A Study on Crisis Management Practices of Ground Staff at Coimbatore International Airport

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M. Sankeerthana
III BBA Aviation Management
Department of Business Administration
Nehru Arts and Science College, Coimbatore

R. Sakthi Vishal
III BBA Aviation Management
Department of Business Administration
Nehru Arts and Science College, Coimbatore

S.R. Nevasini
Assistant Professor, School of Management
Nehru Arts and Science College, Coimbatore

Abstract

Effective crisis management at airports is critical to ensuring passenger safety, operational continuity, and stakeholder confidence. This study investigates the crisis management practices of ground staff at Coimbatore International Airport (CJB), focusing on preparedness, responsiveness, coordination, communication, and recovery mechanisms. Ground staff serve as frontline responders during disruptions such as technical failures, security threats, extreme weather, or health emergencies. A mixed-methods approach was used, combining structured questionnaires with in-depth interviews of 100 ground staff and supervisors. Quantitative data were analysed to assess levels of training, clarity of crisis protocols, and frequency of simulated drills, while qualitative insights highlighted experiential perceptions of effectiveness and challenges. Findings indicate that while ground staff possess foundational crisis awareness, gaps exist in advanced protocol training, real-time communication tools, and interdepartmental coordination, especially during multi-phase crises. Participants stressed the need for regular simulation exercises, updated decision-support systems, and psychological support mechanisms. This study contributes to airport crisis literature by contextualizing practices in a mid-sized Indian airport environment and offers practical recommendations to enhance operational resilience. Implications extend to airport management, policymakers, and training institutions seeking to benchmark and elevate crisis readiness. Strengthening these practices is essential in an era marked by unpredictability and complex threats to aviation operations.

Keywords: Crisis Management, Ground Staff, Coimbatore International Airport, Aviation Safety, Operational Resilience, Emergency Preparedness, Communication Protocols, Training Effectiveness.

Introduction

Crisis management in aviation refers to the systematic approach airports adopt to anticipate, respond to, and recover from disruptive events that compromise normal operations. Airports are inherently complex environments where numerous internal and external

stakeholders converge to deliver safe, efficient, and timely services. Ground staff—including ramp agents, operations coordinators, baggage handlers, and customer service agents, and safety officers—play a pivotal role in the operational ecosystem. They are frequently the first responders to on-ground crises such as aircraft emergencies, baggage handling failures, technical breakdowns, security alerts, and weather-induced disruptions.

Coimbatore International Airport (IATA: CJB), located in Tamil Nadu, India, serves as a crucial transportation hub connecting the region to national and limited international destinations. Though smaller in scale compared to major Indian metros, Coimbatore's growing traffic and strategic importance underscore the need for sound crisis management practices. The airport's ground staff are integral to maintaining continuity during unforeseen disruptions and ensuring that crisis impact on passengers, aircraft, and services is minimized. Despite this, academic literature and field research focusing specifically on crisis management practices at CJB are limited. Crisis events in aviation can vary widely in scope and impact. A technical failure in ground equipment can delay operations by hours, while a passenger medical emergency may require immediate first-aid and resource coordination. In more severe scenarios—such as a security breach, runway incursion, or extreme weather event—ground staff must activate predefined protocols, coordinate with air traffic control (ATC), fire and rescue services, and security agencies, and communicate effectively with passengers. This multi-layered complexity demands robust training, clarity in roles and responsibilities, updated crisis management plans (CMPs), and resilient communication systems Globally, aviation authorities such as the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) emphasize crisis management frameworks to align airport operations with safety and security standards. Best practices include periodic risk assessments, crisis simulations, interagency coordination exercises, and real-time information systems. At Indian airports, the regulatory landscape is further shaped by directives from the Directorate General of Civil Aviation (DGCA), which mandates emergency response planning and safety oversight. However, the degree to which such guidelines translate into effective on-ground practices often depends on organizational culture, resource availability, and staff competencies—particularly among ground personnel who are responsible for operational execution. Ground staff crisis management performance is influenced by several factors: training quality and frequency, awareness of CMPs, access to decision support tools, communication infrastructure, leadership support, and team dynamics. Effective crisis response requires not only procedural knowledge but also adaptive thinking, quick decision-making, and emotional stability under pressure. Research suggests that where regular drills and evaluations are conducted, staff confidence and performance improve significantly (Smith & Jones, 2018). Conversely, when crisis plans are outdated, poorly communicated, or rarely practiced, staff performance tends to falter during real events (Kumar & Singh, 2020) At Coimbatore International Airport, ground staff face operational pressures typical of busy regional airports: tight aircraft turnaround times, fluctuating passenger volumes, multi-agency interfaces, and infrastructural constraints. While anecdotal evidence from frontline workers points to a commitment toward safety and responsiveness, there is limited structured evaluation of crisis preparedness and outcomes. There is also a need to understand how ground staff perceive crisis management effectiveness and where improvements are needed. This study aims to address these gaps by systematically examining current crisis management practices among ground staff at CJB. The research explores key dimensions—including training adequacy, awareness of protocols, communication efficacy, coordination mechanisms, and perceived challenges—using a combination of quantitative and qualitative methods. By doing so, the study seeks to inform airport management strategies, enhance operational resilience, and contribute to broader discussions on crisis preparedness in similar airport contexts.

Objectives of the Study

- To evaluate the level of crisis management training received by ground staff at Coimbatore International Airport.
- To assess the clarity and accessibility of crisis protocols for ground operations personnel.
- To analyse coordination and communication mechanisms during on-ground emergency events.
- To identify challenges faced by ground staff in implementing crisis management practices.

Statement of the Problem

Airports operate within a high-risk, high-complexity environment where disruptions can arise from technical, environmental, security, or human-related causes. Effective crisis management is essential to mitigate operational losses, maintain passenger safety, and uphold airline and airport reputations. At Coimbatore International Airport, ground staff are responsible for executing critical operational tasks, yet their crisis management preparedness has not been thoroughly studied. Evidence suggests that while infrastructure and policy frameworks exist, gaps in training, communication, coordination, and resource support may hinder effective crisis response.

Previous research highlights systemic issues in aviation crisis management, notably where airport size, resource constraints, and evolving threat landscapes challenge preparedness (Patel & Rao, 2019). For ground staff specifically, limited simulation exercises, unclear role responsibilities during crises, and communication breakdowns have been identified as barriers to optimal performance. Localized studies in the Indian airport context reveal similar concerns, but focused analyses on mid-sized airports like CJB remain scarce. This creates a knowledge gap: airport management may be unaware of frontline perceptions and specific operational challenges that ground staff face during emergencies.

Scope of the Study

The scope of the present study is confined to examining the crisis management practices of ground staff at Coimbatore International Airport (CJB) in Tamil Nadu, India. The research specifically focuses on frontline operational personnel such as ramp staff, customer service agents, baggage handlers, and operations coordinators who are directly involved in handling on-ground emergencies and disruptions. Geographically, the study is limited to Coimbatore International Airport and does not extend to other airports in India or abroad. Functionally, the study covers crisis situations related to operational disruptions, technical failures, passenger emergencies, weather-related disturbances, and coordination with security and rescue teams within the airport premises. It evaluates preparedness measures such as training programs, awareness of crisis management plans, communication systems, interdepartmental coordination, and recovery strategies. The study also explores employees' perceptions of the effectiveness of existing crisis protocols and identifies practical challenges faced during implementation. Both quantitative and qualitative data are used to assess training adequacy, communication efficiency, and response readiness.

Limitations of the Study

- Time is an important limitation. Due to time constraints, the limited population is taken for the study.
- Findings based on this study cannot be used in other organizations.
- There are chances of misrepresentation responses.
- The biased view of the respondent is another cause of the limitation.

Review of Literature

Crisis management in aviation has been widely studied due to the industry's vulnerability to operational disruptions, security threats, natural disasters, and technological failures. Scholars emphasize that airports function as complex socio-technical systems where effective crisis response depends on coordination, preparedness, and communication among multiple stakeholders (Smith & Jones, 2018). The frontline workforce, particularly ground staff, plays a crucial role in implementing emergency procedures and maintaining operational continuity. According to Kumar and Singh (2020), airport emergency preparedness is directly influenced by the frequency and quality of training programs. Their study on Indian regional airports found that simulation-based training significantly enhances staff confidence and decision-making under pressure. However, they also identified gaps in periodic refresher programs, which reduced long-term effectiveness. Similarly, Patel and Rao (2019) highlighted that mid-sized airports often struggle with resource constraints, limiting their ability to conduct comprehensive crisis drills.

International frameworks such as those provided by the International Civil Aviation Organization (ICAO) emphasize structured Emergency Response Plans (ERPs) and inter-agency coordination as critical components of airport crisis management. ICAO guidelines recommend regular mock drills, defined communication hierarchies, and integration between airport operators, airlines, and local emergency services. Complementing this, the International Air Transport Association (IATA) underscores the importance of standardized safety management systems (SMS) to proactively identify and mitigate operational risks. In the Indian context, regulatory oversight from the Directorate General of Civil Aviation (DGCA) mandates airports to maintain updated emergency response procedures and conduct periodic safety audits. Studies examining DGCA compliance reveal that while formal structures are present, practical implementation often varies across airports depending on management commitment and infrastructure support (Reddy, 2021). Research on communication systems during aviation crises (Lee & Chen, 2017) indicates that breakdowns in information flow are a primary cause of delayed responses. The authors argue that integrating digital communication platforms improves coordination between ground operations, security teams, and medical units. Furthermore, psychological preparedness has gained scholarly attention. Brown (2019) suggests that stress management training enhances staff resilience and reduces errors during high-pressure situations.

Research Methodology

Research methodology is a way of systematically solving the research problems. Research methodology is a systematic method of a process of dealing with identifying problems, collection of facts or data, analysing these data for the purpose of making the decision. The methodology includes publication research, interviews, surveys and other research techniques, and could include both prevent and historical information. The methodology includes publication research, interviews, surveys and other research techniques, could both present and historical information.

	Value	Df	Asymptotic
Significance (2sided)			
Pearson Chi-Square	25.382a	9	.003
Likelihood Ratio	22.997	9	.006
Linear-by-Linear Association	11.231	1	.001
N of Valid Cases	200		

Correlation Analysis

		Age	Experience
Age	person	1	.332
	Correlation	200	200
	N		
Income	person	.332	1
	Correlation	200	200
	N		

Findings

- Training exists but lacks depth and regular refreshers.
- Crisis protocols document but not always easily accessible.
- Communication systems function adequately but falter under stress.
- Coordination with security and rescue agencies needs strengthening.
- Staff express willingness to participate in more drills and feedback sessions.

Conclusion

Crisis management is a critical component of airport operations, particularly in dynamic and high-risk environments such as Coimbatore International Airport. This study examined the crisis management practices of ground staff, focusing on preparedness, training, communication systems, coordination mechanisms, and response effectiveness. The findings reveal that while a foundational crisis management framework exists and most ground staff have received basic training, there are noticeable gaps in advanced simulation exercises, real-time communication support, and interdepartmental coordination during complex emergencies. Ground staff demonstrated strong awareness of safety responsibilities and expressed a positive attitude toward participating in additional training and improvement initiatives. However, limited frequency of mock drills, inconsistent accessibility of crisis manuals during peak hours, and occasional communication breakdowns were identified as areas requiring immediate attention.

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