

AI-Generated Evidence and Public Trust in Criminal Justice: The Mediating Role of Digital Forensic Awareness

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ABSTRACT: The advent of Artificial Intelligence (AI) into the criminal justice system has changed the way in which evidence is collected, analyzed and used for decision making. While AI-generated evidence can greatly enhance efficiency, accuracy, and forensic analysis of investigations, public trust is a significant consideration for its effective implementation. This research explores the connection between the perception of evidence created by AI, digital forensic awareness, and public confidence in justice. A quantitative cross-sectional survey design is used, and data is collected from 300 respondents such as Pakistani university students, public and legal professionals. Analysis of data is done by SPSS with reliability analysis, descriptive statistics, correlation analysis, regression analysis and mediation analysis. The results showed that the trust in criminal justice is significantly affected by perceived reliability of the evidence provided by AI. Also, evidence perception is found to have a positive impact on the awareness of digital forensics, and digital forensic awareness has a significant positive impact on public confidence in justice-related processes supported by AI. The mediation analysis indicates that the perception of digital evidence created by AI is a crucial mechanism by which AI impacts on public trust, with digital forensic awareness playing a significant role in this process. Additionally, the study underscores the need for raising awareness, transparency, and knowledge regarding digital forensics to facilitate the responsible and trustworthy incorporation of AI technologies into criminal justice systems.

KEYWORDS: Artificial Intelligence, AI generated Evidence, Digital Forensic Awareness, Public Trust, Criminal Justice, Technology Acceptance, Forensic Technology

Introduction

Artificial Intelligence (AI) has revolutionized the functioning of criminal justice systems globally with its rapid evolution. AI's swift development has profoundly changed the way criminal justice systems work around the world. AI-powered tools and technologies have become a vital asset for law enforcement, forensic labs, and judicial bodies in their investigative processes, evidence analysis, and decision-making. AI-generated evidence is evidence that is generated, enhanced, or interpreted through an AI's computation and processing of large volumes of complex data,

Pages: 38 – 53

Volume: 5

Issue: 9 (August 2026)

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Cite this Article: Khan, M., Khan, M. E., & Abbas, Q. (2026). AI-Generated Evidence and Public Trust in Criminal Justice: The Mediating Role of Digital Forensic Awareness. *The Regional Tribune*, 5(9), 38-53.

<https://doi.org/10.55737/trt/v-ix.430>

which is not the case with traditional evidence, which is usually collected through human observation and physical investigation. These changes are a fundamental shift in criminal investigations as algorithmic systems increasingly play a role in pattern recognition, in information evaluation, and in the guidance of lawyers in interpreting information (Calo, 2017; Surden, 2018).

AI-generated evidence is digital evidence generated or analyzed by artificial intelligence technologies such as machine learning algorithms, deep learning models, automated forensic tools, and generative AI technologies. AI tools are currently being used in various fields within the justice sector, from AI surveillance analysis and facial recognition systems to predictive policing, automated crime pattern detection, deepfake identification, and digital forensic analysis of electronic devices. Some examples of this include AI-powered image and video analysis systems that can improve on poor video quality, recognize objects or people, or spot tampered digital content. Likewise, digital forensic investigations are increasingly using machine learning algorithms to analyze massive amounts of data from computers, cell phones, cloud data, and online environments (Casey, 2011; Garfinkel, 2010).

With the advent of new media technology, such as synthetic media, the contribution of AI in criminal investigation has been further expanded. The contribution of AI in criminal investigation has been further expanded with the availability of new media technology, including synthetic media. These digital evidence deepfake detection systems and AI authenticity verification tools have become crucial in identifying real from fake digital evidence. Forensic investigators must master sophisticated computational techniques to ensure evidence remains intact and the processes of courts are reliable as criminals become more adept at creating fake images, videos, and audio recordings using AI technologies (Chesney & Citron, 2019). This has made AI a potential solution in the fight against digital crime and given rise to new evidentiary challenges.

The main benefit of AI-generated evidence is that it allows for more effective and accurate criminal investigations. Traditional forensic analysis can be a time-consuming and labor-intensive process, especially when dealing with a large amount of digital data. AI systems can quickly process large amounts of data, uncover patterns that might not be apparent to the human eye, and help investigators find connections that might be missed with traditional approaches (Du et al., 2020). Examples include the automation of file categorization, identification of suspicious behavior, and the prioritization of relevant information in investigations using AI-powered digital forensic tools. This ability can help to cut investigative delays and enable law enforcement agencies to react better to intricate crimes.

Moreover, AI-based evidence can help minimize human errors in forensic analysis and judgments. The interpretation of evidence may sometimes be subject to cognitive limitations, workload, or subjective judgment by a human. With good design and validation, AI systems can consistently provide analytical support by using pre-established computational models and analyzing large amounts of data. AI-driven systems could thus make decisions more objective, improve evidence management, and be more evidence-based in criminal justice.

While there are potential advantages, the use of AI-generated evidence has also sparked major concerns about reliability, transparency, accountability, and acceptance of the evidence by the public. There is a debate on the use of AI systems that come with a black box. In many cases, the outputs by advanced machine learning models such as deep learning algorithms are not accompanied by explanations on how certain conclusions are reached. Lack of explainability poses issues of procedural fairness and accountability in the context of criminal justice, where outcomes can have a substantial impact on a person's freedom and legal rights (Pasquale, 2020; Sahoh et al., 2022).

Reliability and authenticity of AI-generated evidence are also key concerns. The quality of training data, algorithm design, and system validation processes can significantly influence the accuracy of AI-generated outputs, which differ from traditional forensic evidence. The datasets or the models used by them may contain errors or biases that can lead to incorrect conclusions, which can affect investigative conclusions or court rulings. The systems of

facial recognition, predictive algorithms, and automated identification systems have been especially criticized for their lack of validation in various populations, algorithmic bias, and unequal error rates (Buolamwini & Gebru, 2018; Selbst et al., 2019).

Another significant obstacle to AI-powered criminal justice applications is privacy issues. Various AI systems need access to vast amounts of personal information such as biometric data, communications history, geographical location, and online behavior. This information can be useful for investigations into crime, but there are hazards, such as surveillance, misuse of data, and infringement of privacy rights that may arise from its collection and processing (Zuboff, 2023). Thus, balancing the effectiveness of investigation and the preservation of privacy is crucial for responsible AI use.

With the advent of generative AI tools, the manipulation of evidence has come to the forefront of concerns. AI-generated synthetic media like realistic fake videos, voices, and images may be used to produce misinformation or to cast doubt on the authenticity of real digital content. This presents a challenging landscape in which investigators not only have to gather evidence but also determine if digital information has been altered or artificially created (Chesney & Citron, 2019). As synthetic media becomes more sophisticated, it is more important than ever that both professionals and the public are aware of digital forensics.

Public trust is a key variable to successful implementation of evidence created by AI in criminal justice systems. While technological accuracy may not ensure public acceptance, people's perceptions of fairness, transparency, accountability, and understanding of criminal justice technologies are what determine acceptance. If individuals are unclear about the processes used to collect, authenticate, and analyze digital evidence, they may feel like the AI-driven results are ambiguous or unreliable (Araujo et al., 2020). For this reason, it is important to ensure that people have confidence in the powers of AI-generated evidence, but also in the processes used in digital forensics.

Digital forensic awareness could be a crucial link in the chain affecting the public's trust in AI-generated evidence. People with more knowledge of the principles of the investigation, such as evidence authentication, chain of custody, data integrity, and verification processes, can better understand their limits and possibilities for the use of AI technologies. This knowledge can help to mitigate uncertainty and boost confidence in criminal justice systems that rely on AI. On the other hand, low awareness can lead to misunderstandings and hinder the acceptance of AI.

Despite the extensive research work conducted on the technical development of forensic applications of AI, algorithmic accuracy, and legal issues concerning the use of AI evidence, fewer studies have focused on the social aspects of AI integration for criminal justice purposes. Previous research has largely concentrated on technology's performance, ethics, and legal acceptability, with less research dedicated to the impact of public perception on AI's role in justice. Previous research has largely centered on the performance, ethics, and legal acceptability of AI, with fewer studies exploring the influence that public perception has on trust in AI-assisted justice. The role of digital forensic awareness as a mediator has not been explored enough.

Thus, the goal of this research is to explore the connection between AI-generated evidence and public confidence in criminal justice and to explore the mediation of digital forensic awareness. In particular, it aims to identify whether higher acceptance and perceived reliability of evidence created by AI lead to higher public trust and how awareness of digital forensics increases this relationship. The study fills this gap by examining the human and social aspects that affect the responsible use of AI in criminal justice.

Literature Review

The growing role of computational technologies in forensic investigation, law enforcement activities, and judicial decisions has led to a new area of research in the field of criminal justice: the use of Artificial Intelligence (AI) to

generate evidence. AI-generated evidence is digital information created, processed, enhanced, or interpreted using AI technologies, such as machine learning algorithms, deep learning models, computer vision systems, natural language processing tools, and generative AI applications. While "traditional" evidence is largely assembled and analyzed by humans, the evidence produced using AI consists of automated processes that extract and interpret patterns, classify information, and provide investigative insights from vast amounts of data (Casey, 2011; Du et al., 2020). In criminal justice applications, AI-generated evidence encompasses AI-driven surveillance analysis, facial recognition results, automatic electronic evidence analysis reports, predictions, deepfake detection tools, and AI-generated interpretations of electronic evidence.

AI experience of evidence is the total impression that individuals have of the information created by AI in criminal investigations and criminal justice processes. Perceived accuracy, reliability, transparency, fairness, and confidence in AI decision support systems all play a role in this perception. From the technology acceptance perspective, people tend to accept new technologies when they think that they are useful, reliable, and easy-to-understand (Venkatesh et al., 2003). In a criminal justice setting, public acceptance of the AI-generated evidence relies on the belief that the AI capabilities can generate trustworthy and impartial evidence, as well as on the citizens' trust in the AI system itself (Shin, 2021).

Perceived reliability of evidence produced by AI is the level of confidence that people have that the evidence generated by AI is accurate, consistent, valid, and reliable for use in a criminal investigation or in court decisions. The requirement of reliability is a key issue in evidence admissibility, as criminal justice decisions are made with a high degree of confidence that information presented in the legal proceedings is accurate and reliable. While some studies have shown potential for the use of AI in enhancing forensic analysis, the challenges of algorithmic bias, limited validation, and explainability have been raised in recent research (Kovalerchuk, 2024; Zangana & Li, 2025).

Digital forensic awareness is the knowledge and understanding of digital evidence processes: evidence collection and authentication, preservation, analysis, and interpretation. Digital forensic awareness allows people to become aware of how electronic evidence is developed, corroborated, and assessed before it can be used in court. With the complexity of AI forensic tools, the latter is gaining significance, and insufficient awareness of forensic procedures can result in uncertainty and a lack of confidence in AI-assisted investigations (Casey, 2011). People who are more knowledgeable about the principles of digital forensics might be better able to assess the pros and cons of the AI evidence.

Public trust in criminal justice is the confidence that citizens have in criminal justice institutions functioning fairly, transparently, effectively, and legitimately. Citizens' perceptions of fairness and competence are crucial ingredients for public cooperation, acceptance of legal decisions and institutional legitimacy, which make citizens' trust in justice systems an important part of the study. For AI adoption, people's trust relies not only on the reputation of the institution but also on their beliefs about the accuracy, explainability, and ethical use of technological systems (Shin, 2021).

Effect of Perceived Reliability of AI-generated Evidence on Public Trust in Criminal Justice

The correlation between the credibility of AI-created evidence and trust in the criminal justice system has been increasingly studied. AI technologies offer the potential to make the criminal investigation process faster, more efficient, and less prone to human error by using evidence. The applications of machine learning in the field of digital forensics have proven beneficial in image processing, malware analysis, automated evidence classification, and many other areas (Iyengar et al., 2025). Citations build citizens' trust in criminal justice processes that use AI when they

believe that the evidence from AI is accurate and scientifically valid. Explainable and transparent AI systems further enhance trust as users feel more at ease with the AI system's decision-making process (Shin, 2021).

But the credibility of the evidence is still a real issue with regard to public acceptance. AI systems can be based on sophisticated algorithms that can generate results that are not easily explained. The “black box” problem can lead to uncertainty, as it can make it difficult for legal parties or the public to understand how AI has arrived at a specific decision (Rudin, 2019). AI in criminal justice is an area of research that highlights the importance of transparency, accountability, and human oversight in the AI system to ensure trust in the decision-making process (Busuioc, 2021). As a result, it is assumed that perceived reliability greatly impacts public trust in criminal justice.

H1: There is a significant positive effect of perceived reliability of AI-generated evidence on public trust in criminal justice.

AI-generated Evidence Perception and Awareness of Digital Forensics

The level of digital forensic awareness is also likely to be affected by the perceived evidence created by AI. With the rise of AI's presence in criminal investigations, people may become more interested and aware of the processes of digital evidence gathering. As AI becomes more prominent in criminal investigations, people may become more interested and aware of the processes of digital evidence gathering. The rise in the application of AI forensic methods has led to greater public debate on evidence authentication, deepfakes, and cybersecurity risks, as well as algorithmic decision-making (Chesney & Citron, 2019). Exposure to AI-generated evidence can motivate people to learn more about the methods of digital evidence collection, analysis, and validation.

In the realm of digital forensics, the awareness of digital evidence is especially crucial as it differs from physical evidence. Digital evidence needs special procedures to prove integrity, such as verifying the data sources, preserving the metadata, and evaluating for potential manipulation of the data. The research on machine learning applications in digital forensics underscores the need to align with the progression of technology and the advancement of forensic knowledge and investigation skills (Tiwari et al., 2025). So, a better understanding of the evidence created by AI may be a helpful factor in enhancing awareness of the digital forensic procedures.

H2: AI-generated evidence perception greatly affects the awareness of digital forensics.

Digital Forensic Awareness and Public Trust in Criminal Justice

Digital forensic awareness is likely to positively impact public confidence in the criminal justice system, as with increased knowledge, uncertainty about the process of technology is reduced. They might be more confident that AI-backed investigations are authentic and credible if they comprehend the investigative process. If they comprehend the investigative procedure, they might be more confident that the investigations with AI support are real and reliable. This lack of awareness can trigger a misunderstanding, fear, or rejection of AI technologies, as people can feel disempowered by automatic evidence systems or think they don't work.

The existing studies in the field of technology acceptance have indicated that transparency and knowledge are important factors that impact trust relations in new emerging technology (Shin, 2021). In the field of criminal justice, citizens can be more forensically aware about challenges with evidence authentication, algorithmic limitations, and the oversight of humans. This, in turn, could lead people with a higher level of digital forensic awareness to show greater confidence in an AI-aided criminal justice system.

H3: Digital forensic awareness has a positive impact on the public trust in criminal justice

Digital Forensic Awareness Mediates the Relationship between AI-Generated Evidence Perception and Public Trust

Digital forensic awareness plays an important role in the mediating process of the perception of AI-generated evidence and its influence on the public's trust in criminal justice systems. While AI-produced evidence might offer technological benefits, trust is not just built based on the technology's performance. Rather, the formation of trust is a social and cognitive process, shaped by the cognition, knowledge, and interpretation of technological systems by people. In the realm of AI evidence perception, the concept of awareness could serve as a pathway to bridging the gap between public trust and the insights, processes, and practices involved in collecting, analyzing, and presenting AI-generated evidence in legal settings.

Studies on trust and technology acceptance have shown that technology acceptance depends on the level of knowledge that users have of the functional aspects of technologies and on their limitations. The technology acceptance model refers to the model that describes the theory of how convenient technology is and how useful it is to citizens, which in turn affects their acceptance of the technology (Venkatesh et al., 2003). With AI-generated evidence, people with a knowledge of digital forensic procedures might be better equipped to assess the advantages and disadvantages of AI systems than by simply assuming or being unsure. Thus, raising digital forensic awareness can diminish perceived risks related to AI evidence and boost belief in criminal justice applications.

AI-generated evidence poses specific challenges since digital information can be readily fabricated, altered, or manipulated. As more generative AI technologies such as deepfakes emerge, there has been growing concern about falsified digital materials in a criminal investigation. Chesney and Citron (2019) claimed that synthetic media technologies pose substantial problems for the legal system since people might find it hard to tell true information from fake information. Digital forensic awareness is a body of knowledge that should equip individuals with knowledge on how to approach authentication, metadata examination, chain-of-custody, and verification procedures that are crucial in assessing the credibility of digital evidence.

Additionally, education in digital forensic practices might lead to a better understanding of the transparency of institutions. The criminal justice system has always relied on citizens' trust in both the process and the outcome of its investigations and trials. If citizens are not informed about AI technologies or the transparency and fairness of the technology, they can be mistaken about the technology. Explainable AI research highlights the importance of transparency and interpretability to foster trust in people and in algorithmic decision-making (Arrieta et al., 2020). Digital forensic awareness can help citizens see that AI is a tool that helps them investigate, not make decisions for them, leading to greater acceptance of AI-powered justice processes.

H4: Digital Forensic Awareness Mediates the Relationship between AI-Generated Evidence perception and public trust.

Procedural justice theory is also related to the significance of digital forensic awareness. Sanderson and Darley (2002) indicated that perceptions of fairness, neutrality, and understanding of decision-making processes are significant factors in the public's trust of legal institutions. The more people are aware of how evidence is created and assessed, the more inclined they are to view criminal justice results as legitimate. Thus, understanding of digital forensic process procedures could enhance the digital forensic institutional trust relationship through awareness of AI-generated evidence perception.

AI implementation in high-stakes contexts has been studied recently, yielding an understanding that trust comes from both expertise in technology and knowledge about humans. Shin (2021) showed that explainability and transparency have a great impact on the trust of users in machine learning systems. Likewise, Kaur et al. (2022)

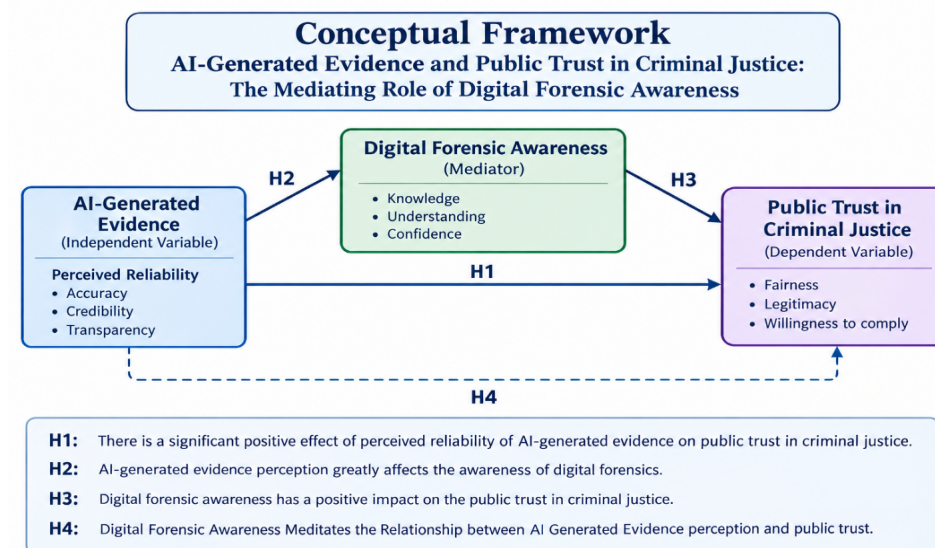
pointed out that the applications of AI are not solely technical; some level of public understanding and communication strategies is also needed. The results indicate that the phenomenon of digital forensic awareness could be a vital psychological pathway towards the greater acceptance of evidence offered by AI in the criminal justice system, which in turn holds promise for fostering trust in criminal justice institutions more broadly.

While there have been studies on the reliability of AI, transparency of algorithms, and legal issues related to digital evidence, the confluence of AI-generated evidence perception, digital forensic awareness, and public trust has received scant empirical focus. Previous research has mainly been concerned with the technological aspects and the professional attitudes of forensic experts, lawyers, and law enforcement officers. There has been less focus on the public's perceptions of AI-generated evidence and the conditions that influence their trust in the use of AI in criminal justice.

In the absence of this, this research introduces digital forensic awareness as an intervening variable between digital forensic AI evidence perception and public trust. The mediation point of view posits that the use of AI-generated evidence perception does not necessarily lead to higher trust unless people have good knowledge of the processes of digital forensics. If citizens can trust the evidence provided by AI, and they understand the operations of digital forensic systems, they might have additional confidence in the criminal justice system. On the other hand, a lack of forensic awareness can diminish the positive effect of AI evidence perception as individuals continue to be unsure of the authenticity of the evidence and algorithmic decision-making.

Thus, in this study, it is proposed that digital forensic awareness is a key explanatory factor in people's reactions to evidence created by AI. This mediation relationship serves as a valuable addition to the current body of knowledge in the fields of artificial intelligence, forensic science, and criminal justice technology by highlighting the need for human understanding in the successful implementation of AI systems.

Figure 2



Methodology

This study uses a quantitative approach to investigate the link between perceived evidence created by Artificial Intelligence, awareness of digital forensics, and public confidence in the criminal justice system. The research is a cross-sectional survey design with data collection carried out from the respondents at one time. The quantitative approach allows the study to make statistical analysis of the relationships between variables, test the hypothesis it proposes, and test it by an empirical approach. The research framework considers the effects of perceived reliability

of AI-generated evidence on public trust, the effects of AI-generated evidence perception on digital forensic awareness, and the mediating role that digital forensic awareness plays between the perception of AI-generated evidence and public trust. This study aims to target Pakistani university students, the general public, and legal professionals. Students attending Universities are becoming a significant target group as they have constant engagement with digital technologies and are increasingly exposed to the applications of Artificial Intelligence. The public gives input on what they think of societal acceptance of criminal justice processes supported by AI, and legal practitioners offer input on aspects of the evaluation of evidence and judicial practice. Convenience sampling and purposive sampling techniques were used for selection of respondents in the study. Convenience sampling may be helpful to gain access to participants, and purposive sampling can help ensure that individuals with relevant knowledge or experience with digital technologies and criminal justice systems are included. The sample size is 300 individuals, which is sufficient for performing statistical analyses, such as regression and mediation analyses.

The data are gathered by using a structured questionnaire with four parts. In the first section, demographic data such as age, gender, educational level, work experience, and technology experience are gathered. These traits can give an individual an understanding of the background of those who are responding and be used to analyze the differences in the perceptions of various groups. The second section examines how AI-generated evidence is perceived regarding indicators such as reliability, accuracy, transparency, fairness, and acceptance of AI-generated evidence in the criminal justice context. The third section assesses digital forensic awareness, which includes respondents' knowledge about digital evidence, understanding of the forensic verification process, and awareness of the evidence authentication process. The fourth section looks at public perceptions of criminal justice, including the public's confidence in judicial decisions, trust in law enforcement institutions, the public's perception of criminal justice fairness, and the public's perception of the credibility of criminal justice institutions.

Data collected were analyzed with the Statistical Package for the Social Sciences (SPSS). Demographic data and patterns of responses are summarized using descriptive statistics. Cronbach's alpha is a measure of the internal consistency of measurement scales that can be used for a reliability analysis. The correlation analysis is used to investigate the relationships among study variables, and regression analysis is used to test the direct effects proposed in the hypotheses. Mediation analysis is used to evaluate if public trust in criminal justice is mediated by the perception of digital forensic awareness, given AI-generated evidence. The mediation analysis evaluates digital forensic awareness as the mediator between the perception of digital forensic awareness and public trust in criminal justice given AI-generated evidence. The methodology offers a structured way to grasp the various factors that can impact public trust in the use of AI-generated evidence in criminal justice systems.

Data Analysis

The data collected is analyzed using the Statistical Package for Social Sciences (SPSS) to determine reliability, validity, descriptive characteristics, relations, and predictive effects of the study variables. Reliability test, descriptive statistics, correlation analysis, regression analysis, and mediation analysis are included in the analysis. The statistical procedures are employed to assess the proposed research model and to examine the hypotheses concerning the relationship between AI-generated evidence perception, the public's awareness of digital forensics, and public trust in criminal justice.

Reliability and Validity Testing

Cronbach's alpha analysis is used to determine the reliability of the measurement scales. Cronbach's Alpha is a measure of internal consistency of the questionnaire items that measure each of the constructs. An internal

consistency of above 0.70 is acceptable, and an internal consistency of greater than 0.80 is considered strong. Also covered are the Composite Reliability (CR) and Average Variance Extracted (AVE) to ensure construct reliability and convergent validity.

Table 1
Reliability and Validity Testing

Construct	No. of Items	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
AI-Generated Evidence Perception	5	0.881	0.884	0.603
Digital Forensic Awareness	4	0.846	0.851	0.589
Public Trust in Criminal Justice	4	0.872	0.876	0.617

The findings showed that all constructs were found to have acceptable reliability with a Cronbach's Alpha value above 0.70. Evidence perception ($\alpha = 0.881$), public trust in criminal justice ($\alpha = 0.872$), and digital forensic awareness ($\alpha = 0.846$) have the highest reliability scores. The Composite Reliability values are also greater than 0.70, which provides good internal consistency among the measurement items. In addition, the AVE values are greater than the required minimum of 0.50, which means that all the items measuring each construct have more than 50 percent of the construct's variance. Thus, the measurement model has good reliability and convergent validity.

Descriptive Analysis

Descriptive statistics are run to uncover the general trend of the responses from the respondents for the perception of AI-generated evidence, awareness of digital forensics, and public trust in criminal justice. The mean values reflect the average level of agreement, and the standard deviation reflects the variation in the responses of the respondents.

Table 2
The Descriptive Statistics of the Study Variables

Variable	Mean	Standard Deviation
AI-Generated Evidence Perception	3.92	0.71
Digital Forensic Awareness	3.76	0.68
Public Trust in Criminal Justice	3.81	0.73

Overall, the descriptive results illustrate a favorable attitude toward the AI-generated evidence, with an average score of 3.92. This suggests that respondents view the value of using AI in criminal justice with some degree of neutrality and accept the evidence, provided it is supported by AI. Digital forensic awareness reveals a mean rating of 3.76, indicating that the respondents have a moderate-to-high level of awareness about digital evidence procedures. Public confidence in criminal justice has a mean score of 3.81, reflecting a relatively high level of confidence in AI applications in criminal justice. The standard deviation shows a reasonable amount of variation in responses and suggests that respondents' opinions are fairly similar.

Correlation Analysis

The relationships between the AI-generated evidence perception, digital forensic awareness, and public trust in criminal justice are explored through the use of Pearson correlation analysis. Values for correlation range from -1 to +1, and if the value is positive, then there is a direct relationship between the variables.

Table 3*Pearson Correlation Analysis*

Variables	1	2	3
1. AI-Generated Evidence Perception	1		
2. Digital Forensic Awareness	0.542**	1	
3. Public Trust in Criminal Justice	0.618**	0.574**	1

Note: $p < 0.01$

The correlation analysis revealed that AI-generated evidence perception is positively correlated with digital forensic awareness, with a significant result ($r = 0.542$, $p < 0.01$). It suggests that there is a correlation between positive attitudes towards evidence created by AI and digital forensic process awareness. Likewise, AI evidence perception has an important positive correlation with public trust in the criminal justice system ($r = 0.618$, $p < 0.01$). Similarly, there is a large positive correlation between digital forensic awareness and public trust ($r = 0.574$, $p < 0.01$). Results from this support the initial hypotheses.

Hypothesis Testing

The direct effects between the variables of the study are examined by regression analysis. The three regression models are developed to test the proposed relationships, and then mediation analysis is conducted through the PROCESS Macro in SPSS. In Model 1, the perception of evidence is generated by AI, and the audience trusts it.

Table 4*The Regression Analysis for H1*

Predictor	β	t-value	p-value
AI-Generated Evidence Perception	0.618	13.42	0.000

 $R^2 = 0.382$

As revealed by the regression results, the model accounts for 38.2% of the variance in public trust. Thus, H1 was confirmed: the more reliable and acceptable perceived evidence generated by AI, the more trustworthy the public feels in the criminal justice system.

Model 2: AI-Generated Evidence Perception → Digital Forensic Awareness

Table 5*The Regression Analysis for H2*

Predictor	β	t-value	p-value
AI-Generated Evidence Perception	0.542	10.76	0.000

 $R^2 = 0.294$

The results showed that evidence perception is significant regarding digital forensic awareness, with a β value of 0.542 and a p -value < 0.001 . The model accounts for 29.4% of the variance in digital forensic awareness. Based on this, the findings indicated that a higher degree of exposure and understanding of AI-generated evidence leads to higher awareness of digital forensic practices, indicating that H2 is supported.

Model 3: Digital Forensic Awareness → Public Trust for H3

Table 6

Regression Analysis for H3

Predictor	β	t-value	p-value
Digital Forensic Awareness	0.574	11.93	0.000

R² = 0.329

The results show that the digital forensic awareness variable has a significant prediction on public trust in criminal justice ($\beta = 0.574$, $p < 0.001$). The findings reveal that the more people know about digital forensic processes, the more they feel confident in the use of AI in justice processes. Thus, H3 is accepted.

Mediation Analysis (AI Evidence Perception → Digital Forensic Awareness → Public Trust)

The relationship between the variables is tested by mediation analysis in SPSS using the PROCESS Macro Model 4 and bootstrapping procedures. The mediation analysis results indicated that the relationship between AI-generated evidence perception and public trust is mediated by digital forensic awareness.

Table 7

Mediation Analysis Results

Relationship	Effect	Boot SE	LLCI	ULCI
AI Evidence Perception → Digital Forensic Awareness → Public Trust	0.311	0.052	0.214	0.418

The indirect effect of AI-generated evidence perception on public trust is of great importance because it was not found to be near 0 (LLCI = 0.214, ULCI = 0.418). This validates that digital forensic awareness is a good mediational variable. As a result, the support is in favour of H4. The results indicate that the combination of AI-generated evidence perception and enhancing the understanding of digital forensic processes partially contributes to boosting the public's trust in the digital forensic process.

The statistical analysis verifies a strong interconnection between the levels of evidence perception, digital forensic awareness, and public trust overall. The findings highlight the need for more than just technological acceptance, as raising awareness and understanding of the forensic processes are equally crucial for enhancing trust and confidence in AI systems within the criminal justice system.

Discussion of Findings

The results of this study offer important insights into the relationship between the perception of evidence created by AI, awareness of digital forensics, and public trust in criminal justice. The findings confirm that perceived reliability of the evidence produced by AI has a positive impact on public trust, reinforcing the need to consider technological credibility as a crucial determinant for the acceptance of AI-integrated criminal justice systems. If people believe AI-created evidence to be based on real data, transparent, and scientifically sound, they are then more likely to trust criminal justice institutions. The results are in line with earlier studies that showed that AI system trust relies significantly on the trustor's trust in the reliability, explainability, fairness, and accountability of the AI system (Arrieta et al., 2020; Shin, 2021).

The results confirm the first hypothesis, which suggests that the reliability of the AI-generated evidence has a positive effect on individuals' trust in criminal justice. The result is significant, given the growing role of AI

technologies in forensic analysis, where machine learning algorithms help in evidence analysis, pattern recognition, and the digital investigation process. AI forensic tools have been shown to enhance investigative productivity by analyzing vast amounts of digital data and uncovering intricate patterns and connections that might not be apparent using traditional methods (Casey, 2011; Parkinson & Khan, 2024). The results also indicate, however, that technological capabilities do not necessarily build public trust. When users perceive that the evidence generated by AI is reliable, understandable, and subject to proper verification procedures, the trust in AI grows. The more users feel confident that AI-created evidence is reliable, understandable, and subject to suitable verification processes, the more confidence they have in AI.

The findings also clearly reveal that AI-generated evidence perception has an impact on digital forensic awareness. The discovery indicates that by being more familiar with AI-based evidence, people are more likely to acknowledge digital forensic procedures like evidence collection, authentication, preservation, and verification. Alam and Altiparmak (2026) highlight a need for the forensic community and the legal profession to have a deeper understanding of explainable AI applications to guarantee acceptance and efficient use in cyber forensics. With the increasing prevalence of AI-generated evidence in criminal investigations, it is crucial that individuals understand the digital forensic procedures involved and can assess the validity and applicability of the AI evidence.

The results also validate that digital forensic awareness has a positive impact on public trust in the criminal justice system. The results show that information on the process of digital evidence contributes to a decrease in uncertainty and an increase in confidence in the legal decision-making process, when supported by AI. Those who are aware of the process of forensic verification are more likely to grasp that AI evidence is not the same as evidence produced by human minds but a technology that needs to be validated and supervised by humans. The results are consistent with the explainable artificial intelligence research that emphasizes that transparency and interpretability are key to boosting user trust in algorithmic systems (Arrieta et al., 2020; Shin, 2021). Likewise, Kaur et al. (2022) state that effective communication and understanding of users are essential for a successful adoption of trustworthy AI, in addition to being technically accurate.

The mediation analysis also gives a theoretical contribution as it shows that digital forensic awareness is a crucial mediator between the perception of evidence generated by AI and public trust. This discovery indicates that positive perceptions of AI evidence affect trust behavior, at least in improving individuals' understanding of the mechanisms of digital forensics. More simply, people don't just trust AI-generated evidence because it's created with technology; they trust it because they know how it is created, verified, and controlled. This finding is a relatively new extension to past technology acceptance studies, as it shows that knowledge and awareness are important mechanisms in the acceptance of high-stakes AI applications (Venkatesh et al., 2003).

AI-generated evidence poses questions of transparency, authenticity, and accountability, making the mediation by digital forensic awareness pertinent. It is common for advanced AI systems to employ sophisticated models that are hard for non-technical users to understand. Sumanth and Sharan (2024) suggest that in high-risk situations, where the consequences of decisions made by black-box AI systems can be serious, it is hard for users to understand or contest decision results. This is problematic in the context of criminal justice and can be detrimental to public confidence. Increasing digital forensic awareness can therefore help to minimize uncertainty by making people aware of the capabilities and limitations of the AI technologies.

The results also have implications for emerging challenges in generative AI and synthetic media. The new risks posed by deepfake technologies are that the manipulated images, audio, and videos can be used as supposed evidence. Chesney and Citron (2019) point out that one of the greatest issues that synthetic media poses for legal systems is that it is becoming harder to verify authenticity. The debate about the use of AI-generated evidence in legal

proceedings, which has been ongoing recently, also underscores the need for validated methods of producing such evidence and for people to monitor the process of making legal decisions (More et al., 2025). The issues raised show the importance of raising public awareness about digital forensic methods to ensure trust in AI-backed justice systems.

In addition, the results add to the existing body of research on responsible AI governance in the criminal justice sector. The research conducted on the implementation of AI focuses on the importance of ensuring that it is used ethically and responsibly. In sensitive sectors, such as health, education, and employment, there is a need to ensure that AI is employed ethically and responsibly, while also maintaining fairness, transparency, accountability, and human control over its use (Surden, 2018; Mehrabi et al., 2021). In the present study, this view is broadened to show that the level of citizens' trust is shaped by not only the technology's performance properties, but also by their understanding of the forensic process.

The overall results suggest that a combination of technical assurance, public education, and digital forensic awareness is key to successful integration of AI-generated evidence in criminal justice. It is not only important to create precise AI systems, but also to make criminal justice institutions more transparent, explain forensic procedures, and raise awareness among citizens about the evaluation of evidence with AI. Institutions can foster responsible use of AI tools in the criminal justice system and build trust in digital forensics by raising awareness and promoting its use.

Conclusion

This research explores the connection between the perception of evidence created by AI, digital forensic awareness, and public confidence in the criminal justice system. As AI becomes more prevalent in criminal investigations and forensic analysis, there are more opportunities for enhancing evidence analysis, investigation productivity, and the accuracy of decisions based on AI. But achieving effective implementation of AI-generated evidence requires more than technology: public confidence, understanding, and acceptance of AI systems. Thus, the study concentrates on social and cognitive issues related to trust in AI-enabled criminal justice operations.

The results illustrate the importance of perceived reliability of AI-generated evidence in public trust in criminal justice. If users trust AI-created evidence to be accurate, transparent, fair, and reliable, they are more likely to trust the AI's investigative and judicial processes. A user feels more confident in AI-supported investigative and judicial processes if they believe the evidence AI has created is accurate, transparent, fair, and reliable. This emphasizes that the performance of technology is not the only factor that determines its acceptance; people need to trust that the AI system is reliable and responsible. The findings show that enhancing the quality, transparency, and accountability of evidence systems that use AI can help establish trust in the modern practices of the criminal justice system.

The study also finds that the EPE generated by AI has a significant impact on the awareness of digital forensics. The more people get to know the ways in which AI is being used in criminal investigations, the more they learn about digital evidence processes, such as verification, authentication, and preservation. This connection points to the fact that fostering exposure to new technology can lead to improved knowledge of forensic techniques. As the world of digital information evolves fast, it is crucial that the general public becomes more knowledgeable about digital forensics to ensure informed consent for the use of AI-generated evidence.

In addition, the results show that public trust in the criminal justice system is positively affected by digital forensic awareness. People's confidence in AI-driven justice processes increases when they grasp the methods of gathering, analyzing, and authenticating digital evidence. Those who are aware of the process of collecting, examining, and validating digital evidence have more confidence in AI-driven justice processes. By improving awareness, uncertainty

is eliminated, and people can assess the information generated by AI based on the information they know and not on the fear of the uncertain complexity of technology. Thus, digital forensic education is a significant influence in enhancing the confidence of the criminal justice system in technology.

One of the most significant findings of this research is the mediation effect of digital forensic awareness between the perception of AI-generated digital evidence and public trust. The results suggest that evidence perception induced by AI affects trust not only through technological attributes but also through awareness of forensic procedures. It shows how humans are essential in the acceptance of AI in sensitive fields like criminal justice.

The study includes practical implications for law enforcement agencies, forensic institutions, stakeholders in the justice system, and policymakers. Promoting transparency, explainability, and public communication strategies are crucial for organizations that have put AI into action to create evidence systems. Transparency, explainability, and public communication strategies are important for organizations that have adopted AI for evidence systems. Educating and raising awareness on digital evidence procedures can be a way for citizens to learn about the role and limitations of AI technologies. Moreover, there is a need for ongoing enhancement of forensic processes and checks to have confidence in AI-generated evidence.

Even though AI can hold promise in the criminal justice sector, its responsible use calls for considerations of reliability, accountability, privacy, and evidence authenticity. AI should be used as an aid to decision-making and should not supplant professionals' judgment. By striking the right balance between technological advancements and human oversight, combined with public awareness, AI-powered evidence can have a positive impact in the justice system.

Finally, this study highlights the importance of both the reliability of the technology and the understanding of it, in terms of trusting the evidence generated by AI. Digital forensic awareness is an essential link between the acceptance of AI and public trust. In an era where criminal justice is increasingly deploying AI-based technologies, cultivating users who are knowledgeable and informed of the technology's capabilities and limitations will be vital to a successful, transparent, and trustworthy integration of AI.

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