

The work process affects the effectiveness of forensic science operations of the volunteer staff of the Rescue Foundation

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Abstract

The purpose of this research was to study the work process affecting the effectiveness of forensic science operations of the volunteer staff of the Rescue Foundation. The researcher used the study method as a qualitative research by collecting data from documents and analyzing data by describing it. Treat everyone equally, and regularly review the necessary knowledge and skills. In order to provide accurate and effective assistance to the victims. Volunteers must undergo both theoretical and practical training to gain the knowledge, understanding and skills necessary to perform their work. The involvement of local people in working with rescue volunteers is an important factor in strengthening the efficiency and sustainability of disaster prevention and mitigation systems in the community. This participation can be achieved through the involvement of network agencies. It can build a comprehensive and effective disaster prevention and mitigation system. It relies on the strengths and expertise of each sector. Effective coordination and exchange of information between network agencies and rescue volunteers is key to enhancing disaster and emergency response capacity, which will lead to the creation of safe and resilient communities for disasters in the long term.

Keywords : Work Process/Operational Effectiveness/Forensic Science/
Rescue Foundation Volunteer Staff

Introduction

Forensic science is an important science that underpins the modern justice process, using scientific principles and techniques to examine, analyze, and interpret evidence related to criminal cases, making investigative investigations more accurate and reliable. Forensic science covers many fields, such as fingerprint examination. DNA analysis, autopsy. Document examination, chemical analysis, and digital evidence all provide important information to the case. The main role of forensics includes the identification of victims and suspects. Linking a person to the scene of an accident confirming or refuting witness testimony and providing information about the chronology of events; In addition, Modern technologies such as DNA database systems and automated fingerprinting systems allow for fast and efficient searching and comparison of data in large databases, and DNA testing also helps prevent misjudgments, especially in serious cases, which helps prove the innocence of the accused in many cases.

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Scene Accurate, fast, and standardized evidence collection is the most important step in a criminal investigation because physical evidence connects the perpetrators. Incident and Scene (Fisher & Fisher 2022) The accuracy of the evidence is the basis of the credibility of the case. It must be carried out according to scientific principles, starting from the treatment of the crime scene to recording the original condition. Photography, mapping Locating evidence and preserving it to suit the type of evidence (Amrullah, M. T., & Sari, M. R. 2025) Speed is also important because many types of evidence can deteriorate, such as footprints in sand. Scents for police dogs, easily destroyed DNA evidence, or fingerprints that may fade.(Berecki-Gisolf, J., Newnam, S., Townsend, T., & Smith, P. 2025) It also reduces the risk of contamination by other people or the weather. Standards for Evidence Collection, which covers the use of chains of control. The right equipment Contamination prevention and storage in the right conditions are essential for evidence to be reliably used in court. (Panyachit, S., & Sirisawad, N. 2025) Ignoring the standard may result in evidence being rejected in court or losing its evidentiary value. This can lead to misjudgment or accusations of innocent people. (Wollebæk, D., Steen-Johnsen, K., & Enjolras, B.2025) Therefore, personnel training, technological development, and improvement of methods of scientific advances are necessary to maintain the credibility of the justice process.

Research Objectives

To study the work process affecting the effectiveness of forensic science operations of the volunteer staff of the Rescue Foundation.

Research Methodology

Research on work processes affects the effectiveness of forensic science operations of the volunteer staff of the Rescue Foundation. The researcher also used qualitative research methods. Documentary Research by reviewing concepts and theories from relevant documents and researches.

Data Analysis

The researcher analyzes the data from the documents and analyzes the content analysis by studying various documents and research related to the study to analyze and compare to obtain accurate and reliable data, and checks the accuracy and reliability of the data by checking the data in a triangular way, which is to consider the consistency and differences of the data from time sources, places, and people.

Findings

The results of the study showed that the work process affected the effectiveness of the forensic science operation of the volunteer staff of the Rescue Foundation. The work process of rescue volunteers can be divided into the following periods: (1) Waiting and playing, which means waiting for the radio to report the incident and interacting with the rescue members within the team. (3) Follow up and find the emergency case of the team. The volunteer team searched for the scene of the accident and (4) arrived and entered the scene. When the victim was found, he provided assistance. Managing volunteer time The 10/14 formula for short means working your own full-time work for 10 hours during the day, then switching to volunteer duty at night twice during the peak period and after midnight, including

a total of 14 hours of volunteer duty. After that, the volunteers will return to the event during the day and return to volunteer the next night. Volunteers are linked to the 10/14-hour formula. Rescue volunteers play an important role in disaster prevention and mitigation. Providing surveillance and warning to the community and educating the public about disaster preparedness. During an emergency, rescue volunteers also coordinate with relevant agencies such as hospitals, police, and traffic authorities to ensure smooth and efficient rescue. Rescue volunteers also participate in traffic management at the scene of the accident to prevent repeated accidents. Victims are continuous. Whether it is helping to move items to clean the affected areas, or providing counseling and encouragement to those affected. It also participates in the evaluation. situation and collect information to improve future disaster response plans. Rescue volunteers cover everything from prevention From emergency assistance to back rehabilitation. The incident occurred with the sacrifice and determination of the society to be safe and ready to deal with disasters. Better Disaster Rescue volunteers must be disciplined towards individuals by being generous to help others, providing services and facilitating areas that are beneficial to society by using body language and spoken language in a favorable direction. Indicates understanding and empathy for others. Learning how to help people in road accidents is important because it can make the difference between life and death, but to help others stay safe and reduce the rate of disability and death, courage alone is not enough. It must be through learning the skills to help people in the right way. Therefore, rescue volunteers must be trained and developed to learn the work process to keep up with the incident and improve themselves regularly. The involvement of network agencies in working with rescue volunteers is an important factor in increasing the efficiency and capacity of disaster prevention and mitigation. By Integration The cooperation of many sectors to support the operation of rescue volunteers to be effective and fast. It can help the victims in a timely manner. Rescue volunteers will be required to work with medical and public health agencies such as hospitals. Health stations, etc., to develop themselves regarding first aid training and coordinate the transfer of the injured. Close collaboration between rescue volunteers and medical personnel increases the chances of saving lives and reducing the severity of injuries. Rescue volunteers are diverse and cover all stages of disaster management, from prevention to Preparation Emergency response to disaster recovery The work of rescue volunteers not only helps mitigate disaster damage and loss, but also builds the strength and resilience of communities to cope with future disasters.

Conclusion and Recommendations

According to this research, The researcher found that the work process affected the effectiveness of forensic science operations of the volunteer staff of the Rescue Foundation. The use of information technology should be promoted in the organization to develop a data storage system. Information forwarding for convenience and speed and consideration of the security of the victim's information. The physical and mental development of rescue volunteers should be encouraged to be ready to work and have a strong mind ready to fight against the people's slander.

References

- Amrullah, M. T., & Sari, M. R. (2025). Factors that shape an honest and ethical culture. *Asia Pacific Fraud Journal*, 10(1), 59–71.
- Berecki-Gisolf, J., Newnam, S., Townsend, T., & Smith, P. (2025). Counting the costs of injury and disease among first responders: A national data-linkage analysis. *Scientific Reports*, 15, 1452.

- Fischer-Preßler, D., Kroll, T., & Meyer, P. (2024). Digital transformation in disaster management: A systematic literature review. *Technological Forecasting and Social Change*, 198, 122–145.
- Kapukaya, E. N., & Satoglu, S. I. (2025). A MultiObjective Dynamic Resource Allocation Model for Search and Rescue and First Aid Tasks in Disaster Response by Employing Volunteers. *Logistics*, 9(1), 41.
- Maman, L., Grimmelikhuijsen, S., & Kappler, M. (2025). Measuring citizen trust in regulatory agencies: A systematic review and ways forward. *Regulation & Governance*, 19, 39–86.
- Panyachit, S., & Sirisawad, N. (2025). The spirit of socially engaged Buddhism: Public welfare operations of rescue groups supported by Buddhist institutions in the Northern Region of Thailand. *Journal of International Buddhist Studies*, 16(2), 1-16.
- Song, S. E. (2025). Records of Excellence: Award-Winning Papers, Reviewer Honors, Top-Cited and Top-Viewed Articles. *Journal of the Korean Society of Radiology*, 86(5), 697.
- Tambuzzi, S., Rossi, C. (2024). Clinical forensic medicine in emergency departments: A pilot study of forensic training. *International Journal of Legal Medicine*, 139(1), 275–284.
- UNDRR. (2024). United Nations Office for Disaster Risk Reduction. GAR special report 2024: Forensics in disaster risk reduction.
- Wollebæk, D., Steen-Johnsen, K., & Enjolras, B. (2025). Trust and motivation in high-risk volunteering: Organizational and cultural determinants. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 36(1), 233–252.