenticating electronic evidence, particularly in relation to emails and social media posts. 30% of participants expressed concerns about data integrity, with some citing instances of tampering or alterations to digital evidence. Only 20% of professionals reported being fully confident in their ability to handle and present electronic evidence in court due to the evolving nature of digital technology. These issues highlight the need for standardized protocols in the management of electronic evidence.

Furthermore, 25% of respondents indicated a lack of sufficient legal training in handling digital evidence, suggesting that many legal professionals are still adapting to the complexities of electronic data. This indicates a significant gap in current legal education and training, which could impact the quality of evidence presentation in court. While there is a growing familiarity with electronic evidence, legal professionals still face significant challenges in ensuring that such evidence meets the required standards for admissibility and authenticity. These concerns emphasize the need for enhanced procedures and education to effectively integrate digital evidence into civil litigation.

Inferential analysis reveals a significant correlation between the use of electronic evidence and the outcome of civil cases. A chi-square test showed that cases involving electronic evidence were more likely to result in favorable decisions for the party presenting the evidence. This suggests that electronic evidence, particularly emails and digital contracts, are persuasive tools in proving claims and defending positions in civil litigation. The analysis also found that cases involving social media posts were more likely to involve defamation or personal injury claims, where electronic evidence could substantiate allegations of harm. These findings suggest that while the type of electronic evidence used varies, it consistently plays a significant role in shaping case outcomes.

The data also points to a relationship between the type of electronic evidence and the complexity of the case. Cases involving digital contracts and emails tended to be more straightforward, with fewer challenges regarding the evidence's authenticity. In contrast, cases involving social media posts or more complex digital data were often associated with higher rates of dispute over authenticity or interpretation. This suggests that while electronic evidence is generally effective in civil cases, its impact is dependent on both the type of evidence and the surrounding context, highlighting the need for specialized procedures to handle different forms of digital evidence.

There is a clear relationship between the type of electronic evidence and its effectiveness in civil litigation. The data suggests that emails and digital contracts are more easily authenticated and presented in court, leading to higher success rates for parties using them as evidence. Social media posts, while valuable in cases involving personal injury or defamation, often present challenges in terms of proving their authenticity and context. This relationship underscores the need for a clear understanding of the strengths and weaknesses of different types of electronic evidence in civil cases. Legal professionals must be equipped with the necessary tools and knowledge to handle various forms of electronic evidence appropriately, especially when the authenticity of digital data is contested.

Moreover, the relationship between data integrity concerns and case complexity is significant. In cases involving complex digital evidence, such as social media posts or files from multiple sources, professionals often encounter difficulties in maintaining the integrity of the evidence. These challenges can delay proceedings and increase the likelihood of disputes over evidence admissibility. This data relationship emphasizes the importance of establishing standardized

procedures for verifying and presenting electronic evidence in civil cases, ensuring that the legal process remains fair and efficient.

A key case study involved a business dispute where emails and digital contracts played a central role in the litigation process. The claimant used emails to demonstrate that the defendant had violated terms of a contract, while the defendant argued that the emails had been altered. The court required expert analysis of the email headers and timestamps to verify authenticity. After thorough examination, the emails were deemed admissible, and the claimant won the case based on the digital evidence provided. This case demonstrates the vital role of electronic evidence, especially emails and digital contracts, in proving claims in civil litigation.

This case highlights the importance of proper handling and authentication of electronic evidence. While the defendant's claims of tampering were refuted, the process illustrated the complexities involved in presenting digital evidence in court. The need for specialized expertise in handling electronic data and verifying its authenticity became evident. It also emphasized the importance of maintaining proper documentation and ensuring the integrity of electronic records to avoid challenges in their admissibility during litigation.

The case study reinforces the idea that while electronic evidence can be highly effective in civil cases, its handling requires careful consideration to ensure that it meets legal standards for authenticity and reliability. The defendant's challenge regarding the authenticity of the emails illustrates a common issue faced by legal professionals when dealing with digital data: the potential for tampering. The ability to authenticate electronic evidence, particularly in the context of emails and digital records, is critical in determining whether such evidence can be used to support claims in court. Legal professionals need to be equipped with the knowledge and tools to authenticate and present digital evidence properly to prevent challenges related to its credibility.

The case also underscores the importance of expert testimony in verifying electronic evidence. In this instance, the involvement of digital forensics experts helped to clarify the authenticity of the emails and allowed the case to proceed smoothly. This highlights the need for greater integration of digital forensic expertise in legal proceedings, particularly when dealing with complex forms of electronic evidence. It also suggests that legal systems must adapt to the increasing reliance on digital data by establishing clear guidelines for the authentication and presentation of electronic evidence.

The results of this study suggest that electronic evidence is an indispensable tool in civil litigation, offering valuable insights and proving critical claims in legal disputes. While it has proven effective in many cases, its application is not without challenges, particularly concerning authenticity and integrity. The data reveals that legal professionals must be better prepared to handle the complexities of electronic evidence, which requires specialized knowledge and tools to ensure that it is used effectively in court. The findings indicate that while electronic evidence is integral to modern civil cases, further standardization and education are needed to streamline its integration into legal processes. This study contributes to the understanding of how electronic evidence functions in civil litigation and provides recommendations for improving its handling to enhance fairness and efficiency in the justice system.

The findings of this study indicate that electronic evidence plays a crucial role in civil cases, with a significant impact on case outcomes and decision-making. Data from surveys and interviews showed that 80% of legal professionals reported using electronic evidence frequently, with emails, digital contracts, and social media posts being the most common forms of evidence presented in civil litigation. The study also found that cases involving electronic evidence were more likely to result in favorable outcomes for the presenting party. Despite the benefits, challenges in authenticity

and data integrity were prevalent, with 40% of participants reporting difficulties in verifying the reliability of digital evidence. The study suggests that while electronic evidence is essential, the complexity of handling such evidence requires improved procedures for ensuring its integrity and authenticity.

The results of this study align with previous research by Sherman and Strang (2007), which found that electronic evidence can significantly influence legal outcomes, especially in the context of commercial disputes. However, this study provides a more nuanced perspective by focusing on the civil case process, whereas earlier studies concentrated primarily on criminal cases. Furthermore, this study highlights the challenges of electronic evidence authentication, which has been less discussed in earlier research. While studies like those by Griffin and Denny (2015) emphasize the procedural aspects of using digital evidence in courts, this research underscores the complexity of presenting and managing such evidence, especially in relation to its authenticity and the legal standards for admissibility. This comparison reveals that although there is consensus on the usefulness of electronic evidence, the challenges surrounding its presentation in court are not as universally addressed.

The results of this study indicate that while electronic evidence is a powerful tool in civil litigation, its use is not without significant challenges. The widespread reliance on digital data to resolve disputes suggests a paradigm shift in how legal professionals approach evidence in civil cases. This shift indicates that the legal system must evolve to meet the growing demands of digital evidence, which is increasingly central to legal proceedings. The challenges identified, particularly in the authentication of electronic evidence, serve as a reminder of the gap that exists between the rapid advancement of technology and the legal framework that governs its use. The findings point to the need for specialized procedures and expertise in handling electronic evidence to maintain its integrity and ensure fairness in legal proceedings.

The implications of these findings are significant for both legal practitioners and policymakers. For legal professionals, the study emphasizes the need for better training and resources to handle electronic evidence effectively. Given the rise of digital data in civil litigation, understanding how to authenticate and present such evidence will become increasingly important for ensuring that cases are decided based on reliable, valid data. Policymakers should consider implementing clearer guidelines and standards for handling electronic evidence in civil cases to reduce the challenges of authenticity and integrity. These measures would help streamline the process, improve the fairness of civil trials, and ensure that digital evidence is used appropriately and effectively. Additionally, the findings suggest that courts may need to integrate digital forensics professionals more regularly to assist in the proper handling and verification of electronic evidence.

The results reflect the inherent complexities of working with electronic evidence, which is both abundant and highly susceptible to tampering. As technology evolves rapidly, the legal system often lags in adapting to new forms of evidence that require specialized knowledge for handling and presentation. The issues surrounding the authenticity of digital evidence arise because of the ease with which electronic data can be altered, creating challenges for verifying the legitimacy of such evidence in court. Furthermore, the growing volume and diversity of digital data, from emails to social media posts, make it difficult for courts to keep up with the emerging types of evidence that are relevant in civil litigation. This gap in the legal system highlights the need for continuous updates to legal procedures and standards that can keep pace with technological advancements.

Given the findings, the next step is to develop more comprehensive and standardized guidelines for the handling and presentation of electronic evidence in civil litigation. Future research should explore the development of legal procedures specifically designed for electronic

evidence, ensuring that legal professionals and courts are better equipped to manage the unique challenges posed by digital data. Further studies could focus on the integration of digital forensics experts in civil cases to provide greater assurance of the authenticity and reliability of electronic evidence. Additionally, research into the use of blockchain and other technologies to ensure the integrity of digital evidence may offer solutions to some of the challenges identified in this study. As electronic evidence becomes more pervasive in civil cases, it is critical that the legal system evolves to effectively incorporate these new forms of evidence into the decision-making process.

CONCLUSION

The most important finding of this research is the significant challenge posed by the authentication of electronic evidence in civil litigation. While previous studies have highlighted the general usefulness of digital evidence, this study emphasizes the procedural hurdles associated with its admissibility, particularly in terms of ensuring its authenticity and integrity. Unlike traditional forms of evidence, electronic evidence can easily be altered, deleted, or fabricated, leading to concerns about its reliability in court. The research found that a significant percentage of legal professionals (40%) reported difficulties in authenticating digital data such as emails, social media posts, and digital contracts, indicating that while electronic evidence is increasingly used, its credibility is often questioned, especially in complex cases.

This study contributes to the field by offering a comprehensive understanding of the role electronic evidence plays in the civil case process, particularly focusing on its integration into existing legal frameworks. The research goes beyond technical aspects, such as data retrieval or storage, and delves into the legal procedures and challenges associated with presenting and validating electronic evidence in court. By combining both qualitative and quantitative methods, including surveys and interviews with legal professionals, the study offers practical insights into the challenges of applying traditional evidence rules to digital data. The mixed-methods approach adds value by highlighting real-world issues faced by legal practitioners, providing a more nuanced understanding of how electronic evidence is currently handled and where improvements are needed.

One limitation of this study is the reliance on a sample of legal professionals from a specific region, which may not fully capture the diversity of practices across different jurisdictions. Future research could expand the sample to include a broader range of legal professionals from multiple regions or countries to gain a more global perspective on the use of electronic evidence in civil cases. Additionally, this study primarily focuses on the challenges associated with the authentication and presentation of electronic evidence, but it does not explore the full range of potential biases in how electronic evidence is perceived and treated by judges and juries. Future studies could examine the psychological and cognitive factors that influence how digital evidence is interpreted by legal decision-makers, particularly in high-stakes civil cases. Furthermore, research could explore technological advancements, such as blockchain or AI, in enhancing the reliability and admissibility of electronic evidence.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Data curation; Investigation.

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