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The Integration between Different Departments on Forensic Science Evidence in the Abu Dhabi Police: A Conceptual Model

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Abstract

Forensic science has become a crucial component in modern law enforcement, offering reliable scientific evidence to support criminal investigations and judicial processes. Within the Abu Dhabi Police Force (ADPF) in the United Arab Emirates (UAE), effective integration between different departments is essential to maximize the value of forensic science in crime detection, prevention, and prosecution. This paper explores the mechanisms of interdepartmental collaboration, identifies challenges, and highlights opportunities for enhancing integration in forensic operations in ADPF. By examining current practices and drawing on comparative insights from global policing models, the study emphasizes how strategic coordination between different departments across investigative, forensic, and administrative units can improve evidence consistency, reliability, decision-making, and overall organizational efficiency and performance.

Keywords: Forensic Science, Abu Dhabi Police Force, Departmental Integration, Interagency Collaboration, Criminal Justice

1. Introduction

Due to its trustworthy scientific evidence that assists criminal investigations (CIs) and legal proceedings, forensic science has emerged as a critical element of contemporary law enforcement. To optimize the use of forensic science in crime detection, prevention, and prosecution, the Abu Dhabi Police Force must effectively integrate its various departments and sections. The mechanisms of interdepartmental collaboration are examined in this research, along with potential difficulties for improving integration in forensic operations. The report highlights how strategic cooperation across investigative, forensic, and administrative divisions can enhance evidence reliability, decision-making, and overall organizational efficiency by analyzing present practices and utilizing comparative insights from global policing models. The Abu Dhabi Police Force has a multi-departmental organization that includes divisions for legal affairs, forensic labs, digital forensics units,

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and criminal investigative departments (CID). To handle complicated crimes, simplify duplication, and improve efficiency, these divisions must work together seamlessly. This study examines how interdepartmental integration helps Abu Dhabi Police achieve forensic science results while also pointing out areas that require improvement. This research also develops a conceptual perspective framework on how integration among different departments in ADPF can improve forensic science operations in the ADPF.

2. Literature Review

This section discusses and highlighted the literature review

2.1 Overview of Abu Dhabi Police

The Abu Dhabi Police Department was initially founded in 1957 with a small number of personnel under the direction of Sheikh Zayed bin Sultan Al Nahyan, who was the ruler of Abu Dhabi at the time (Adpolice, 2023). With the advent of cutting-edge technologies and contemporary policing techniques, the police force expanded in size and sophistication over time. The ADP now serves as a representation of the UAE's dedication to upholding law and order and is essential to the nation's continued progress (Sammari & Almessabi, 2020).

2.1.1 Organizational Structure

The Abu Dhabi government appoints the Commander-in-Chief, who leads the Abu Dhabi Police. The UAE's Ministry of Interior (MOI), which is in charge of all national police forces and makes sure that law enforcement operations are in line with federal goals and regulations, is where the force operates. The police hierarchy is separated into a number of important departments and directorates, each of which focuses on a distinct aspect of law enforcement, such as counterterrorism, traffic control, criminal investigation, and community policing (Adpolice, 2023).

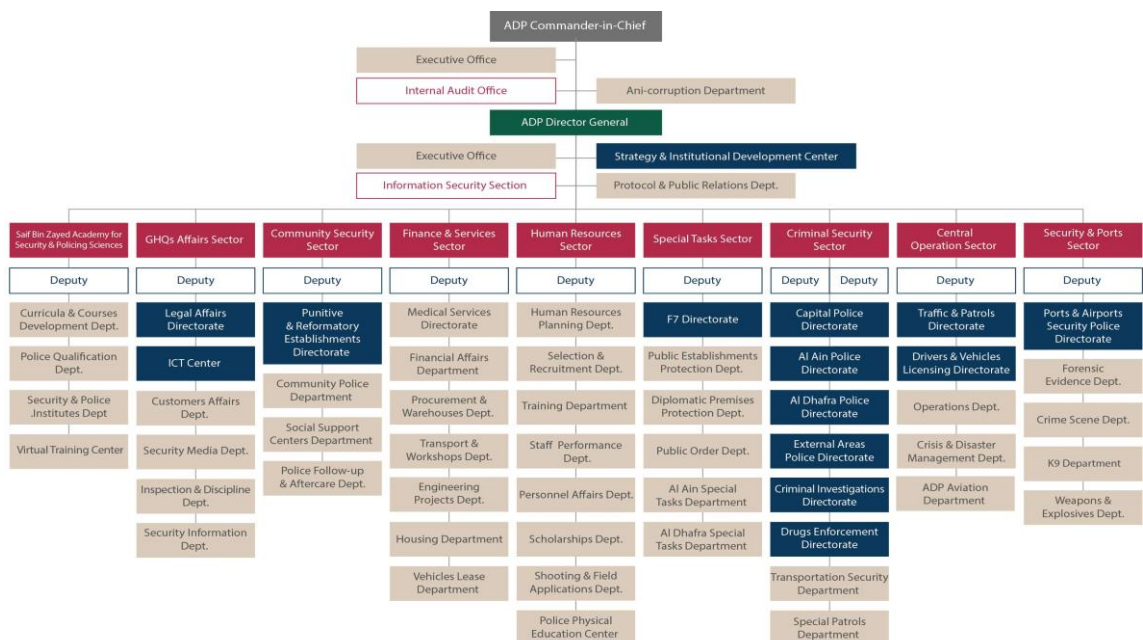


Figure 2.1: Abu Dhabi Police GHQ Organizational Chart
Adapted from (www.adpolice.gov.ae)

Table 2.1: Description of Organizational Structure of Abu Dhabi Police

Department	Description
General Headquarters (GHQ)	The Abu Dhabi Police's main command center, General Headquarters (GHQ), is in charge of all operational operations. Coordinating resources and making sure that all police operations are in line with national security goals and strategy fall within the purview of GHQ.
Criminal Investigation Department (CID)	Major criminal investigations, such as those involving homicide, robbery, fraud, and other serious offenses, are handled by the Criminal Investigation Department (CID). To solve crimes, the CID has specialized sections that use cutting-edge forensic tools and investigative methods.
Traffic and Patrols Directorate	Road safety and efficient traffic flow are guaranteed by the Traffic and Patrols Directorate, which is in charge of overseeing traffic laws and regulations. It also addresses traffic infractions, accidents, and the enforcement of driving under the influence (DUI) legislation.
Special Tasks Directorate	The Special Tasks Directorate is responsible for specialized operations, including high-risk missions, hostage rescue, and counterterrorism. This department's officers collaborate closely with other national security agencies and receive in-depth training in tactical operations.
Community Police Directorate	Building ties with the public, encouraging community involvement, and tackling social concerns are the main goals of the Community Police Directorate. In addition to developing initiatives for crime prevention and public awareness, this department works to guarantee that the police are personable and attentive to community concerns.
Emergency and Public Safety Department	The Emergency and Public Safety Department is in charge of overseeing public safety activities, emergency medical services, fire safety, and disaster response. It guarantees Abu Dhabi's readiness for accidents, natural disasters, and other crises.

Source: Adopted from (Ad police report, 2023)

2.2 Criminal Investigations and the Police Force Structure in Abu Dhabi

In order to maintain law enforcement and public safety throughout the Emirate, the Abu Dhabi Police is essential. Coordinating multiple specialized divisions that handle various facets of law enforcement, from obtaining evidence to resolving complex crimes, is necessary for criminal investigations. Some of the main divisions within the Abu Dhabi Police that work on criminal investigations are listed below:

2.2.1 Criminal Investigation Department (CID)

The primary agency in charge of looking into serious crimes like murder, theft, fraud, and assault is the Criminal Investigation Department (CID). By employing forensic techniques, intelligence collection, and field investigations, the CID plays a crucial part in resolving complicated criminal cases. This department's officers have received specialized training to deal with a variety of criminal activities, including financial and organized crime. To find suspects and create strong cases for prosecution, the CID collaborates closely with other police divisions (Abu Dhabi Police, 2024).

2.2.2 Forensic Evidence Department

This department offers expert testimony and scientific analysis, the forensic evidence department is crucial to criminal investigations. The department is responsible for collecting Physical evidence from crime scenes, including DNA, fingerprints, and other biological samples, all these evidence are examined by this department (Altayari & Kamalrudin, 2022). Through objective, scientifically proven evidence that can significantly impact the resolution of criminal cases, the department's work assists the CID and other investigative units. In both criminal and civil investigations, whoever this department is considered to be essential for analysis the criminal cases (Abu Dhabi Police, 2024).

2.2.3 Cybercrime Department

The importance of the Cybercrime Department in criminal investigations has grown with the development of digital technologies. This division is in charge of looking into crimes including hacking, identity theft, online fraud, and malware distribution that involve computers, networks, and online activity (Othman & Al Hammadi, 2022). The Cybercrime Department's squad is proficient in digital forensics and frequently collaborates with foreign law enforcement organizations to find cybercriminals who operate outside of the United Arab Emirates. The function of this department has become essential in contemporary criminal investigations due to the growing incidence of cybercrimes (Abu Dhabi Police, 2024).

2.2.4 Anti-Narcotics Department

Drug-related offenses are a significant component of Abu Dhabi's criminal investigations, and the Anti-Narcotics Department is responsible for addressing them. Investigating illicit drug trafficking, distribution networks, and drug misuse cases is the main responsibility of this department. In order to break up drug cartels and stop the spread of drugs in the community, the department works with foreign agencies, collects intelligence, and conducts undercover operations. To further inform the public about the risks associated with drug misuse, the Anti-Narcotics Department also develops prevention and awareness initiatives (Al Mazrouei, 2021).

2.2.5 Traffic and Patrols Department

This department's primary concentration is traffic law enforcement, although it also looks into hit-and-runs, traffic accidents, and fatalities caused by vehicles. In order to identify the causes of accidents, they help rebuild them and collect evidence from crash scenes (Abu Dhabi Police, 2024).

2.2.6 Special Investigations Department

High-profile and delicate investigations, such as those involving organized crime, terrorism, and corruption, are handled by this team. To handle complicated criminal risks, they collaborate with various national and international organizations (Abu Dhabi Police, 2024). In conclusion, Abu Dhabi's police force is strong, well-coordinated, and dedicated to maintaining public safety. A number of specialist divisions and agencies work together to conduct a thorough criminal investigation. Abu Dhabi's technological investments, such as

its cybercrime units and surveillance systems, improve its capacity to uphold law and order (Pajon& Walsh, 2022).

2.3 An overview of the importance of integration between various departments within law enforcement agencies in the context of Abu Dhabi

To improve the efficacy, efficiency, and coordination of policing operations, Abu Dhabi's law enforcement agencies must integrate their diverse departments. The dynamic and varied character of contemporary law enforcement necessitates cooperation between many units, such as traffic control, Special Forces, cybercrime units, criminal investigation, and community engagement initiatives (Abu Dhabi Police, 2024). The significance of this integration can be viewed from a number of important angles:

2.3.1 Improved Coordination and Communication

Integration facilitates seamless communication between different units of the police, allowing for faster responses to incidents, coordinated strategies for crime prevention, and more effective management of large-scale operations (Chaplynskyi et al., 2023). In Abu Dhabi, where the population is diverse and constantly growing, ensuring that all departments are aligned helps in tackling the complexities of both urban and rural security issues (Alblooshi & Kassim, 2021). Since information and communication technology is now used in every facet of service operation, the Abu Dhabi police system has experienced significant transformation to quality of services (Alblooshi & Kassim, 2021).

2.3.2 Enhanced Public Safety and Security

The UAE, and specifically Abu Dhabi, has a global reputation for safety and stability. Integrating law enforcement departments ensures a unified response to a variety of threats, ranging from terrorism and organized crime to cybercrimes and traffic safety (Al Manhali, Al Kaabi, and Al Hanaee, 2022). This synergy allows for better management of potential risks, timely interventions, and the prevention of incidents that could harm public safety (Al Manhali, Al Kaabi, and Al Hanaee, 2022).

2.3.3 Data Sharing and Intelligence Gathering

In order to combat complex crimes like organized crime, terrorism, and human trafficking, integration makes it easier for agencies to share vital information and intelligence (Alkatheeri et al., 2020). For instance, tracking digital footprints, identifying trends, and promptly addressing security concerns can be facilitated by the merging of cybercrime units with criminal investigation departments. Real-time data sharing helps Abu Dhabi's security services, which supports the city's proactive, intelligence-driven policing tactics (Alshamsi & Safei, 2023).

2.3.4 Specialized Operations and Joint Task Forces

Integrated departments can form specialized units or joint task forces that focus on specific challenges, such as counter-terrorism or disaster response (Hussain, Halford, and AlKaabi, 2023). In Abu Dhabi, where

national security concerns are closely linked to international interests, specialized units from various law enforcement sectors collaborate to ensure a swift and coordinated response to major threats, whether domestic or foreign (Hoh, 2019).

2.3.5 Adapting to Technological Advancements

As Abu Dhabi becomes more technologically advanced, law enforcement agencies are integrating cutting-edge technologies to enhance security (Othman & Alhammadi, 2022). The collaboration between various departments ensures that they stay ahead of emerging threats, particularly in areas like cybercrime and digital forensics. In this context, technological integration, such as the use of Artificial Intelligence (AI), facial recognition, 3D imaging technologies, and automated surveillance systems, is enhanced when various law enforcement sectors work together (Raneri, 2018; Alblooshi, 2021; Blount, 2022; Tymoshenko et al., 2022; Simmler et al., 2023; Thao, 2023).

2.3.6 Training and Skill Development

For law enforcement organizations, like the Abu Dhabi Police, to continue to be effective in upholding peace and order, training and skill development are crucial. Integrating different departments within law enforcement organizations improves their capacity to work together, solve problems, and provide the public with high-quality services (AlYammahi & Robani, 2024). Officers from different units can train together, exchange knowledge, and hone cross-departmental skills in integrated departments. When addressing complex security concerns, this broadens their perspective, strengthens team cohesion, and increases overall operational performance (Wisdom, Nozizwe and Duxita, 2022; Neyroud et al., 2023). In conclusion to the above, the unification of law enforcement institutions is essential in Abu Dhabi, where there is a convergence of global geopolitical issues, rapid urban expansion, and population growth. Better reaction times, resource management, crime prevention, and community safety and security are all made possible by this collaboration. Abu Dhabi can continue to uphold its standing as a safe, well-run city that can effectively address both domestic and global security threats by coordinating its efforts.

3.0 Challenges in Criminal Investigation

Criminal investigation is an applied science that uses factual analysis to find, identify, and establish the guilt of a criminal suspect. Criminal investigations focus on actions that break state laws and are deemed serious enough to warrant further inquiry. (Usman, Yunusa, and Gomment, 2023). A thorough criminal investigation may involve a variety of investigative techniques, including searching, questioning, interrogations, and the gathering and preservation of evidence. Today's criminal investigations frequently use a variety of contemporary scientific methods referred to as forensic science (Gelvardi & Sadeghi, 2024). The process of gathering information (or evidence) concerning a crime in order to determine whether a crime has been committed, identify the culprit, apprehend the offender, and present evidence to support a conviction in court is known as criminal investigation (Usman, Yunusa, and Gomment, 2023).

3. Challenges in Criminal Investigation in Abu Dhabi Police

Similar to many other law enforcement organizations, the Abu Dhabi Police Force encounters a number of difficulties when conducting criminal investigations. Among the main concerns are:

a) Cybercrime and Digital Evidence

Since the United Arab Emirates (UAE) is one of the major battlegrounds worldwide, cybersecurity is a transnational concern in and of itself. Indeed, there is a continual threat to both the public and private sectors (Alexander & Al-Harbi, 2022). Its ambition to become a smart global center has caused cyberattacks to increase in number in tandem with the speed at which cyber transactions are taking place. The required security infrastructures are striving to meet demand in the interim. The major city-states (Abu Dhabi and Dubai) in the nation are the centers of international mobility and attention, which adds to the difficulty (William Gueraiche, 2022). It is still challenging to evaluate the risks and come up with all-encompassing remedies because of the diversity of dangers (William Gueraiche, 2022). Abu Dhabi Police are confronted with a number of cybercrime-related issues as a result of the growing dependence on digital technology, such as identity theft, online fraud, hacking, and cyberterrorism (Istvan & Adrian, 2019). It takes specialized knowledge, sophisticated forensic equipment, and frequently worldwide collaboration to investigate cybercrime. Due to encryption, cross-border data storage, and quickly advancing technology, collecting and maintaining digital evidence can be challenging.

b) Transnational Crime

Being a major international center for travel and business, Abu Dhabi frequently deals with transnational criminal activities like money laundering, organized crime, drug trafficking, and human trafficking (Nobanee & Ellili, 2018; Russell, 2018). Because criminals operate internationally, it is challenging for local law enforcement to get enough evidence and prosecute offenders without international cooperation (Severns, Paterson, and Brogan, 2020; Alketebi, 2024). Extensive intelligence sharing, collaboration with foreign agencies, and legal obstacles about jurisdiction and extradition are also necessary for these crimes.

c) Terrorism and Extremism

One of Abu Dhabi Police's biggest challenges is the threat of terrorism, especially from extremist groups (Alexander & Al-Harbi, 2022). Comprehensive intelligence networks, cooperation with foreign intelligence services, and a thorough comprehension of radicalization processes are frequently necessary for identifying and stopping terrorist actions (Younies and Al-Tawil, 2020). Investigating terrorist cases entails significant risks and costs, and frequently calls for prompt action to stop impending threats while maintaining public safety and limiting injury to innocent bystanders (Owens and Johnson, 2024; Soomro, 2024). With its "Vision 2031," the UAE's unified approach to tourism presents a potentially captivating dynamic of collaboration and competition between Kingdom of Saudi Arabia and United Arab Emirates (Kyriakidis et al., 2024). Furthermore, the Kyriakidis et al. (2024) study addresses the crucial topic of security issues, which

are made worse by terrorist threats and have a substantial influence on the allure of tourism. To support the sector's expansion, strong safety protocols and international cooperation are required. Thus, it is advised that the UAE and KSA work together to advance regional collaboration, boost tourism growth, and guarantee visitors' safety and security in the face of ongoing challenges (Kyriakidis et al., 2024).

d) Cultural and Social Sensitivities

The Abu Dhabi Police Force does encounter considerable difficulties when conducting criminal investigations due to cultural and societal sensitivities (Alkrisheh, Al-Katbi and Al-Tkhayneh, 2024). Abu Dhabi's law enforcement must handle a number of challenging problems resulting from varying cultural, religious, and social conventions because the city is a cosmopolitan and diverse place. How crimes are reported, looked into, and prosecuted is impacted by these sensitivities. Due to the people from all over the world live who are working and living in Abu Dhabi, which is home to a sizable expat population. Because of this diversity, police officers frequently deal with people who have diverse legal, cultural, and religious expectations (Al Manhali, Al Kaabi, and Al Hanaee, 2022). To make sure that their methods for questioning, gathering evidence, and dealing with witnesses or suspects are proper and courteous, investigators need to be aware of these distinctions. When cultural customs clash with police protocols, misunderstandings may occur, which can make investigations more difficult. In addition to that, Religious Sensitivities is considered to be also one of the Cultural and Social Sensitivities that Abu Dhabi police force faced during the criminal investigation, since the United Arab Emirates is an Islamic nation, its legal and social structures are influenced by Islamic customs and regulations. Extremely stringent scrutiny is applied to crimes including religious aspects, such as blasphemy, public demonstrations of non-Islamic religious activities, or the dissemination of items considered offensive to Islam (United Arab Emirates International Religious Freedom Report, 2022). To prevent misunderstandings or cultural insensitivity, police personnel must handle these delicate topics with caution. In a largely Muslim community, investigations into religious violations necessitate knowledge of the moral and legal ramifications of such behavior (Maha Ateyah, 2024).

e) Language Barriers

During criminal investigations, detectives frequently encounter linguistic challenges because the UAE is home to a large number of expats. The inability of victims, witnesses, and suspects to speak Arabic—the police force's predominant language—can impede communication and compromise the veracity of statements (Gracin & Vrgoc, 2023; Larson et al., 2023). Police may have to use interpreters or multilingual staff, which can hinder investigations and make it difficult to fully comprehend the circumstances surrounding crimes (Kotzurek, 2020).

f) The Role of Private Security and Law Enforcement Cooperation

There is a sizable private security industry in Abu Dhabi, and private security firms protect numerous vital infrastructure locations, including ports, airports, and oil fields. It can occasionally be difficult for public and private security personnel to coordinate, particularly when exchanging intelligence or reacting to situations

(Krieg, 2024). Effective criminal investigations and the protection of important assets depend on these groups working together seamlessly. Even with the benefits of collaboration, there are still a number of obstacles to overcome. Coordination between law enforcement and private security firms is a significant obstacle, particularly when it comes to maintaining uniform standards and procedures throughout the private security sector. Disparities in how security is handled across different sectors may result from private security companies operating under differing laws and training requirements (Alsaleis, 2024). The UAE government has responded to this by enacting laws that standardize private security firms' activities and training while making sure they complement the larger objectives of law enforcement. The legal framework that regulates the relationship between law enforcement and private security presents another difficulty. Even while private security companies are crucial to maintaining public safety, they have less power than government enforcement. To avoid jurisdictional disputes and to make sure private security guards don't go beyond their legal authority, borders must be clearly defined (Alsaleis, 2024). Notwithstanding these obstacles, there are a lot of benefits to law enforcement and private security working together. In a city that is expanding quickly, the private security industry can assist law enforcement in obtaining vital intelligence, better allocating resources, and improving public safety (Alsaleis, 2024). Together, the two industries can create a more robust security framework that is better equipped to handle new threats like terrorism and cybercrime.

g) Handling Complex Financial Crimes

The stability and integrity of the global financial system are seriously threatened by financial crime. The need that financial institutions evaluate the risks of financial crime to which they are exposed in the jurisdictions in which they operate is one of the measures that regulatory organizations around the world have put in place to combat illegal financial activities (Feridun, 2024). These risks include weak frameworks for combating the funding of terrorism and anti-money laundering, as well as other financial crime threats that have important strategic ramifications for the geographic reach and client risk classifications of businesses (Feridun, 2024). The sophistication of financial crimes, such as money laundering, corruption, and fraud, is rising (Young & Woodiwiss, 2021). Abu Dhabi Police frequently encounter difficulties tracking down illegal financial movements because the United Arab Emirates is a significant financial center, particularly when criminals conceal assets through intricate schemes or offshore accounts. To find such crimes, investigators must navigate complex legal frameworks both domestically and abroad and possess specific knowledge in financial forensics (Khalifa & Al-Kumaim, 2021, Al-Tawil, 2023). Under UAE legislation, there are no explicit procedures or clauses addressing the inclusion of money laundering in mandatory or optional corporate social responsibility (CSR) disclosure requirements (Al-Tawil, 2024). Whether the UAE should control disclosures under the CSR law to combat the financing of terrorism is currently a major issue. The primary worry is that this action would turn required disclosure into yet another legal and technological requirement that UAE companies must meet, which would be detrimental to building a robust CSR culture (Al-Tawil, 2024).

4. Importance of Interdepartmental Integration

The coordination and cooperation of various departments within an organization to accomplish shared objectives and improve overall performance is referred to as interdepartmental integration. It is essential to an organization to be efficacy, efficient, and flexible (Wipulanusat, Sunkpho & Stewart, 2021; Sunnemark et al., 2024). According to Bondarenko et al. (2024), a new strategy for enhancing law enforcement agencies' cooperation in the fight against money laundering entails the establishment of a unified database of data on

suspicious transactions and money laundering, as well as the participation of financial intelligence units in the process of identifying and investigating money laundering cases. Through the integration of resources, optimization of decision-making, and improvement of emergency response capabilities, interdepartmental collaboration mechanisms have emerged as a critical component in augmenting the efficacy of public safety management, this collaboration aids in the formation of a comprehensive and methodical safety governance model (Wen & Li, 2024). By eliminating bottlenecks, simplifying processes, and cutting down on redundancies, interdepartmental cooperation increases productivity and expedites decision-making and job execution (Tiana et al., 2024). Teams can improve productivity and make the most of available resources by concentrating their efforts on shared objectives (Kahn, 1996). Numerous approaches and a variety of organizations have been used to accomplish inter-organizational collaboration from a police standpoint; nevertheless, empirical research on the best ways to handle the paradoxes that hinder successful collaborations is lacking (Waardenburg et al., 2020).

Furthermore, the interdepartmental approach fosters innovative thinking and creative problem-solving by bringing together a variety of viewpoints from several departments, every department contributes distinct perspectives that may result in novel concepts or solutions that would not surface in a single department (Jin & Dai, 2024). Collaborating across departments allows for more thorough and informed decision-making, for example, all departments involved in a criminal investigation can present a comprehensive analysis of any opportunity or problem, which leads to more balanced results by avoiding decisions that could benefit one department while harming others (Cucoreanu, 2024). Because it builds mutual respect, trust, and a sense of purpose, interdepartmental integration promotes a cooperative, team-oriented culture and helps dismantle organizational silos, employees are more willing to collaborate when they understand their efforts contribute to the success of the company as a whole, which can improve morale and staff retention (Ansell & Gash, 2018). Promoting interdepartmental cooperation is one of the New Public Management's recommendations (Lee, 2020). Scholars have noted, however, that inter-unit collaboration has significant costs for businesses in addition to strategic benefits (Lee, 2020).

5. Definition and meaning of Integration

When integrated justice information sharing is defined as "the ability to share critical information at key decision points throughout the justice enterprise," it appropriately draws attention to information sharing as the main goal. At these decision points, the justice agencies engage in a number of information exchanges or transactions (Chaplynskyi et al., 2023). The ability to exchange vital information at crucial decision-making stages across the justice enterprise is commonly referred to as integrated justice information sharing (Egamberdiyev, 2023). It should be mentioned that integration also entails sharing information with the public, which is calling for more varied and extensive access to a growing range of government information and services, as well as with traditionally non-justice organizations (such as other governmental agencies, health and human services organizations, treatment service providers, schools and educational institutions, licensing authorities, etc.) (Bondarenko et al., 2024).

6. Efficiency of Police Cooperation in Criminal Investigations

Police collaboration is crucial for both preventing and investigating crime. Early danger detection can result in timely and successful responses when law enforcement agencies share information and best practices (Cristian Cucoreanu, 2024). Joint efforts to combat crime can be strengthened by cooperating to lessen legislative or procedural differences across states. Police cooperation presents ethical, privacy, and data protection concerns in addition to legal and operational difficulties (Cristian Cucoreanu, 2024). As a result,

police collaboration is a vital instrument in criminal investigations, providing the opportunity to transcend the legal and geographic constraints imposed by national borders. However, a clear legal framework, reciprocal trust between partners, and the use of contemporary technologies to support real-time communication and information sharing are necessary for its efficacy (Cristian Cucoreanu, 2024). Police collaboration is crucial to combating modern crime, but its success hinges on resolving the operational and legislative issues that occasionally impede productive interagency collaboration (Lee, 2020). Significant obstacles in this field continue to be the advancement of technology and the need to adjust to new types of criminal activity (Sunde, 2022).

7. Related Work in Police Cooperation in Criminal Investigations

Police collaboration has undergone a number of changes since the Second World War, which have an impact on how law enforcement operations are carried out in various jurisdictions (Frederic Lemieux, 2018). The nature, structure, and function of the actors participating in policing cooperation are continually being redefined by global legal, political, and socioeconomic developments, which gave rise to these significant changes (Frederic Lemieux, 2018). For example, the establishment of extensive free trade zones in North America, Europe, and Asia has significantly accelerated national legal system cooperation and coordination as well as state sovereignty protection (Frederic Lemieux, 2018). Furthermore, the expansion of law enforcement and intelligence operations that go beyond regional and national borders has been strongly influenced by the development of transnational criminal networks and the globalization of terrorist activities (Lemieux, 2024). The idea of police integrations with partner agencies to respond to complex crimes is not new to the criminal justice system. In order to address security issues that transcend the duties and responsibilities of various agencies and organizations, police are instead increasingly networking and engaging with non-police agencies and other law enforcement authorities (Fischer et al., 2017; L'Hoiry, 2021).

According to Severns et al. (2020) and Pajon and Walsh (2022), police participation in various multi-agency security networks is typically linked to prevention; however, police are also becoming more involved in more reactive activities, like establishing joint investigation teams, when conducting both international and transnational investigations. It is widely acknowledged that networking and cooperation can help agencies and organizations overcome their constraints while addressing complicated issues, resulting in a more effective response (Severns et al., 2020). The integration between the departments in criminal investigation has gain many benefits that are frequently mentioned these benefits include (i) the ability to share intelligence, which improves the quality and utility of data; (ii) better problem mapping; (iii) better decision making; and (iv) a collaborative approach to problem-solving (Fischer et al., 2017; Gerassi et al., 2017; Pajon and Walsh, 2022).

Although there is consensus regarding the advantages of networking and teamwork, there are significant differences in how networks are actually implemented in practice (Pajon and Walsh, 2022). Security networks are dynamic, many forming naturally from professional relationships and activities (Foot, 2015). Kostiantyn et al. (2023) study the interaction between law enforcement agencies during the investigation of criminal offenses, the study's goal was to demonstrate how law enforcement organizations collaborate when investigating crimes in compliance with international norms. It also identifies the primary areas in which law enforcement organizations from various states collaborate while looking into criminal offenses.

Given the seriousness of criminal offenses to the public, it is important to note that they have long since taken on a transnational nature. For this reason, it is intriguing to focus particularly on the topic of collaboration between the Ukrainian National Police and other international law enforcement agencies when investigating this type of crime (Kostiantyn et al., 2023). The research's methodological foundation is outlined as the following: formal-legal method, hermeneutic method, comparative-legal and systematic analysis, analysis and synthesis methods, and method of interpretation. As one of the primary conclusions, it highlights

the need to improve collaboration between the Ukrainian National Police's operational units fighting criminal offenses and foreign law enforcement agencies conducting operations and investigations. This is a prerequisite for fighting crime in all of its forms (Kostiantyn et al., 2023). Mutoka and Minja (2024) study the information and communication technology integration with fraud investigators' work at Directorate of Criminal Investigations. The target demographic for the study was the personnel of the Directorate of Criminal Investigations who work at the agency's headquarters on Kiambu Road in Nairobi. The study used a descriptive research approach. The study discovered that the performance of fraud investigators is significantly and favorably impacted by the use of ICT in the gathering of fraud evidence (Mutoka & Minja, 2024).

Police investigations into fraud are complicated by a number of reasons, such as the collection of evidence, collaboration, and evidence tampering by offenders, and issues with keeping evidence for use in court (Maluleke, 2023). Police cooperation in investigating Human Trafficking (HT) in England and Wales is examined by Pajon and Walsh (2022), who offer empirical information on (i) the kinds of assistance that police officers typically need from other agencies when looking into HT crimes; (ii) the agencies that they typically work with; and (iii) the kinds of assistance that agencies can offer. The study collects and analyzes data from 28 investigators from 19 police departments in England and Wales that look into trafficking crimes using the Repertory Grid Technique. When interacting with victims, organizing and supporting police operations and plans, developing the criminal intelligence picture, and gathering information on locations, businesses, and individuals, police officers must cooperate with partner agencies (Pajon & Walsh, 2022). The results also show that the police feel they must depend on multiple important agencies for each type of assistance. The results show that in order to ensure victim-centered and intelligence-led investigations, police must work with other agencies (Pajon & Walsh, 2022). Overall, the results show that in order to ensure an efficient investigation performance, police officers must work with partner agencies in a number of crucial areas. In addition to acknowledging the significant contribution partner agencies make to trafficking investigations, the results of this study will help investigators choose partner agencies whose experience can benefit the investigation (Pajon & Walsh, 2022).

Partners may be able to negotiate organizational boundaries and use their own discretion when exchanging information when using flexible networking techniques (Fischer et al., 2017; Schorrock et al., 2019). So encouraging collaboration in the direction of mutual gain more benefit in criminal investigation (Smith et al., 2018). However, prior studies on security networks and partnerships have also found that unclear roles and member rationality, hazy or unusual goals, and a lack of knowledge about partners' needs, expertise, and priorities can all affect relationships and trust-building, which in turn hinders collaboration (Fischer et al., 2017; Dandurand, 2017; Russell, 2018). It's common to hear concerns regarding which police departments should be involved, for what reason, and in what way when establishing a communication and collaborations to respond to complex crimes (McManus and Boulton, 2020). There is a dearth of empirical data characterizing the current procedures, despite a strong desire to enhance partnerships between correctional and drug misuse treatment groups (Wayne et al., 2009). Organizational elements pertaining to interagency cooperation and integration efforts between correctional and drug rehab facilities are examined by Wayne et al. (2009). The results indicate that the organizational characteristics associated with various levels of collaboration and integration varied across correctional settings. The author employed a measure of collaboration that scaled cross-agency activities from less structured, informal networking and coordination to more structured and formalized levels of cooperation and collaboration (Wayne et al., 2009).

Michael (2017) clarified the potential applications of collaborative governance in law enforcement. Overall, research indicates that police partnerships have enormous potential for improving safety and crime management, but they also demand a significant amount of focus in order to be successful. According to the study, the primary advantage of police cooperation is that it greatly improves oversight and criminal capture.

However, by exchanging information and reporting instances of local law violations, community policing is successful in lowering the crime rate in society (Michael, 2017). According to the study, a multi-agency cooperation increases the effectiveness of service delivery, but it also necessitates a high degree of coordination and attention to reduce the likelihood of conflicts (Michael, 2017).

8. Theoretical Framework

The definition of theoretical framework given by Merriam and Tisdell (2016) as "the underlying structure, the scaffolding or frame of the study" (p. 85) appears to be similar to certain definitions of conceptual framework. The study may be focused on generating new theory or on testing theory that has already been constructed (Creswell & Poth, 2018; Tomaszewski, Zarestky, and Gonzalez, 2020). One essential component of contemporary law enforcement is the integration of several departments in criminal investigations within ADP, which guarantees the prompt and successful treatment of cases. In the context of criminal investigations in ADP, this theoretical framework looks at the fundamental ideas, models, and elements that promote effective interdepartmental cooperation. It uses criminological viewpoints, Resource-Based View Theory (RBVT), and Cooperation and Competition Theory (CCT) to provide a systematic method for comprehending and enhancing departmental integration in criminal investigations in Abu Dhabi Emirate.

8.1 Resource-Based View Theory (RBV)

The resource-based view theory, which was first put forth by Birger Wernerfelt in 1984 and then expanded upon and improved by Jay B. Barney in 1991 and other academics, offers a conceptual framework for evaluating the strategic fit of resources. The resource-based view of the firm has garnered a lot of support in the business literature. The idea that a firm's resources and capabilities determine its competitive advantage is a central tenet of the resource-based approach (Wernerfelt, 1984; Conner, 1991; Peteraf, 1993). According to Barney (1991), a firm's competitive advantage can arise from four characteristics of its resources: value, rarity, imperfect imitability, and lack of substitutability. Resources are useful when they allow a corporation to develop or execute plans that increase its efficacy and efficiency, according to Barney (1991). Valuable resources allow a company to design and/or implement strategies to increase its efficiency and effectiveness (Capron and Hulland, 1999) as well as to take advantage of opportunities and/or avoid environmental dangers (Barney, 2001). The RBV theorem has been applied in a variety of research fields, including marketing (Abrokwah-Larbi, 2024), business collaboration (Prokofieva, 2024), and management to increase the firm's profitability (Malhotra et al., 2024; Khan et al., 2024). According to Barney and Hesterly (2020), the Resource Based View (RBV) strategy delivers substantial value to a company by highlighting its unique capabilities and resources. An appropriate theoretical perspective for analyzing how internal factors can become resources to generate competitive advantage and increase the company's strategic capacity is to apply the Resource Based View (RBV) theory, which focuses on the company's resources and capabilities (Barney & Hesterly, 2020).

The alignment of organizational strengths with accessible opportunities is emphasized by the RBV theory. Accordingly, RBV's mechanism considers the firm's complete utilization of its resources in order to develop the key skills necessary to gain and maintain a competitive advantage (Makadok, 2001). As a result, if the company takes into account many elements including internal organizational plans, access to helpful information resources, and people talents, competitors will find it difficult to attain the same degree of competitive advantage. (Russo & Fouts, 1997; Barney, 2020). To attain the intended competitive strategic scenario, businesses should thus create a connection between their internal capabilities and the external environment. This study's specific goal is to investigate how several departments of ADP's criminal

investigation work together. After a thorough literature analysis, the RBV provided theoretical support for the variables used in this investigation. In conclusion, the aforementioned arguments demonstrated that the variables employed in this study could be regarded as sources of the ADP competitive advantages. For instance, cooperation and communication in the criminal investigation required a lot of resources due to departmental integration, which supports the use of RBV as one of the study's underlying theories.

8.2 Cooperation and Competition Theory (CCT)

Morton Deutsch first created Cooperation and Competition Theory (CCT) in his study (1949a, 1949b, 1973, and 1985). David W. Johnson then expanded and developed CCT (Johnson & Johnson, 1989). The most thorough synopsis of the hypothesis and the supporting research has been given by the Johnsons. There are two main concepts in the theory. One has to do with the degree of interdependence between the objectives of the parties concerned in a certain circumstance. The other concerns what the individuals involved did (Deutsch, 2006). Deutsch (2006) distinguishes between two fundamental forms of goal interdependence: positive, in which the goals are connected in a way that makes the likelihood of one person achieving his goal positively correlated with the likelihood of another achieving his goal, and negative, in which the likelihood of one person achieving his goal is negatively correlated with the likelihood of the other person achieving his goal. Two basic facets of human interaction and behavior that have been extensively researched in a variety of disciplines, including psychology, sociology, economics, political science, and biology, are cooperation and competition. Cooperation and competition theories seek to describe how people, organizations, and society negotiate their interactions in order to accomplish objectives, settle disputes, and secure their existence (Deutsch, 2000).

The kind of goal interdependence that exists between the people engaged is a crucial component in comprehending cooperation and competition. The objectives of the parties may be negatively correlated, meaning that the success of one party may be correlated with the failure of the other. Win-lose competitive relationships are typically the result of such circumstances. The objectives of the parties may be positively correlated, with failure leading to failure or success correlated with success (Deutsch, 2000). Cooperative relationships with a win-win mentality are typically the result of these circumstances. Positive traits of cooperative partnerships include improved coordination and communication, amiable and open attitudes, a sense of reciprocity, and a readiness to give the other more authority. According to Deutsch (2000), competitive processes often result in the opposite, negative outcomes, such as impeded communication, an inability to coordinate efforts, suspicion and low self-esteem, and a desire to subjugate and control the other party. The cooperation and competition theory (CCT) provides theoretical support for the variables used in this study, which aims to investigate the integration of various departments in ADP's criminal investigation while conducting a thorough literature review. The way that cooperative and competitive dynamics interact to improve investigative efficacy, promote information sharing, and settle disputes that arise in complicated cases justifies the use of CCT in criminal investigations (Table 2.3).

Table 2.2: CCT Key implementation

Key	Cooperation	Competition	Justification
Promoting Agency Cooperation in the Abu Dhabi Emirate	Multiple entities, including police centers, forensic specialists, and federal authorities, are frequently involved in criminal investigations in ADP. In order to solve situations effectively, cooperation guarantees efficient coordination, resource pooling, and intelligence sharing.	Teams can become more motivated, efficient, and creative when healthy competition is introduced (for example, task forces vying to solve portions of a criminal case).	<ul style="list-style-type: none"> Cooperation across agencies reduces jurisdictional issues and prevents duplication of effort, resulting in quicker and more thorough results. Investigators may be motivated by competitive dynamics to produce results more quickly or to try out novel approaches that might go unnoticed in strictly cooperative environments.
Creating Networks of Informants	In criminal investigations, informants and witnesses are essential. Developing relationships of cooperation and trust with these people guarantees that they will deliver timely and accurate information.	In some cases, encouraging competition among informants (for example, by providing incentives or perks) can motivate them to divulge more exclusive or important information.	<ul style="list-style-type: none"> Investigators can collect information through cooperation that they might not be able to obtain through coercion. Over time, informants are more likely to cooperate when mutual trust is fostered. In situations involving criminal organizations, when informants may hide crucial information, competition guarantees that informants deliver the best and most actionable knowledge.
Questioning the Suspect	Cooperation with suspects during questioning may result in admissions or further evidence. Suspects may feel more at ease disclosing the truth if rapport and understanding are established.	Suspects may be persuaded to provide incriminating evidence in order to safeguard their interests if competition is introduced (for example, by examining several suspects or accomplices separately and alerting them to contradicting claims).	<ul style="list-style-type: none"> A collaborative approach lowers the likelihood of false applications or ethical transgressions, guarantees voluntary participation, and minimizes opposition. Suspects' competitive pressures, particularly in group crimes, sometimes cause criminal schemes to fall apart.

Source: Author, 2024

For negotiating the intricate dynamics of criminal investigations in ADP, the CCT offers a versatile framework. Investigators can promote teamwork, boost motivation, and obtain important insights while upholding moral and legal norms by carefully striking a balance between collaboration and competition.

9. Conceptual Framework:

The anticipated link between the independent and dependent research variables is depicted in a conceptual framework, this framework it outlines the pertinent research questions and objectives for the investigation and shows how they all work together to produce logical results (Marshall & Rossman, 2016). According to Marshall and Rossman (2016), the conceptual framework serves as the study's justification. The concept of justification is similar to the conceptual framework as an argument for the study, as viewed by Ravitch and Riggan (2017). Marshall and Rossman also underlined how crucial it is to base a conceptual framework on the body of research on the subject. A conceptual framework gives the study direction and helps the reader and

researcher understand how the study adds to the body of knowledge on the subject, how its components fit together, and how its design and methodology adhere to strict research guidelines (Crawford, 2020). The interaction of leadership dynamics, interdepartmental cooperation, organizational behavior, and technology integration forms the basis of this study's conceptual framework. The purpose of this framework is to investigate how different elements affect the coordination and integration of Abu Dhabi Police departments during criminal investigations. It offers an organized method for comprehending how organizational procedures, technology, leadership techniques, and cultural components interact to affect the efficacy of investigations. Five main pillars that support the Abu Dhabi Police Force's departmental integration of forensic science are highlighted in Figure 2.2, which proposes a conceptual framework:

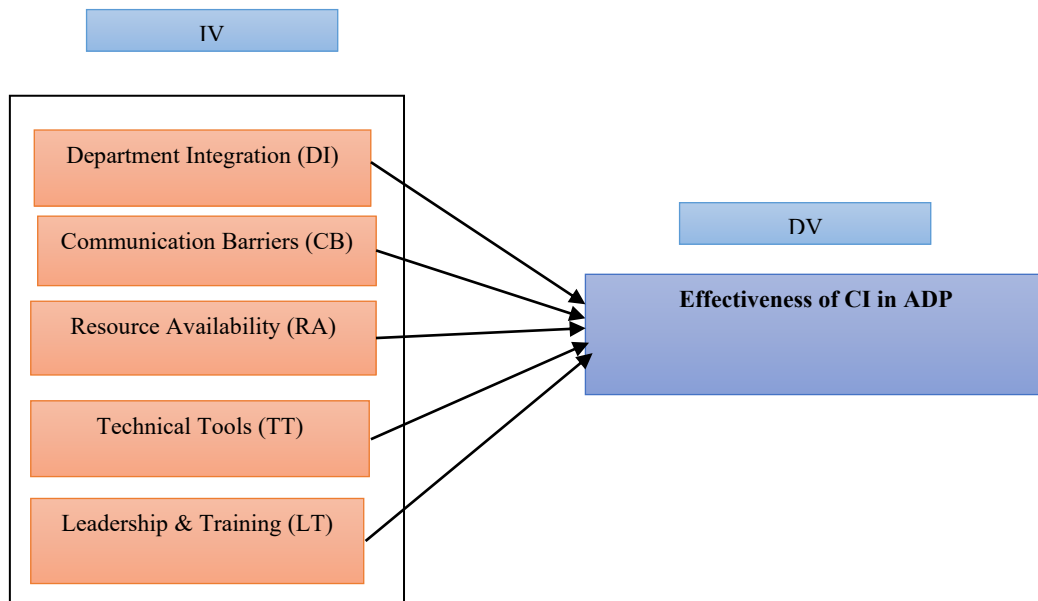


Figure 2.2: Conceptual Framework

9.1 Research Hypothesis

Based on the theoretical and conceptual framework the following are the main developing research hypothesis:

H1: There is a significant positive relationship between departmental integration and the effectiveness of criminal investigations (CI) in Abu Dhabi Police.

H2: There is a significant positive relationship between communication barriers, resource availability, and the effectiveness of criminal investigations (CI) in Abu Dhabi Police.

H3: There is a significant positive relationship between advanced technical tools and the effectiveness of criminal investigations (CI) in Abu Dhabi Police.

H4: There is a significant positive relationship between leadership, training, and the effectiveness of criminal investigations (CI) in Abu Dhabi Police.

10. Implications for Abu Dhabi Police Force

These leaders work together to enhance the role of forensic science in achieving justice in Abu Dhabi Emirate by laying the groundwork for interdepartmental integration within ADPF. The conceptual model provides several practical consequences: First, improved Investigative Efficiency through the integrated departments in ADPF, which expedite the processing of forensic evidence and minimize duplication of effort during the department investigation. Second, increased Accuracy and Reliability by Department-wide standard operating procedures and reduce the errors and guarantee uniformity in forensic analysis. Third, improved Justice Delivery this can led to fair judicial procedures which are supported by prompt and reliable forensic evidence. Fourth, organizational Learning: A culture of continuous improvement is adopted by cross-departmental training. Finally this conceptual model alignment with Strategic Vision of ADPF through providing a top-notch policing via cooperation and applying a new technology.

11. Conclusion

Integration between different departments in Abu Dhabi Police is pivotal to enhancing the reliability and effectiveness of forensic science. While the force has developed strong forensic capabilities, challenges in coordination, communication, and procedural alignment remain. Strengthening interdepartmental integration through technology, training, and leadership-driven strategies can ensure that forensic science continues to support justice, security, and public confidence in Abu Dhabi.

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