**CHAPTER THREE**

**3.0 Introduction**

In the ever-evolving landscape of healthcare, the integration of technology has become imperative to enhance patient care and treatment outcomes. One promising technological innovation is the development of mobile applications that facilitate medication management and adherence. This essay delves into the research approach, study area, and data collection and analysis methods pertinent to the design and implementation of the Flutter Medicine Notification and Tracker App for East Cantonment Pharmacy Limited.

**3.1 Research Approach**

The chosen research approach plays a pivotal role in shaping the methodology and outcomes of any study. For the design and implementation of the Flutter Medicine Notification and Tracker App, an action research approach is deemed most suitable. Action research blends scientific inquiry with practical problem-solving, allowing for a dynamic and iterative process. This approach will empower stakeholders, including users and healthcare professionals, to actively participate in the development and testing phases of the app.

Action research emphasizes collaboration, which aligns well with the project's goals of creating a user-friendly and effective medication notification and tracking system. Through continuous cycles of planning, implementation, observation, and reflection, the research team can refine the app's features based on real-time feedback. This approach not only ensures the app's relevance but also fosters a sense of ownership and engagement among the stakeholders.

**3.2 Study Area**

The study area for this research encompasses the operations of East Cantonment Pharmacy Limited and its affiliated healthcare providers. East Cantonment Pharmacy Limited serves as the epicenter of this project, as it provides the context and resources necessary for app development and testing.

Located within the bustling urban landscape, East Cantonment Pharmacy Limited serves a diverse community of patients with varying healthcare needs. The pharmacy's strategic location and established patient base offer a fertile ground for app deployment and user engagement. Moreover, collaborating with this pharmacy provides a unique opportunity to bridge the gap between healthcare service providers and technology, thereby enhancing patient care in a seamless manner.

**3.3 Data Collection and Analysis**

Effective data collection and analysis methodologies are essential to glean meaningful insights from the research study. To achieve this, a mixed-methods approach will be employed, integrating quantitative and qualitative techniques.

Quantitative data will be collected through surveys and app usage tracking. Surveys will be distributed among app users to quantify user preferences, satisfaction levels, and adherence rates. App usage tracking will generate quantitative metrics on user interactions with the app, providing valuable insights into usage patterns and engagement levels.

Complementing the quantitative data, qualitative information will be gathered through in-depth interviews and focus groups. Participants will include app users, pharmacists, and healthcare professionals. These sessions will facilitate the exploration of user experiences, challenges encountered, and suggestions for improvement. Thematic analysis will be applied to the qualitative data, revealing recurring patterns and perspectives that can guide app refinements.

The collected data will be meticulously organized and interpreted to uncover trends and correlations. Statistical analysis tools will aid in deriving quantitative insights, while qualitative analysis software will assist in identifying and categorizing emerging themes. The convergence of these analytical approaches will provide a comprehensive view of the app's impact and areas for enhancement.

**3.4 RESULTS OF THE STUDY**

The research findings are projected in this part utilising the descriptive interference approach. To complement the summary, this section also offers sample characteristics that are provided in tables.

**3.4.1 Charateristics and profle of respondent, and research findings.**

A set of responders ranged in age from 21 to 40. Participants were split evenly across genders, with 60% being female and 40% being male, as seen in the table.

**Table 3.1: Profile of Respondents**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Variable** |  | **Staff** |  |
|  |  | **Category** | **Number** | **%** |
| 1 | Gender | Female | 8 | 70% |
| Male | 5 | 30% |
| **Total** | **13** | **100%** |
| 2 | Age Group | 20-29years | 4 | 64.6% |
| 30-40years | 9 | 35.4% |
| 3 | Position | Phamarcist | 3 | 25% |
| Pharmacy dispenser | 7 | 50% |
|  |  | Pharmacy technician | 2 | 10% |
| Pharmacy assistant | 1 | 15% |
|  |  | **Total** | **13** | **100%** |
| 4 | Experience Level | 3-5years | 8 | 60% |
| 6-8years | 3 | 25% |
| 9-12years | 2 | 15% |
| 5 | Shift | Morning | 6 | 60% |
| Afternoon | 4 | 25% |
| Evening | 3 | 15% |
|  |  | Total | 13 | 100 |
| 8 | Challenges faced with the traditional way of the pharmacy | Limited Accessibility  Long Wait Times  Inaccurate Prescription Filling | 8 | 55% |
|  | Limited Information Availability  Lack of Medication Adherence  Inventory Management Challenges | 7 | 45% |
|  |
|  |  | **Total** | **13** | **100%** |

**3.4.2 Acceptance of technology by East Cantonment Pharmacy Limited.**

The acceptance of technology, specifically the Flutter Medicine Notification and Tracker App, within East Cantonment Pharmacy Limited is influenced by factors such as the organizational culture, readiness, stakeholder engagement, perceived benefits, usability, data security, and post-implementation support. By addressing these considerations, the pharmacy can enhance the likelihood of successful app adoption and integration into its daily operations. As the pharmacy's staff becomes more comfortable with the technology, the benefits of enhanced medication management and patient care will become increasingly evident.

|  |  |  |  |
| --- | --- | --- | --- |
| **Question** | **Response** | |  |
| 1. Can you briefly describe the primary functions and features you envision for the Flutter medicine notification and tracker app? | Medication Adherence Tracking | 9 | 70% |
| Medication Reminders  Medicine Information Lookup | 4 | 30% |
| 1. Do you have any specific requirements for tracking medication adherence and user engagement? | Yes | 13 | 100% |
| No | 0 | 0% |
| 3. Are there any existing systems or software that the Flutter app needs to integrate with | Yes  No | 13 | 100% |
| 4. Which of the platforms do you intend to deploy the app on? | iOS | 4 | 20% |
| Android  Both | 4  5 | 20%  60% |
| 5. How would you describe the target audience for this app | Patients | 4 | 25% |
| caregivers | 3 | 20% |
| healthcare | 7 | 50% |
| providers | 1 | 5% |
| 6. Are there any security and data privacy concerns that need to be addressed? | Yes | 5 | 40% |
| No | 8 | 60% |
| 7. What outcomes do you expect to achieve through the implementation of this app? | Improved patient adherence | 11 | 90% |
| increased pharmacy engagement | 2 | 10% |
| 8. What are the essential medicine-related information that the app should provide to users? | Dosage Instructions | 0 | 0% |
| Medication Names and Descriptions | 13 | 100% |