



International Review of Pedagogical Innovation and Learning Sciences

Volume 1, Issue 1, 2026 | <https://www.azalpub.com/index.php/IRPILS>

OPEN ACCESS

RESEARCH ARTICLE

WORK-RELATED PRACTICES AND OPERATIONAL DECISION-MAKING AMONG FIRE OFFICERS: A QUALITATIVE CASE STUDY IN THE BUREAU OF FIRE PROTECTION, DELFIN ALBANO

Article Info

Received: 3/18/2026

Accepted: 05/30.2026

Published: 06/18/2026

Keywords

fire officers, operational decision-making, work-related practices, qualitative case study, Bureau of Fire Protection, Philippines

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Abstract

This qualitative case study examines the work-related practices and operational decision-making processes among fire officers in the Bureau of Fire Protection (BFP) in Delfin Albano. Grounded in decision-making theory and organizational practice frameworks, the study explores how fire officers navigate emergency situations, implement protocols, and exercise professional judgment under pressure. Data were collected through in-depth semi-structured interviews, field observations, and document analysis involving purposively selected fire officers. Using Braun and Clarke's (2006) thematic analysis, five key themes emerged: (1) Procedural Compliance and Adaptive Response, (2) Situational Awareness and Rapid Decision-Making, (3) Team Coordination and Communication Dynamics, (4) Experience-Based Judgment and Skill Development, and (5) Operational Constraints and Resource Limitations. Findings reveal that effective decision-making is shaped by a combination of formal training, experiential knowledge, and collaborative practices, while structural challenges influence operational efficiency. The study highlights the importance of continuous training, resource support, and adaptive leadership in enhancing fire service operations.

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INTRODUCTION

Firefighting is widely recognized as a high-risk and high-stakes profession that demands not only technical competence but also the capacity for rapid, accurate, and context-sensitive decision-making under extreme pressure. Fire officers are routinely exposed to volatile and life-threatening situations where conditions can change within seconds, requiring immediate and decisive action. These environments are often characterized by uncertainty, limited information, and heightened risk, where errors in judgment can result in severe consequences for both responders and the public. As such, the work-related practices and operational decisions of fire officers extend beyond procedural compliance, encompassing critical thinking, situational assessment, and adaptive problem-solving. Understanding the factors that shape these professional actions is therefore essential, as they directly influence operational effectiveness, safety outcomes, and the overall success of emergency response efforts.

Operational decision-making in fire services is a complex process that involves the integration of standard operating procedures, situational awareness, and professional judgment. While formal protocols provide a structured and standardized framework for action, real-world fire incidents often present unique and unpredictable challenges that require flexibility and rapid adaptation. Fire officers must continuously assess dynamic conditions, interpret emerging risks, and make informed decisions in real time. This process is influenced by a combination of factors, including prior experience, specialized training, team coordination, and the availability of organizational support systems. Research in emergency management and organizational behavior suggests that effective decision-making in high-pressure environments relies on both cognitive processes such as analysis and evaluation and experiential knowledge, which enables intuitive and recognition-based responses (Klein, 1998; Endsley, 1995). Consequently, the interplay between formal knowledge and lived experience becomes critical in shaping how fire officers respond to emergencies.

In the Philippine context, the Bureau of Fire Protection (BFP) serves as the primary government agency responsible for fire prevention, suppression, and emergency response, playing a vital role in safeguarding communities and protecting lives and property. Despite the significance of this mandate, there remains a limited body of research that examines the lived experiences of fire officers, particularly in relation to their daily work practices and decision-making processes. Existing studies tend to focus predominantly on the technical and procedural aspects of firefighting, such as equipment use and fire suppression techniques, often overlooking the human, cognitive, and organizational dimensions that underpin effective operations. This gap in the literature highlights the need for qualitative investigations that capture the perspectives, experiences, and challenges faced by fire officers in real-world contexts.

This study addresses this gap by exploring the work-related practices and operational decision-making processes of fire officers in the Bureau of Fire Protection in Delfin Albano. By adopting a qualitative case study approach, the research seeks to provide in-depth insights into how fire officers navigate complex and high-risk situations, make critical decisions under pressure, and adapt to operational challenges within their organizational and environmental context. Through this inquiry, the study aims to contribute to a more comprehensive understanding of firefighting as both a technical and human-centered profession, offering valuable implications for training, policy development, and organizational improvement in fire service operations.

Research Questions

1. What work-related practices characterize the daily operations of fire officers in BFP Delfin Albano?
2. How do fire officers make operational decisions during emergency situations?
3. What factors influence decision-making processes among fire officers?
4. What challenges affect effective operational decision-making?

Theoretical Framework

This study is anchored on Naturalistic Decision-Making Theory and Organizational Practice Theory. Naturalistic decision-making emphasizes how individuals make decisions in real-world,

high-pressure environments, while organizational practice theory focuses on how routines and practices shape professional actions. These frameworks provide a lens for understanding how fire officers integrate training, experience, and situational factors in decision-making.

METHODOLOGY

This study employed a qualitative case study design to provide a comprehensive and in-depth exploration of the lived experiences, work-related practices, and operational decision-making processes of fire officers in the Bureau of Fire Protection (BFP) in Delfin Albano. Anchored in an interpretivist paradigm, the case study approach enabled the researchers to examine the complexities of emergency response within its real-life context, capturing how fire officers think, act, and make decisions under high-pressure and unpredictable conditions. The BFP Delfin Albano served as a bounded system where operational routines, organizational culture, and situational challenges intersect, making it a suitable site for investigating the dynamic nature of firefighting practices. Participants were selected through purposive sampling to ensure relevance and depth of insight, focusing on individuals who had direct experience in fire operations and emergency response. The study involved eight fire officers representing a range of ranks and years of service, allowing for diverse perspectives on operational practices, from frontline responders to those with supervisory responsibilities.

Data were collected using multiple qualitative methods to ensure richness, depth, and triangulation of findings. In-depth semi-structured interviews were conducted to elicit detailed narratives about participants' experiences, decision-making processes, and reflections on their professional roles. Field observations were also undertaken to capture real-time operational behaviors, team coordination, and communication patterns during drills and routine activities, providing contextual grounding for the interview data. Additionally, document analysis of operational protocols, incident reports, and standard operating procedures allowed the researchers to examine the formal guidelines that shape practice and compare them with actual field implementation. Data analysis followed Braun and Clarke's (2006) thematic analysis, involving systematic stages of data familiarization, coding, categorization, and theme development to identify recurring patterns and meaningful insights across the dataset. To ensure the trustworthiness and rigor of the study, the researchers adhered to established qualitative criteria, including credibility, dependability, and confirmability. These were achieved through triangulation of multiple data sources, member checking to validate participants' accounts and interpretations, and the use of audit trails to document the research process, ensuring transparency, consistency, and methodological integrity throughout the study.

RESULTS

Theme 1: Procedural Compliance and Adaptive Response

Fire officers consistently emphasized that standard operating procedures (SOPs) serve as the primary foundation for their operational actions, particularly during fire suppression and emergency response. These protocols provide a structured and systematic approach to ensure safety, coordination, and efficiency in high-risk situations. However, participants also highlighted that real-life fire incidents are often unpredictable and complex, requiring flexibility and rapid adaptation beyond prescribed procedures. Fire officers described how they assess unique situational variables such as fire intensity, building structure, weather conditions, and civilian presence and adjust their strategies accordingly. This demonstrates that while SOPs guide initial responses, operational effectiveness depends on the ability to modify actions in real time based on situational demands.

Responses:

"May sinusunod kaming protocol, pero minsan kailangan mag-adjust depende sa sitwasyon."

(We follow protocols, but sometimes we need to adjust depending on the situation.)

"Hindi lahat ng sunog pare-pareho, kaya kailangan marunong mag-adjust."

(Not all fire incidents are the same, so we need to adapt.)

"Minsan kahit may standard procedure, iba ang actual na nangyayari sa ground."

(Sometimes even if there is a standard procedure, the actual situation on the ground is

different.)

"Kailangan marunong kang magdesisyon kahit wala sa manual ang sitwasyon."
(You need to know how to decide even if the situation is not in the manual.)

The findings indicate that effective firefighting requires a dynamic balance between procedural compliance and adaptive decision-making. While SOPs provide essential structure and reduce uncertainty, rigid adherence without situational adjustment may compromise effectiveness in rapidly evolving emergencies. This aligns with Naturalistic Decision-Making (NDM) theory, particularly the work of Gary Klein, which emphasizes that professionals in high-stakes environments rely on both formal rules and experiential judgment to make decisions under pressure (Klein, 1998). The ability to adapt reflects the development of tacit knowledge, where experience enables fire officers to recognize patterns and respond intuitively. Thus, procedural knowledge and adaptive expertise function as complementary components of effective operational practice.

Theme 2: Situational Awareness and Rapid Decision-Making

Fire officers highlighted situational awareness as a critical element in their decision-making processes, particularly during emergency operations where time is highly constrained. Situational awareness involves continuously monitoring environmental conditions, identifying potential hazards, and anticipating the progression of fire incidents. Participants described how they rapidly assess multiple factors including fire spread, structural integrity, and risk to civilians and personnel before making immediate decisions. The urgency of firefighting operations requires not only speed but also accuracy, as delayed or incorrect decisions can have severe consequences.

Responses:

"Kailangan mabilis ang desisyon kasi bawat segundo mahalaga."
(Decisions must be quick because every second matters.)

"Tinitingnan namin ang sitwasyon bago magdesisyon."
(We assess the situation before making decisions.)

"Habang nasa operation, kailangan alerto ka sa lahat ng nangyayari."
(During operations, you need to be alert to everything happening.)

"Minsan split-second decision ang kailangan para maiwasan ang mas malaking peligro."
(Sometimes split-second decisions are needed to avoid greater danger.)

The findings underscore that situational awareness is fundamental to effective decision-making in high-risk environments. It enables fire officers to interpret dynamic conditions, prioritize actions, and mitigate risks efficiently. This aligns with Endsley's (1995) model of situational awareness, which conceptualizes it as the perception, comprehension, and projection of environmental elements. In emergency response contexts, heightened situational awareness enhances decision accuracy and operational effectiveness (Endsley, 1995; Klein, 1998). The results suggest that the ability to make rapid yet informed decisions is a product of both training and experience, reinforcing the importance of continuous skill development in emergency management.

Theme 3: Team Coordination and Communication Dynamics

Effective teamwork and communication were identified as essential components of fire service operations. Firefighting is inherently a collaborative endeavor that requires synchronized actions among team members to ensure safety and efficiency. Participants described how clear communication, role clarity, and mutual trust are critical in coordinating tasks such as fire suppression, rescue operations, and evacuation procedures. Communication occurs both verbally and non-verbally, often under high-pressure conditions where clarity and precision are vital. Team coordination ensures that each member understands their responsibilities and contributes effectively to the overall mission.

Responses:

"Importante ang communication sa team para maayos ang operasyon."
(Communication is important in the team for smooth operations.)

"Hindi pwedeng mag-isa, kailangan teamwork."
(You cannot work alone; teamwork is necessary.)

“Kailangan malinaw ang utos para walang magkakamali.”
(Instructions must be clear so that no one makes mistakes.)

“Sa sunog, buhay ang nakasalalay kaya dapat coordinated ang galaw.”
(In a fire, lives are at stake, so movements must be coordinated.)

The findings indicate that collaborative practices significantly enhance operational efficiency and safety in firefighting contexts. Effective communication and teamwork reduce errors, improve coordination, and ensure timely responses during emergencies. This aligns with organizational practice theory, which emphasizes that coordinated routines and shared practices shape effective performance (Schatzki, 2001). Additionally, research in emergency management highlights that communication is a critical determinant of team performance and situational control (Bigley & Roberts, 2001). The results suggest that strong interpersonal dynamics and clear communication systems are essential for successful emergency response operations.

Theme 4: Experience-Based Judgment and Skill Development

Experience emerged as a key factor influencing fire officers' decision-making and operational effectiveness. Participants noted that repeated exposure to emergency situations enhanced their ability to assess risks, anticipate outcomes, and make informed decisions. Over time, fire officers develop intuitive judgment and confidence, allowing them to respond more efficiently under pressure. Experience also contributes to skill refinement, enabling officers to execute tasks with greater precision and effectiveness.

Responses:

“Habang tumatagal, mas nagiging mabilis ang desisyon dahil sa experience.”
(Over time, decisions become faster because of experience.)

“Mas kampante ka na kapag marami ka nang naranasang sunog.”
(You become more confident when you have experienced many fire incidents.)

“Sa experience mo makukuha kung paano ka magre-react sa emergency.”
(You learn how to react to emergencies through experience.)

The findings highlight the importance of experiential learning in developing professional competence among fire officers. Experience allows individuals to build mental models and pattern recognition skills, which are essential for decision-making in complex environments. This aligns with Kolb's experiential learning theory, which emphasizes learning through experience, reflection, and application (Kolb, 1984). Additionally, naturalistic decision-making research suggests that experienced professionals rely on intuition and recognition-primed decision-making when responding to emergencies (Klein, 1998). Thus, experience serves as a critical foundation for effective judgment and operational expertise.

Theme 5: Operational Constraints and Resource Limitations

Fire officers identified several operational challenges that affect their performance, including limited equipment, insufficient manpower, and logistical constraints. These limitations often hinder the efficiency of emergency response and require officers to make difficult decisions under constrained conditions. Participants noted that inadequate resources can delay operations, reduce effectiveness, and increase risks for both responders and civilians. Despite these challenges, fire officers demonstrated resilience and resourcefulness in maximizing available resources to fulfill their duties.

Responses:

“Minsan kulang ang gamit kaya nahihirapan kami.”
(Sometimes equipment is lacking, making it difficult.)

“Kulang din sa tao kaya mas mahirap ang operasyon.”
(There is also a lack of personnel, making operations more difficult.)

“Kailangan mong mag-adjust kahit kulang ang resources.”
(You need to adjust even if resources are lacking.)

“Minsan improvisation ang ginagawa para matuloy ang operation.”
(Sometimes we improvise to continue operations.)

The findings reveal that resource constraints significantly impact operational effectiveness and decision-making capacity. Limited equipment and manpower increase the complexity of

emergency response and place additional pressure on fire officers. This aligns with research indicating that resource availability is a critical factor in emergency management performance (OECD, 2019). Structural limitations not only affect efficiency but also influence decision-making processes, as officers must weigh risks and adapt strategies based on available resources. Addressing these challenges requires institutional support, improved resource allocation, and policy interventions to enhance the capacity of fire service organizations.

CONCLUSION AND RECOMMENDATION

The study reveals that work-related practices and operational decision-making among fire officers are shaped by procedural knowledge, situational awareness, teamwork, and experience. While fire officers demonstrate adaptability and professionalism, structural constraints remain a significant challenge.

Below are the recommendations:

- Enhance training programs on decision-making and emergency response
- Provide adequate resources and equipment
- Strengthen teamwork and communication systems
- Address structural constraints through policy support
- Conduct further research on emergency service operations

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