



## THE URGENCY OF FINGERPRINTS AS EVIDENCE IN CRIMINAL JUSTICE PROCEEDINGS

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### **Abstract:**

*The Stages in the criminal justice process, starting from the investigation, prosecution, examination before the court, to the implementation of the court decision or execution. At each stage there are several actions that must be taken to be able to enter the next stage. Fingerprints are lines found on the skin of the fingertips of a person's right and left hands. The fingerprints of criminals are often left at the crime scene. Inquiries and investigations as one of the stages in the criminal justice process are intended to make clear and clear a criminal case in order to find the perpetrator. In carrying out inquiries and investigations, it is necessary to secure the place where the crime occurred to carry out fingerprint identification of the victim or perpetrator of the crime. This research uses a normative juridical research type with a statutory approach, concept approach and case approach. Using secondary data as main data through: statutory regulations, literature books, and criminal cases. Analysis uses qualitative analysis. The aim of this research is to analyze the urgency of fingerprints as evidence in the criminal justice process. The results of the research show that: The urgency of fingerprints in the criminal justice process is that apart from having an important function in the inquiry and investigation stages, they are also important as evidence for expert testimony, documentary evidence and indicative evidence in the evidentiary process at court hearings. Apart from being a piece of evidence, the perpetrator's fingerprints also function as evidence at trial, because the fingerprints on the tools used to commit the crime are accurate evidence regarding who the perpetrator was.*

**Keywords:** Fingerprints; Evidence; Criminal justice Process

### **Abstrak:**

Tahapan dalam proses peradilan pidana, dimulai dari tahap penyidikan, penuntutan, pemeriksaan di muka pengadilan, hingga pelaksanaan putusan pengadilan atau eksekusi. Pada setiap tahap terdapat beberapa tindakan yang harus dilakukan untuk bisa memasuki tahap selanjutnya. Sidik jari adalah garis-garis yang terdapat di kulit ujung jari tangan kanan maupun kiri seseorang. Sidik jari pelaku seringkali tertinggal di tempat kejadian perkara. Penyelidikan dan penyidikan sebagai salah satu tahapan dalam proses peradilan pidana dimaksudkan untuk membuat terang dan jelas suatu kasus pidana dalam rangka menemukan pelakunya. Dalam melaksanakan penyelidikan dan penyidikan diperlukan pengamanan tempat terjadinya tindak pidana untuk melaksanakan identifikasi sidik jari korban atau pelaku tindak pidana. Penelitian ini menggunakan tipe penelitian yuridis normatif dengan metode pendekatan perundang-undangan, konsep dan metode pendekatan kasus. Menggunakan data sekunder sebagai data utama, melalui peraturan perundang-undangan, buku-buku literature dan kasus pidana. Analisa menggunakan Analisa kualitatif. Tujuan penelitian ini untuk menganalisa urgensi sidik jari sebagai alat bukti dalam proses peradilan pidana. Hasil penelitian menunjukkan

bahwa: Urgensi sidik jari dalam proses peradilan pidana yaitu sebagai alat bukti keterangan ahli, alat bukti surat dan alat bukti petunjuk dalam proses pembuktian di sidang pengadilan. Sidik jari pelaku di samping sebagai alat bukti juga berfungsi sebagai barang bukti di persidangan, karena sidik jari yang terdapat pada alat yang digunakan untuk melakukan tindak pidana merupakan barang bukti yang akurat terkait siapa yang menjadi pelakunya

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**Kata Kunci:** Sidik jari; Alat Bukti; Proses Peradilan Pidana

## **A. Introduction**

Fingerprint identification plays a crucial role in uncovering the perpetrators of criminal acts and can provide support quickly, accurately, and precisely, thereby enhancing the effectiveness and efficiency of law enforcement. Fingerprint identification involves a series of activities aimed at elucidating and clarifying a criminal act by identifying the owner of the fingerprints left at the crime scene. (Arthadana, 2015)

Latent fingerprints are marks containing sweat or oil unintentionally left by friction skin on surfaces or objects at a crime scene. These marks are generally faint or invisible, necessitating specialized development methods to make them visible. The traces in question are those left by fingers, palms, soles, and toes. Human skin has papillary ridges, which are fine lines that appear on the skin and form fingerprints. These papillary ridges (friction ridges) have pores that continuously excrete sweat. The hands and fingers typically secrete oil, and when they touch other parts of the body, the oil (sebaceous) transfers to these papillary ridges. (Temel et al., 2023)

From birth to death, fingerprints remain unchanged and unique, making them invaluable for forensic investigations by the police. When a crime occurs, the crime scene is secured and entry is prohibited to prevent contamination, which includes preserving the fingerprints left by the perpetrator on the evidence at the scene. (Yuserlina, 2017)

Based on the aforementioned statements, fingerprints are fundamentally crucial in the resolution of criminal justice processes as they pertain to evidence of criminal acts committed by individuals. This paper essentially examines various aspects related to the utility of fingerprints in criminal justice proceedings. The urgency of this research is grounded in the fact that fingerprints can determine whether someone is convicted or not, as highlighted by the recent widely discussed Vina murder case in Indonesia. The West Java Regional Police were found to have erred in naming Peggi Setiawan as a suspect in a pre-trial hearing due to a lack of scientific evidence. (Yuli Saputra, 2024)

An article discussing the urgency of fingerprints in the context of criminal acts has been previously written by several authors, such as Septiani in her work titled "The Function of Fingerprints in the Investigation Process in Uncovering Premeditated Murder." (Septiani, 2019) In previous research, authors have concluded that fingerprints facilitate the police in investigating criminal acts. However, this study differs by attempting to elaborate on the function of fingerprints not at the investigation level, but rather at the court level. Based on this originality, the purpose of this study is to reveal the urgency of fingerprints as evidence in the criminal justice process. This is crucial in aiding the police to identify perpetrators. For example, in the investigation of theft and murder cases. The formulation of the problem is: How urgent are fingerprints as evidence in the criminal justice process?

## **B. Research Method**

This research employs a normative juridical type of study. The approach methods used include the legislative approach, the conceptual approach, and the case approach. The study utilizes secondary data as the primary data source, consisting of statutory regulations, literature books, and cases of murder and theft. The research findings are analyzed using qualitative analysis.

## **C. Discussion**

### **1. Overview of Fingerprints**

Fingerprints are the lines found on the skin of the fingertips of both hands of an individual. The use of fingerprint identification systems was first implemented in America by E. Henry in 1902. Henry employed fingerprint methods in his work to address issues such as duplicate salary payments. The Henry system utilizes Ridge patterns. Ridges are the raised lines on the skin of the fingers, concentrated in the fingerprint pattern, especially on the index finger. Numerous studies have demonstrated that the fingerprint patterns of individuals are unique. These ridge patterns also differ among family members, despite common ancestry. Ridge patterns form between the sixth and seventh weeks of gestation. By the 13th week of fetal development, they become distinct and remain unchanged throughout life. Ridge patterns can alter due to scratches from injury, burns, illness, or other causes.(Yuliza & Kalsum, 2018)

A fingerprint is the reproduction of the friction ridges of a finger, intentionally taken, inked, or left behind on an object due to contact with the skin of the palm or sole. The skin of the palm extends from the base of the wrist to the tips of the fingers, and the skin of the sole extends from the heel to the tips of the toes. In these areas, there are fine prominent lines that emerge and intersect with each other, separated by furrows or grooves, forming specific structures.

Fingerprint patterns are always present on every hand and are permanent. In other words, from infancy to adulthood, these patterns do not change, much like palm lines. Each finger has a unique fingerprint pattern. To date and in the future, fingerprints are one of the most secure methods because they cannot be manipulated. Fingerprints have proven to be sufficiently accurate, safe, easy, and comfortable for use in identification compared to other systems such as retinal scans or deoxyribonucleic acid (DNA).

Fingerprints are a person's natural, unchanging identity and are unique to each individual. Fingerprints are also a technology used for identifying individuals. In law enforcement, fingerprints are known as latent prints.

Olivier classified dermatoglyphic patterns based on Galton's classification into three basic patterns, namely:(Ainur et al., 2009)

1. Arch: A dermatoglyphic pattern formed by epidermal ridges that appear as curved lines parallel to each other, resembling an arch. There are two types of arch patterns: plain arch and tented arch.
2. Loop: A dermatoglyphic pattern consisting of lines that run parallel and turn 180°. There are two types of loops found on both hands and feet, corresponding to the direction the lines open. In hands, these are known as radial loop and ulnar loop, while in feet, they are known as tibial loop and fibular loop.
3. Whorl: A dermatoglyphic pattern formed by epidermal ridge lines that spiral into a circular or spiral shape. There are four types of whorl patterns: plain whorl, central pocket loop, double loop, and accidental whorl.

Fingerprint identification, known as dactyloscopy, studies fingerprints for the purpose of identifying individuals by observing the lines on the fingertips and palm of the hand. (Roihanah & Cornelia, 2019) The term "dactyloscopy" originates from the Greek words "dactylos," meaning fingers or fingerprint lines, and "scopein," meaning to observe or examine. From this understanding, the English term "dactyloscopy" emerged, which we know as the science of fingerprints. (Abidullah, 2023)

The search or scanning of fingerprints is conducted using a fingerprint module. The results of scanning or searching are then stored in digital format during fingerprint registration or enrollment. Subsequently, these fingerprint recordings are processed to create a list of unique fingerprint feature patterns (where the differentiation between fingerprints lies in different IDs and users).

These unique and distinct fingerprint patterns are then stored in the memory of the fingerprint module. Several techniques for reading fingerprints include : (Lestari, 2019)

- a) **Optical:** With this technique, fingerprint patterns are recorded or scanned using light. The recording device (fingerprint scanner) used is typically a digital camera. The area where the fingertip is placed is called the scan area. Beneath the scan area, there is a light source that illuminates the fingertip surface. The reflected light from the fingertip is captured by a receiver, which then stores the fingerprint image in the memory of the fingerprint module. The drawback of this method is that the scanning results heavily depend on the quality of the fingerprint. If the fingerprint is dirty or damaged, the quality of the reading will be poor. Another weakness is that this technique can be fooled with fake fingers. However, it is advantageous because it is easy to perform and does not require expensive equipment.
- b) **Ultrasonic:** This technique is similar to methods used in the medical field. It uses very high-frequency sound to penetrate the epidermal layer of the skin. The high-frequency sound is generated using a piezoelectric transducer. The reflected energy is then captured using a similar device. These reflections are used to create an image of the fingerprint pattern. This method is effective even if the hand is dirty, and a dirty scanner surface does not hinder the scanning process.
- c) **Capacitive:** This technique measures capacitance to form a fingerprint image. The scan area functions as one capacitor plate, and the skin of the fingertip functions as another capacitor plate. Due to the ridges and valleys on fingerprints, the capacitance of each person varies. A drawback of this method is the presence of static electricity on the hand, which requires grounding to eliminate.
- d) **Thermal:** This technique utilizes temperature differences between the ridges and valleys of fingerprints to determine the fingerprint pattern. The method involves rubbing the fingertip (swabbing) on the scan area. If the fingertip is just placed, it will quickly reach an equilibrium temperature.

Specifically, there are several techniques for storing fingerprint patterns:

- 1) Fingerprint data is stored within the fingerprint module device. This method is known as decentralization. It is commonly used in standalone fingerprint machines, which operate independently without needing to be connected to a computer. Data is stored in the memory of the machine. The advantage of this method is the speed of data matching process. However, its limitation lies in

the capacity constrained by the memory size provided by the fingerprint module.

- 2) Fingerprint data is stored in a database on a computer. This method is known as centralization. It is typically used in online fingerprint devices that must be connected to a computer. Fingerprint data that needs to be registered is directly stored in the database on the computer's hard drive. The benefit of this approach is the large storage capacity, depending on the computer's hard disk capacity. However, drawbacks include relatively slower identification processes and the requirement for computer operation.
- 3) Fingerprint data is stored on the owner's card. This method is also a form of decentralization. Fingerprint data is stored on the owner's card. Initially, the fingerprint must be registered on the machine, and then the fingerprint data is written by the fingerprint machine onto a specific card, such as a Mifare card. Verification processes are conducted using the card that already contains the fingerprint data.

Fingerprint identification is a crucial activity in crime scene investigation within the function and duties of Criminal Investigation or Criminal Police, specifically handled by INAFIS (Indonesian Automatic Finger Identification System). According to Regulation of the Indonesian National Police No. 14 of 2018 concerning the Organization and Working Procedures of Regional Police, fingerprint identification at the Provincial Police level is conducted by the Dactyloscopy Unit under the Identification Section, which is a unit under the General Criminal Investigation Directorate. One of INAFIS's roles in supporting law enforcement includes identifying suspects, solving crimes, and tracking wanted persons or fugitives. (Kepala Kepolisian Negara Republik Indonesia, 2018)

In 1892, Comisario Don Juan Vusetich, a police officer from Argentina, first used fingerprint identification in criminal cases, successfully proving a murder suspect based on latent fingerprints found at the crime scene. (Miranda et al., 2020) Latent fingerprints discovered at the crime scene during crime scene investigation are compared with fingerprints stored in the police database under specific individuals' names. This comparison aims to match fingerprints found at the crime scene to identify potential criminal suspects.

The papillary ridges that form fingerprints, studied and researched for decades by experts, possess distinctive characteristics. These ridges establish that fingerprints formed by papillary ridges are unique to each individual, even among siblings or twins. Furthermore, no two fingerprints of the same individual will be identical among their ten fingers. Therefore, fingerprint analysis (dactyloscopy) is a specialized field exclusive to law enforcement, with no other institution teaching this science except within the police force.

## **2. Criminal Offenses Requiring Fingerprints in Criminal Judicial Proceedings**

### **a. Homicide**

Homicide is an act committed by one or more individuals resulting in the death of one or more persons. (Rahmat, 2000) The criminal act of homicide, as stated in the Indonesian Penal Code (KUHP), falls under crimes against life. Crimes against life (misdrijven tegen het leven) involve an assault on another person's life. Types of homicide under the Penal Code are as follows (Chazawi, 2001)

- a) Ordinary homicide (Article 338), which states: "Whoever intentionally takes the life of another person shall be punished for homicide with imprisonment for a maximum of fifteen years."
- b) Aggravated homicide (Article 339), which states: "Homicide that is followed, accompanied, or preceded by another crime, carried out with the intent to prepare or facilitate its commission, or to escape from capture, or to secure control over unlawfully obtained property, shall be punishable by life imprisonment or imprisonment for a maximum of twenty years."
- c) homicide (Article 340), which states: "Whoever intentionally and premeditatedly takes the life of another person shall be punished for premeditated murder with death penalty, life imprisonment, or imprisonment for a maximum of twenty years."
- d) Infanticide by the mother (Article 341), which states: "A mother who, out of fear of being discovered, intentionally takes the life of her child during or shortly after childbirth shall be punished for infanticide with imprisonment for a maximum of seven years."
- e) Planned infanticide (Article 342), which states: "A mother who, to carry out a decision made out of fear of being discovered about her impending childbirth, takes the life of her child during or shortly after childbirth, shall be punished for planned infanticide with imprisonment for a maximum of nine years."
- f) Murder upon the victim's request (Article 344), which states: "Whoever takes the life of another person upon the earnest request of that person shall be punished with imprisonment for a maximum of twelve years."
- g) Persuading/assisting suicide (Article 345), which states: "Whoever intentionally persuades another person to commit suicide, aids in such act, or provides means for it, shall be punished with imprisonment for a maximum of four years if the person commits suicide."
- h) Abortion with the mother's consent (Article 346), which states: "A woman who intentionally aborts or terminates her pregnancy, or orders another person to do so, shall be punished with imprisonment for a maximum of four years."
- i) Abortion without the mother's consent (Article 347), which states: "(1) Whoever intentionally aborts or terminates the pregnancy of a woman without her consent shall be punished with imprisonment for a maximum of twelve years. (2) If this act results in the death of the woman, the offender shall be punished with imprisonment for a maximum of fifteen years."
- j) Causing death of fetus with consent of pregnant woman (Article 348), which states: "(1) Whoever intentionally aborts or terminates the pregnancy of a woman with her consent shall be punished with imprisonment for a maximum of five years and six months. (2) If this act results in the death of the woman, the offender shall be punished with imprisonment for a maximum of seven years."
- k) Doctors/midwives/drug practitioners aiding abortion/death of fetus (Article 349), which states: "If a doctor, midwife, or drug practitioner assists in committing the crime under Article 346, or commits or assists in committing any of the crimes described in Articles 347 and 348, the prescribed

punishment in those articles may be increased by one-third and their right to practice in the field where the crime was committed may be revoked."

b. Theft

Criminal act of theft is regulated in Chapter XXII Articles 362-367 of the Indonesian Penal Code (KUHP). Theft is one of the prevalent types of crimes in society. According to the KUHP, theft is the act of taking someone else's property wholly or in part with the intention to unlawfully possess it. Types of theft under the KUHP are as follows:

a) Ordinary theft.

Ordinary theft is regulated under Article 362 of the KUHP, which states: "Whoever takes an object wholly or in part belonging to another person, with the intention of unlawfully possessing it, shall be punished with imprisonment for a maximum of five years or a fine of up to nine hundred rupiahs."

b) Aggravated theft.

Aggravated theft is qualified or regulated under Articles 363 and 365 of the KUHP. This type of theft refers to theft committed in specific ways and under aggravating circumstances, thus punishable by a heavier penalty than ordinary theft.

c) Petty theft.

Petty theft is regulated under Article 364 of the KUHP. This type of theft is described in Article 364, which states: "Acts as described in Article 362 and Article 363 paragraph 4, as well as those described in Article 365 paragraph 5, if committed within a residence or on enclosed premises with a residence above, and if the value of the stolen item does not exceed twenty-five rupiahs, shall be punished for petty theft, with imprisonment for a maximum of three months or a fine of up to two hundred and fifty rupiahs."

d) Familial theft.

Familial theft as regulated under Article 367 of the KUHP involves theft within a family context. This means both the perpetrator and the victim are part of the same family, for example, when a spouse commits (alone) or aids (another person) in the theft of the other spouse's property.

Examples of murder cases that use fingerprints in the investigation and prosecution process include:

1. The case of the murder of parents and siblings by Dhio Daffa Swadilla on November 28, 2022. The incident began when the perpetrator felt hurt by his parents and siblings because he felt unloved and his parents constantly demanded 400 million rupiahs for investment without clarity. Eventually, the perpetrator bought cyanide and mixed it into the victims' drinks. The Inafis Polda team along with Ident and Criminal Investigation conducted crime scene investigations where cyanide powder was found in the drink glass. Initially, the perpetrator denied involvement, but after evidence showed that the perpetrator had ordered cyanide online, he was charged with premeditated murder under Article 340 of the KUHP.
2. The case of theft committed by a couple at the Prosecutor's Residence, where the perpetrator Agus broke into a window while the perpetrator Intan kept watch. As a result of their actions, the victim suffered losses, including 2 laptops, a cellphone, a wristwatch, and a mountain bike. Based on the police report, the Inafis Polda Jateng team, along with Ident and Criminal Investigation from Brebes, conducted crime scene investigations and carried out investigations. The

investigation results led to the uncovering of the theft perpetrators, who were charged under Article 363 of the KUHP for aggravated theft.

### **3. The Importance of Fingerprints in Criminal Justice Proceedings**

In the criminal justice system, there are interconnected law enforcement institutions such as the police, prosecution, courts, and correctional facilities. These institutions are involved in a systematic criminal justice process. The stages in this process begin with investigation, prosecution, trial proceedings, and culminate in court verdict execution or enforcement. Each stage involves specific actions carried out by each institution according to its jurisdictional duties.

Fingerprints are crucial in uncovering criminal acts during investigation and prosecution. Investigation involves a series of investigative actions to search for and discover incidents suspected as criminal acts to determine whether an investigation is warranted. Meanwhile, prosecution entails a series of investigative actions to search for and collect evidence that clarifies the criminal act that occurred and identifies the suspects. Fingerprints serve as evidence that investigators and prosecutors can use to uncover criminal cases such as murder and theft. Identifying a person's fingerprints as belonging to a perpetrator can assist in the criminal case resolution, as items bearing the perpetrator's fingerprints can be used as evidence in court. With fingerprints presented as evidence during trial, judges can impose penalties on the perpetrator for their actions.

Evidence presentation is a crucial part of seeking material truth in criminal case proceedings. Indonesia adopts the Continental European system, where judges rely on their own conviction to evaluate evidence. Fingerprints represent a highly accurate scientific form of evidence. The evidence presentation stage is pivotal in trial proceedings because it determines whether the defendant has proven to commit the criminal act as stated in the indictment. The existence of evidence in the evidence presentation is a crucial aspect of trial proceedings, enabling judges to make decisions based on at least two pieces of evidence and their conviction.

Expert testimony, as regulated in the Criminal Procedure Code (KUHAP), is not an isolated form of evidence but interconnected with other forms of evidence. Fingerprints fall under expert testimony as their investigation in criminal cases requires specialized expertise. Thus, experts are called upon as expert witnesses in court proceedings to clarify and elucidate criminal incidents clearly and comprehensively. Fingerprints as expert testimony align with Article 184 paragraph (1) point (b) of the Criminal Procedure Code (KUHAP), involving procedural reports consisting of fingerprint collection reports with formulated fingerprints, photographic reports, and crime scene investigation reports. (Ghina Annisa Rahmah, Diana Haiti, 2023)

Besides serving as expert testimony, fingerprints also function as documentary evidence. This aligns with Article 187 of the Criminal Procedure Code (KUHAP), where fingerprints are analyzed by a fingerprint expert, and the analysis results are documented in written form, thereby making fingerprints a form of documentary evidence.

In addition to being documentary evidence and expert testimony, fingerprints, as stated in Article 188 of the Criminal Procedure Code (KUHAP), also serve as indicatory evidence. This is because the fingerprints of the perpetrator found on the tool used to commit the crime are already an accurate proof of who the perpetrator is. Indicatory evidence is linked to the evidence used, which strengthens the indictment, claims, or demands, or conversely, can be used to refute the indictment, claims, or demands.



#### **D. Conclusion**

The urgency of fingerprints in criminal justice proceedings lies in their roles during investigation, prosecution, and trial. Fingerprints left at the crime scene, such as on clothing or tools used in the crime, serve as crucial evidence in court proceedings, aiding judges in proving criminal cases. This enables judges to render judgments based on at least two pieces of evidence and their own conviction. Apart from being physical evidence, fingerprints also serve as evidence under Article 184 of the Criminal Procedure Code (KUHAP), where they are considered expert testimony. Given the specialized knowledge required to uncover criminal acts using fingerprints, experts are called upon as witnesses in court to clarify events clearly and comprehensibly. In addition to serving as expert testimony, fingerprints are also considered documentary evidence and indicative evidence. This is because the perpetrator's fingerprints found on the tools used in the crime serve as accurate evidence regarding the identity of the perpetrator.

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