CHAPTER II

REVIEW OF RELATED LITERATURE AND STUDIES

In this chapter, the researchers review literature that supports the development of mobile applications for improving emergency communication and disaster response. By examining local and foreign studies, they aim to identify key insights and gaps in current disaster management systems, guiding the creation of a more efficient solution for streamlined emergency calls.

**Review of Related Literature**

Upon reviewing the related literature, it becomes evident that both local and foreign studies have made considerable strides in utilizing mobile technology to improve disaster preparedness, communication, and response. However, despite these advancements, certain challenges remain, such as inefficient coordination, lack of real-time information, and limited engagement of affected communities. These ongoing issues highlight the necessity of further research to address these limitations and advance current practices in emergency management and mobile application development.

**Local Literature**

According to De Guzman and Santos (2019), the study centered on the development of the iRubwat application, designed to enhance disaster preparedness by offering crucial safety information before, during, and after emergencies. The researchers identified inefficiencies in existing disaster preparedness methods, which often lacked accessibility and failed to effectively engage all demographics, thus increasing community vulnerability during emergencies.

The primary objective of the study was to assess the effectiveness of the iRubwat application in improving disaster preparedness and response compared to traditional information dissemination methods. This research highlighted the need for innovative tools like iRubwat to improve community resilience and ensure that vital emergency information reaches a broader audience in a timely manner, thereby enhancing overall preparedness during crisis situations.

According to a study focused on the development of the "Alert QC" mobile application, students identified significant gaps in the disaster response systems of Quezon City, particularly in terms of communication and coordination during emergencies. The existing systems were deemed inefficient, lacking real-time updates crucial for effective emergency management. This prompted the development of the "Alert QC" app to address these deficiencies.

The purpose of the study was to enhance the disaster response capabilities of the Quezon City Local Government Unit (LGU) by improving communication and coordination during crises. The researchers explored how the implementation of the "Alert QC" app could impact the responsiveness of the LGU in disaster scenarios. This research underscores the importance of real-time information and streamlined communication in managing disasters more efficiently and effectively, particularly in urban settings like Quezon City.

**Foreign Literature**

According to a student study investigating the impact of mobile technology on emergency response systems, there is a pressing need to improve communication, coordination, and decision-making during emergencies. The research highlights significant challenges faced by current emergency response methods, such as delayed communication, inefficient coordination among responders, and difficulties in accessing real-time information during crises.

The primary objective of the study was to explore how mobile devices can enhance real-time information sharing, geographical tracking, and multi-agency collaboration, ultimately improving the overall efficiency of emergency response scenarios. The research aimed to assess the effects of implementing mobile technology on the effectiveness and efficiency of operations compared to traditional methods. This study underscores the critical role of mobile technology in transforming emergency response protocols and enhancing the capacity to manage crises effectively.