Internship Training

at

**EyeQ Vision Private Limited**

on

# A qualitative study on the best practices of product implementation and its business applications in EyeQ Super Specialty Eye Hospitals

Submitted by

**Mr. Prudhvi Raj Gopisetty**

PG/21/036

Under the esteemed guidance of

| Institute Mentor | Organization Mentor |
|---|---|
| **Dr Nidhi Yadav** | **Mr. Sachin Wangoo** |
| Associate Professor | Head – IT |
| IIHMR Delhi | EyeQ Vision Private Limited |


**International Institute of Health Management Research**
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**International Institute of Health Management Research**
**New Delhi**

The certificate is awarded to

**Mr. Prudhvi Raj Gopisetty**

In recognition of having successfully completed his/her

Internship in the department of

Information Technology

and has successfully completed his project on

**A qualitative study on the best practices of product implementation and its business applications in EyeQ Super Specialty Eye Hospitals**

20th March 2023 – June 20th, 2023

In

**EyeQ Vision Private Limited.**

He comes across as a diligent person who has

a strong drive and zeal for learning

We wish him all the best for future endeavours.

EYE Q VISION PRIVATE LIMITED
GURGAON

**Training and Development**

Sumit Bhasin

**Mr. Sumit Bhasin**

Vice President – Human Resources

EyeQ Vision Private Limited

# TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Prudhvi Raj Gopisetty**, student of **PGDM (Hospital & Health Management)** from **International Institute of Health Management Research, New Delhi** has undergone internship training at **EyeQ Vision Private Limited** from **16th January to 30th April, 2023.** The Candidate as successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical. The Internship is in fulfilment of the course requirements. I wish her all success in all her future endeavours.

**Dr. Sumesh Kumar**
Associate Dean, Academic and Student Affairs
IIHMR Delhi

**Dr. Nidhi Yadav**
Associate Professor
IIHMR Delhi

## Certificate of Approval

The following dissertation titled "***A study on best practices of product implementation and phases of implementation of a product in Eye-Q hospital, understanding of requirements***" at **"Eye-Q Super Specialty Eye Hospitals "** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood thatby this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

| Name | Signature |
| --- | --- |
| Dr. Shiv | |
| Dr. Sumant Swain | |
| Dr. Anandhi Ramachandran | |

## *Certificate from Dissertation Advisory Committee*

This is to certify that Mr. Prudhvi Raj Gopisetty, a graduate student of the PGDM (Health and Hospital Management) has worked under our guidance and super vision. He is submitting this dissertation titled "**A study on best practices of software product implementation and phases of implementation in EyeQ Super Specialty Eye Hospitals**" at EyeQ Vision Private Limited in partial fulfilment of the requirements for the award of the PGDM ( Health and Hospital Management ).

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

EYEQ VISION PRIVATE LIMITED GURGAON

**Mr. Sachin Wangoo**
Head - IT
EyeQ Vision Private Limited.

**Dr. Nidhi Yadav**
Associate Professor
IIHMR Delhi

**INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH,**

**NEW DELHI**

# CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **A qualitative study on the best practices of product implementation and its business applications in EyeQ Super Specialty Eye Hospitals** and submitted by **Mr. Prudhvi Raj Gopisetty** Enrollment No. **PG/21/036** under the supervision of **Dr. Nidhi Yadav** and **Mr. Sachin Wangoo** for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from **20th March 2023** to **20th June 2023** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

**Signature**

Annexure F

# FEEDBACK FORM

**Name of the Student:** Prudhvi Raj Gopisetty

**Name of the Organisation in Which Dissertation Has Been Completed:**

Eye9 vision pvt. ltd.

**Area of Dissertation:** Information Technology

**Attendance:** Adhered to the dissertation norms

**Objectives achieved:** yes

**Deliverables:** Study on best practices of product implementation, its testing and requirement elicitation, ticket resolving and report analysis.

**Strengths:**

→ improved problem solving abilities

→ accountability and dedication to work.

**Suggestions for Improvement:**

**Suggestions for Institute (course curriculum, industry interaction, placement, alumni):**

Hands on exposure on some Requirments Mgmt Software.

**Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)**

**Date:**

**Place:**

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**A qualitative study on the best practices of product implementation and its business applications in EyeQ Super Specialty Eye Hospitals**


## Abstract

Data is a critical entity and a crucial aspect to any of the organization as it beholds the power of providing insights. Data in healthcare organization is more critical considering the valuable insights it can provide to a person. This study will give an insight into how a healthcare organization has implemented a product that deals with processing for large quantities of data and provide insights and also elucidates the applications of organization wide data from different sources of EMR, Counselling forms (Saarthi) and HMS (Eyetech).

The purpose of the study is to provide an insight on best practices of product implementation and applications of data analysis in healthcare sector shall provide a benefit for greater good of the society and businesses.

## Design / Methodology /Approach

**This is a qualitative descriptive study**. A literature review of various journals, research studies have been done regarding the factors influencing the adoption and implementation of a product in healthcare organizations and then the insights are used for a making a comparative analysis with the then current flow that was adopted which led to a more comprehensive and nuanced understanding of the research topic which enhanced the overall validity and reliability of the study's findings. Analysis on the organizational data to make business analysis and to gain insights on applications of data analysis for business inferences was done to understand the applications of data analysis and in validating the implemented tool. In depth interviews have been gathered from the users for the data

**Findings**

This study provides insights into opportunities of successful implementation of a product in healthcare organization and applications of health data and organizational data to provide valuable business insights for improving healthcare organizations technology adaption, acceptance and increased compliance and also an understanding into how the data can be used for business purposes.

**Limitation**

The limitation of this study is the limited time constraint which led to do comparative analysis of best practices only on the phase 1 of implementation and not on further phases.

**Practical Implementation**

Through enhanced comprehension, capacity building, and a customised approach of product deployment in healthcare organisations, this study will be practically useful. As a result, it will actually benefit the stakeholders.

**Value**

The article presents a comprehensive understanding the best practice of product implementation and can be used as aa guidance document. It contributes to the very limited literature and could motivate healthcare organization stakeholders for technology adaption and acceptance. For those who have adapted, it would drive for reaching benchmark rates of compliance for further benefits and insights from data.

**Key words**

Product implementation, EMR applications, business insights for hospital**,** digital data applications, data inferences.

## Introduction

### Introduction :

Product implementation is critical to the success of any organisation, especially in the healthcare industry. Hospitals and healthcare facilities are increasingly relying on data analysis and visual representation tools to manage patient information and provide better healthcare services in the rapidly evolving world of healthcare. However, implementing such products can be complicated and difficult, necessitating careful planning, understanding of requirements, and proper execution.

The purpose of this dissertation is to investigate the best product implementation practises and phases of implementation at EyeQ Hospital, a leading healthcare facility. The study will concentrate on understanding and eliciting requirements in EyeQ Hospital during the implementation of a data analysis tool and a visual representation tool. The study's goal is to identify the challenges encountered during the implementation process and to recommend solutions to overcome them.

This study will identify the best practises of product implementation and phases of implementation in the healthcare industry through a comprehensive literature review, with a particular focus on the data analysis tool and visual representation tool. To gain insights into the implementation, the research will use a mixed-methods approach to collect data, including interviews and surveys.

This study's findings will be beneficial to healthcare organisations, product implementation teams, and healthcare professionals involved in the implementation of data analysis and visual representation tools. The findings will provide a framework for the successful implementation of such products in healthcare facilities, as well as strategies for overcoming the challenges encountered along the way.

Overall, this study will add to the existing body of knowledge by providing insights into best practises of product implementation and phases of implementation, as well as aiding in the improvement of the implementation process in the healthcare industry.

Other than these, the study shall also contribute to the concept of data analysis and will be elucidating how the data from the systems would be helpful in bringing the insights for the contribution and growth of the business in hospital sector.

**DARPAN – Dashboards**

DARPAN is Dashboard for analytical Review of Projects Across the Nation, which transforms the complex organizational data that is sourced from different software like electronic health records, hospital management information system and management information systems with respect to different departments into a visually appealing chart. It provides the administration and managers with a tool to monitor the real time data or the data upto day before excluding the current running business. It enables dynamic monitoring of the business status from a remote location being based with dynamic IP. It improves the analytical capabilities through the data collection and projections of that data which is sourced from different systems and centralising them in a user-friendly platform. It quickly identifies trends and drills down into data to give a better understanding of the location wise and cluster wise projects. It presents the data in an objective and quantifiable manner allowing technical administration to see and understand not only its successes but also the pain points and thereby to grow out of them with improvement.

A varied cluster of dashboards ranging with respect to the central operations and the product operations, national wide operations and international operations, quality , system health and business summary dashboards project crucial organizational data into summarized graphs. Performance of the each and every department can be monitored precisely with this.

**DARPAN – Campaign management**

The data visualization tool that was being discussed is also a data analysis tool with a user friendly MySQL Query processing support system. Data from the multiple sources can be fetched with conditional clauses being attached and relational set operations can be performed on the data fetched. While the organization has a unique way of addressing every individual patient as a singular prime entity ( a unique value / primary key ) has been attached to the patient which is called as an MRD number, the data fetched from these sources use the mobile number of the patient as a unique value and as primary key here.

Unique mobile numbers are fetched, and a broadcast is made on these numbers by multiple sources. Either through SMS text messages, WhatsApp communication or a pipeline shall be made to the call centre for calling pipeline where in the call centre executives shall call the patients.

Major campaigns that run are by the product managers, marketing team and digital marketing team along side with HR broadcasting recruitment messages.

**Rationale of the study**

Implementing data analysis and visual representation tools has become increasingly important in the healthcare industry, particularly in hospitals where effective patient data and information management is critical. However, implementing such tools can be difficult, with factors such as resource constraints, technological limitations, and resistance to change frequently complicating the process. As a result, there is a need to investigate best practises for product implementation and,phases of implementation in the healthcare industry in order to understand how to effectively implement these tools.

EyeQ Hospital, a leading hospital chain in India specialising in ophthalmology and eye care, in particular, provides an ideal setting for researching the implementation of data analysis and visual representation tools. This study can identify the factors that contribute to successful implementation, as well as the challenges and barriers that must be overcome, by examining the challenges and successes of implementing these tools in EyeQ Hospital. This research will also shed light on the requirements and requirement elicitation processes that occur during the implementation process.

Finally, the study's findings will benefit healthcare organisations, product implementation teams, and healthcare professionals involved in the implementation of data analysis and visual representation tools, allowing them to improve the quality of healthcare services provided to patients. Furthermore, this study will add to the existing body of knowledge on product implementation in the healthcare industry, filling a knowledge gap and providing insights into best practises for product implementation and implementation phases.

**Rationale for developing DARPAN**

The rationale for developing DARPAN is straightforward: campaign monitoring and evaluation are critical to the success of large-scale caampaigns, and the ability to collect and analyse data in real-time is critical to this process. DARPAN consolidates data from multiple sources into a single centralised platform, making it easier for technical administrators to access and analyse the information they need to make informed management decisions.

Furthermore, DARPAN improves technical administrators' analytical capabilities by providing an objective and quantifiable way to measure business growth and identify areas for improvement. This is especially important in large organisations with data spread across multiple departments and systems. DARPAN can help to streamline the business monitoring

and evaluation process by providing a unified platform for data analysis, saving time and resources while improving the overall quality of project outcomes.

DARPAN is intended to provide administration with a snapshot of the status of various departmental activities, as well as an architecture for presenting dashboards in relation to the monitoring of schemes at various levels. The architecture of the dashboard is significant in that it is hosted on a common framework across all of its branches.

**Objective of the study**

This research is aimed to study the best practices of a product implementation in the hospital environments and the process of implementation, alongside to understand how the huge data from varied sources is leveraged for inclined business outcomes and apt decision making. It also helps in understanding the requirements and supports the due elicitation of those requirements.

**Methodology**

**Study Design :** Qualitative descriptive study

**Data type :** Primary data collection of requirements with in-depth interviews, secondary data is used for literature review purposes to understand the existing practices of product implementation in hospitals.

**Sample size :** 80

**Sampling method :** Selective sampling ( Purposive sampling / Judgemental sampling )

The sampling strategy is selective sampling because, primary in-depth interviews are conducted only to those who are in managerial level performing multiple operations and leading different respective departments.

**Inclusion criteria :** Managerial staff and those who have approvals.

**Exclusion criteria :** Those who are not in executive level.

**Literature Sample size :** 15

**Sampling method : :** A total of 28 articles, records, journals, documents were studied from various sources such as National Library of Medicine, Government websites, WHO, IEEE standards, guideline documentations etc over google scholar platform . Among these, 15 articles were relevant to the study and matched with the keywords; therefore, these articles have been included in the study. As per exclusion of records is concerned, a total of 13 articles / records / journals / documents were excluded. The exclusion was based on mismatching of title, irrelevance of the context, keyword mismatching, absence of required parameters for the study.

**Inclusion criteria :** Research articles and journals, standard guidelines and guidelines that are followed by some hospitals.

**Exclusion criteria :** News paper articles and blogs are excluded.

**Expected Outcomes from the secondary research part :**

1. Key insights into the developmental aspects and different implementation practices so as to use for comparative analysis for self and adapt the best ones during implementation of self-projects.
2. Insights into the adoption challenge : Product once implemented should also have to be monitored for appropriate compliance rates and if not, there is a dire need to understand the overhauling challenges.
3. Insights into new ideas to promote business growth and monitor quality of the performance with not just revenue but with many other aspects.

Total records identified through the database are filtered and the included papers are used to take inferences and most pressing aspects of product implementation and protocol followed were studied.

A study was done with the common objective to create and evaluate a manual for successfully adopting best practises in healthcare organisations by Cresswell KM et al, to roll out 10 key considerations for the successful implementation and adaption of large-scale health information technology models. That handbook uses a logic model approach and is based on literature research and interviews. It covers pre-roll-out resources, activities, best practises throughout and after rollouts, and their impact. Alignment, permeation strategies, leadership for change, and supporting structures have all been identified as facilitators for successful implementation. Patient and health outcomes may be improved through testing and modification of the guide in diverse healthcare organisations.

Large-scale health information technology implementation necessitates rigorous planning and ongoing evaluation of results. Employing a lifecycle strategy can help businesses avoid frequent blunders and increase the likelihood that technological system adoption will be successful (see figure 1). Because these systems are complex and have interconnected problems, it is important to understand that the steps and issues raised may overlap to some extent.

Another study by Minnie K et al, emphasised the value of best practises in nursing that are evidence-based in order to improve patient outcomes and healthcare quality. In order to successfully apply these best practises in healthcare organisations, the study identified four important facilitators, including alignment, permeation plans, leadership for change, and supporting structures. The primary goal of the study was to develop and evaluate a manual for an operational strategy that promoted the adoption of best practises in healthcare

environments. The guide was created using interviews, a comprehensive examination of the literature, the Delphi technique, and the logic model. The results indicated that the guide may be able to enhance patient and health outcomes; nevertheless, for best results, additional testing and adaption in other healthcare organisations were judged necessary. It was hoped that the manual would be a useful tool for managers looking to apply best practises supported by evidence in their individual healthcare organisations.

It concluded that using a Logic Model is a practical approach to create a guide for an operational plan, incorporating benefit levers within the health system. That guide is intended for use by managers, organizations, and departments to develop their plans. That study stated the future work as further adaptation and testing are needed to be done before its application in different contexts. Once customized, that guide then shall has the potential to enhance health outcomes for patients, improve overall healthcare quality, and strengthen the health system at large.[2]

On a further note, a group of experts projected there work on enhancing the impact of the implementation strategies on the healthcare sector.

Multiple suggestions are given such as the following points

- Addressing several crucial areas for improvement can advance implementation science, including enhancing the design of implementation strategies and tailoring methodologies.
- Testing mechanisms of change
- Conducting more effectiveness research on discrete, multifaceted, and tailored strategies, and increasing economic evaluations.

- Tracking and reporting implementation strategies are essential for better understanding when, where, why, and how implementation techniques enhance effectiveness and contribute to improved health outcomes.

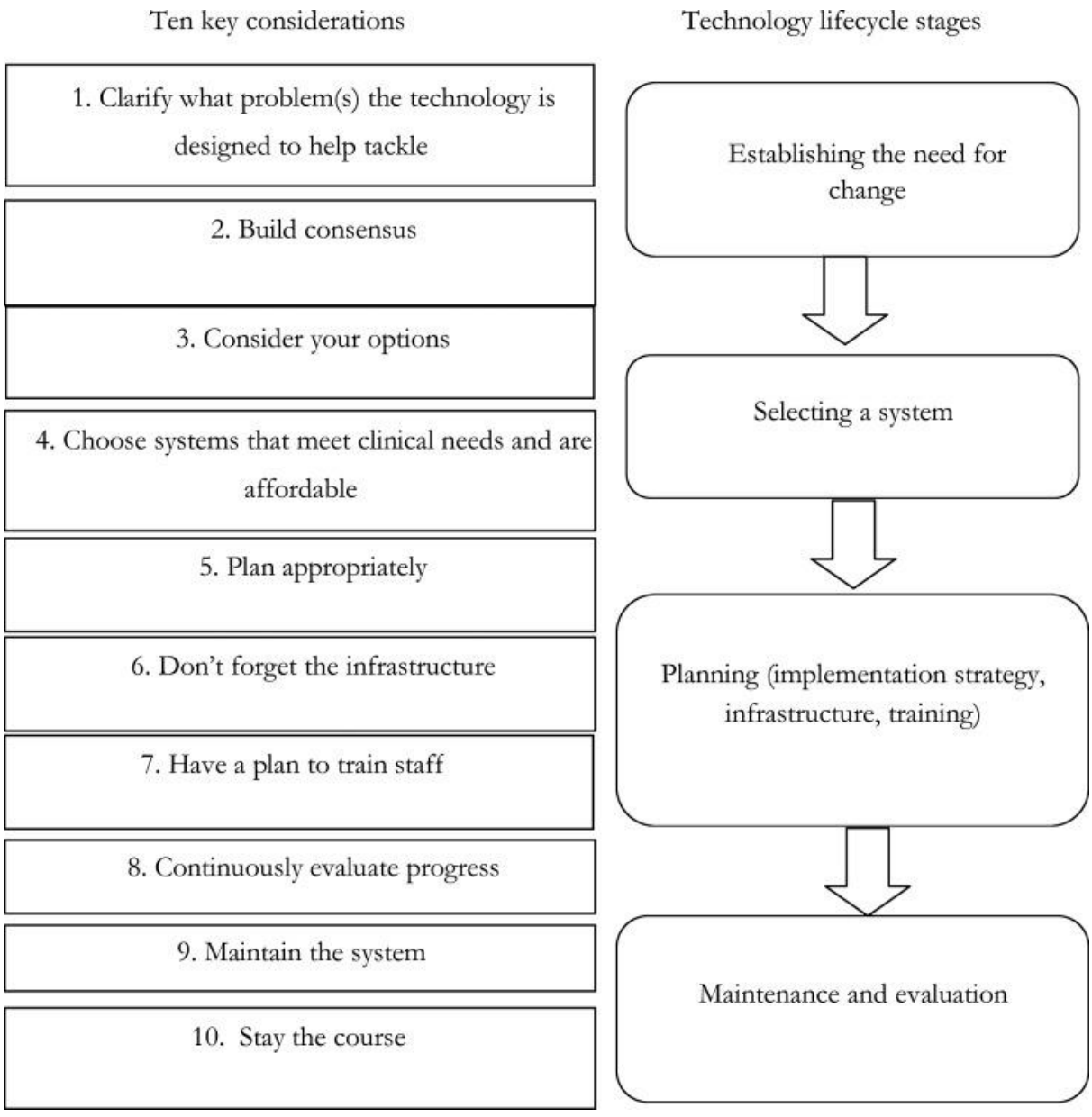



Figure 1 : Ten essential factors for the successful adoption and deployment of extensive health information technology.

**Results**

On a conclusive note, the aggregation of the literature yielded with the result with the steps of practicing starting with proper planning of implementation., stakeholder engagement, regular hurdles. requirement elicitation post implementation, proper requirement elicitation before development, continued support, product leader and product SPOC, resource allocation, intra department communication, risk management and mitigation, execution and compliance monitoring, and continuous improvement.

• Proper planning of implementation is vital to set clear objectives, timelines, and allocate resources effectively, ensuring a smooth project execution.

• Stakeholder engagement facilitates collaboration, identifies concerns, and garners support, enhancing project buy-in and overall success.

• Addressing regular hurdles proactively allows for timely solutions, minimizing disruptions and ensuring project progress remains on track.

• Requirement elicitation post implementation enables feedback incorporation and adjustments to meet evolving user needs and improve the system's functionality.

• Proper requirement elicitation before development ensures a comprehensive understanding of project requirements, reducing risks and rework during implementation.

• Continued support guarantees user satisfaction, ongoing maintenance, and smooth operations, contributing to long-term project success.

• Having a dedicated product leader and product SPOC streamlines decision-making, fosters accountability, and enhances communication throughout the project.

• Resource allocation ensures efficient utilization of available resources, optimizing project outcomes and minimizing waste.

• Effective intra-department communication fosters collaboration, reduces misunderstandings, and facilitates seamless project execution.

• Risk management and mitigation strategies safeguard against potential obstacles, minimizing negative impacts and promoting a successful project outcome.

• Execution and compliance monitoring ensure adherence to project plans, quality standards, and regulatory requirements, maintaining project integrity.

• Continuous improvement fosters a culture of innovation and learning, driving project enhancements and increasing overall project success in the long run.

With all the above derived methods, few scenerios of practical implementation of those are elucidated in the below table.

| **Challenge post phase 1** | **Resolved** | **Key factor contributed** |
|---|---|---|
| Compliance and hindrance while using the software | Broadcasts and user manuals | Clear Communication and Stakeholder Engagement |
| Campaign postponement issues | After the ports have been released and IP, giving MySQL public access to beta 3 server. | Intra-departmental communication issues and comprehensive planning and project management |
| Data security issues | Designed protocols for user ID creation and access specifications | Understanding the structure of organization and privileges of users |
| Change requests | New SRS documents and change logs have been created and designed again | Requirements are not gathered but are to be elicitated. Personal interviews are supposed to be |

| | | |
|---|---|---|
| | | done with all the stakeholders. |
| Defect lifecycle documentation | After intense discussions with the backend developer | Vendor support and collaboration |

**Applications of data usage in hospital environment for business purposes**

For a better understanding of how the data is being leveraged in th hospital for improved business opportunities and for monitoring performance and measuring compliance, an insight into the below case scenario shall assist.

The measurements typically give the greatest and minimum corneal powers along two orthogonal meridian lines. These are referred to as corneal Ks or K-values. The corneal astigmatism is the cause of the variation in K-values. There are 2 meridian lines K1 and K2.

K1 = flat-axis keratometric value in diopters (D) on anterior (F) and posterior (B) corneal surface; K2 = steep-axis keratometric value in diopters (D) on anterior (F) and posterior (B) corneal surface; NS = non-significant.

A refractive defect known as astigmatism results in two distinct meridians of the eye having differing powers because of an uneven corneal or lens curvature. The values K1 and K2 stand in for these powers.

The severity and direction of the astigmatism are determined by the corneal curvature's K1 and K2 values. The steepest meridian is represented by K1, and the flattest meridian is represented by K2. Usually, the meridians are measured in diopters (D).

The eye doctor will evaluate the patient's K1 and K2 readings to determine the proper prescription for a toric lens when the patient has considerable astigmatism. The patient's unique

K1 and K2 values are taken into account while designing the toric lens, which is intended to have varied powers in various meridians.

The K1 and K2 values are measured by the kerotometers or corneal topographers. This data is entered in the EMR by the optometrist, based on that data, the doctor should advice the appropriate lens ( toric lens to the patient ). To monitor wether or not did the patient got the surgery done with toric lens, data is aggregated from multiple sources such as EMR Clinical data wether or not the patient is eligible for toric lens, than surgery advice data sheet which tells whether or not if the patient has got the toric lens being advised from the doctors end. Data from the counselling forms will let the analyst know wether that patient is being counselled for toric lens. IP billing raw data shall give the output wether or not the patient got toric lens implemented. Nonadherence or noncompliance to any of these is a major factor contributing in the patient transaction and on the revenue aswell.

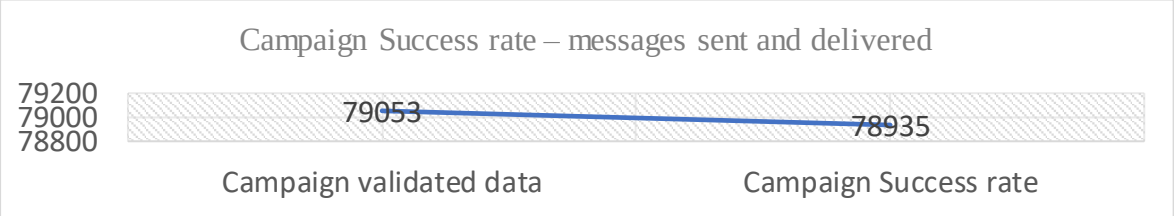
Likewise, the data from the multiple sources is gathered into a dashboard showing the different inferences that could be used as leavers for business growth.

The different data sources are electronic medical records system, hospital management system and management information system. EMRs deal with the data that entirely deals with the clinical aspects, HMS deals with the revenue aspects and hospital related data, and the MIS deals with overall organizational data starting from supply chain, finance, human resources and so on and so forth.

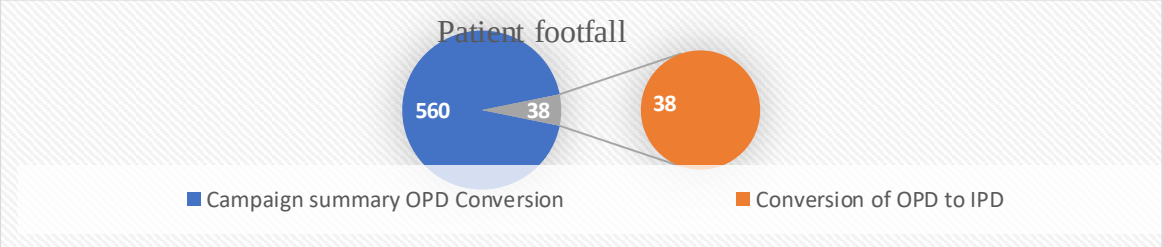
**Application of the campaign management tool**

Campaign management tool works as a simple user-friendly database operator that deals with high loads of data with user friendly queries. The queries on the data can be run through simple tools. Once the logic required by the campaign creator is implemented, the logic will be validated and post that, the validated data will be fed to the pipeline and is released online. The

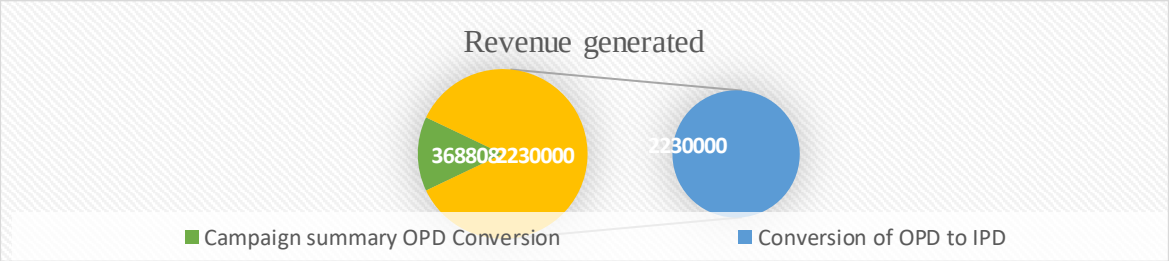
data broadcast shall be done then, and campaigns will be carried out in that way. One such example for the key results of a successful campaign is elucidated in the below images.



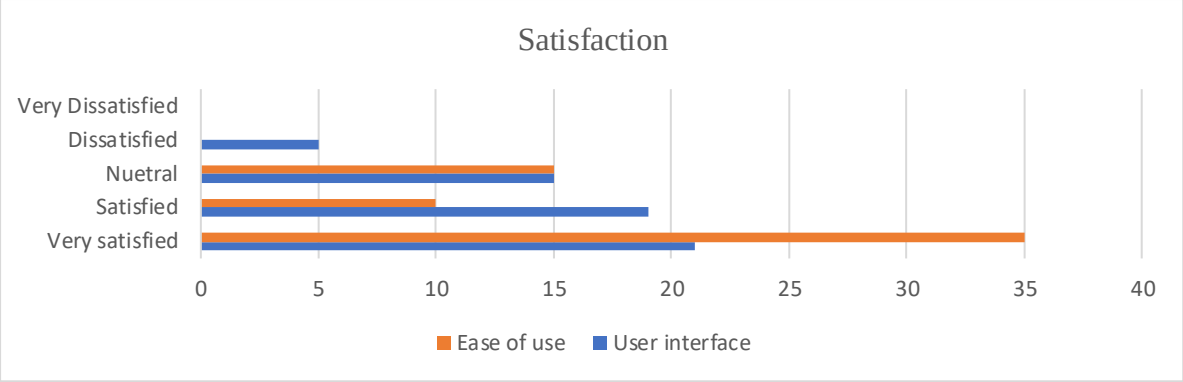

Graph 1 : This graph elucidates total messages sent and total messages delivered to the patients




Graph 2 : This elucidates the total patient reported at the centres after campaign message sent and their conversion from OPD (568) to IPD (38)




Graph 3 : The attached graph represents the revenue generated by the conversions of OPD and IPD patients.




Graph 4 : The attached graph elucidates the user satisfaction of the software.

**Discussion**

To be able to understand the requirements of the team and the logic behind each graph, there used to be a high necessity to understand the entire flow of the organization. A swimlane of these are attached into the document in ( Pg No 25 -32 )for clear understanding.

There are different kind of dashboards in the Darpan as per department wise, product wise and for core business operations. Results of all the campaign activities are also being projected in these dashboards.

There are 2 portals for campaign management and dashboard projections. Details are being abstracted as per the confidentiality norms; however the campaigns are run on the mobile numbers through different communication channels.

The contributions to the business development are numerous when compared to the other marketing activities.

Patient statistical reports will elucidate the data related to the patient type/ age wise report, appointment statistics report, future appointments count, patient tracking report and patient waiting time report, appointment list, patient category report , appointment status detailed report, external patients' data.

Likewise there are other domains such as billing reports, waiver reports, credit sales report, collection reports, performance reports , performance reports split, EMR Data report, petty cash report, stores, Opticals, revenue summary, resource, systemic review and camp reports.

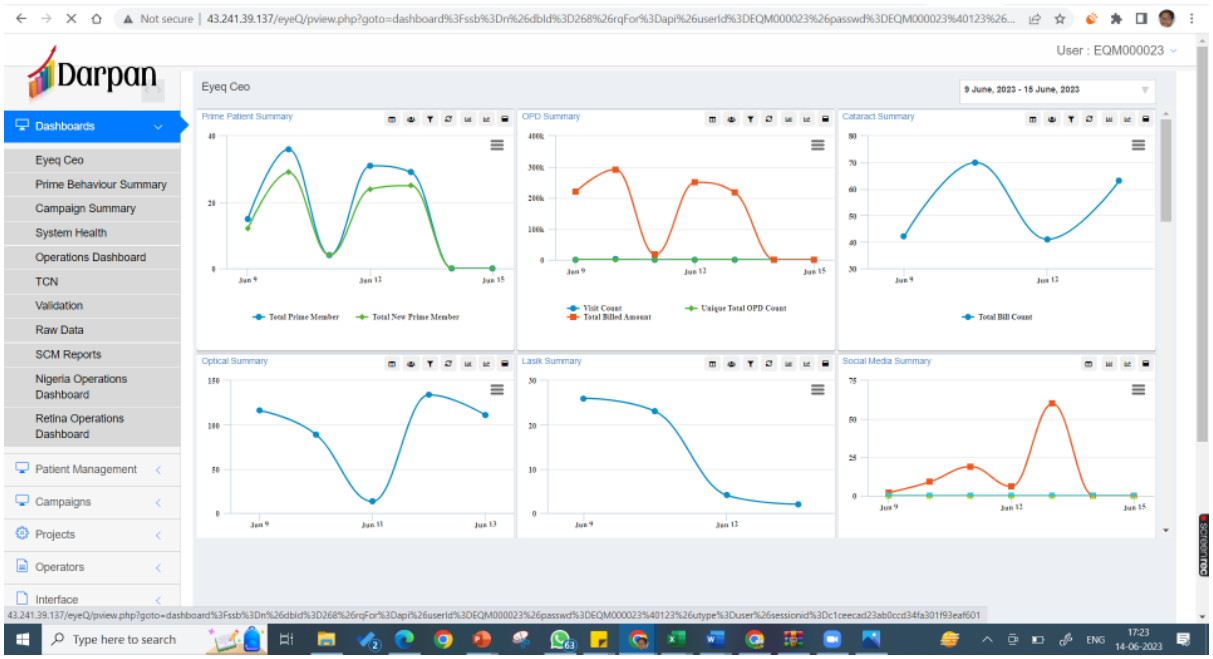



Figure 2 : This elucidates a simple pictographic representation of different dashboards and its graphs and how Darpan is contributing to the business. A questionnaire of 5 questions has been made to study the user satisfaction.

The questions are

1. Are you able access entire data ? Yes or No
2. On scale of 1 to 5, are you satified with the projections ?
3. On scale of 1 to 5, how easy was it to access ? ( Very Difficult to Very Easy )
4. On scale of 1 to 5, how easy was it to run a campaign ? ( Very Difficult to Very Easy )
5. Are the numbers correct with Darpan and the MIS report under your purview. (Yes/NO)

**List of Campaigns**

1. Special_Procedures
2. Optical_Data
3. OPD_Data
4. Medicine_Data
5. IPD_Data
6. FB_Data
7. Google_Adwords_Data
8. OPD_Revenue_Data
9. Special_Procedures_Advice_Data
10. Call_Centre_Data
11. Website_Data
12. GMB_Data
13. Prime_Patient_Details
14. Appoinment_Data
15. Website_Call_Data
16. Google_Adwords_Call_Data
17. Whatsapp_Call_Data
18. TollFree_Call_Data
19. FB_Call_Data
20. Whatsapp_Chat_Data
21. FB_Api_Data
22. Cataract_Counselling_Form_Data
23. Other_Call_Data
24. Lesik_Counselling_Form_Data
25. Retina_Counselling_Form_Data
26. Reference_Patients_Details
27. Manual_Call_Data
28. Outbound_Call_Data
29. EMR_Advice
30. Advice_Not_Done
31. Appointment_List_Consultation_Date
32. cataract_diagnosis
33. Glass_Prescription_Issue
34. Second_Eye
35. EMR_CLINICAL_DATA_EMR
36. Confirmation_Data_Consultation_Dat
37. AdWords_Common_Haryana
38. AdWords_Common_Gujarat
39. AdWords_Common_UP_UK_Delhi

40. AdWords_Retina

41. AdWords_Cataract

42. AdWords_Lasik

43. AdWords_Others_Squint_Glaucoma

44. AdWords_Common_Hindi

45. AdWords_Core_Hindi

46. Relevant_Not_Relevant

47. Covid_Vaccination_Details

48. Core_Hindi_Google_Mailer

49. Common_Hindi_Google_Mailer

50. Other_Squint_Glaucoma_Google_Mai

ler

51. Lesik_Google_Mailer

52. Retina_Treatment_Google_Mailer

53.Common_UP_UK_Delhi_Google_Mail

54. Common_Gujarat_Google_Mailer

55. Common_Haryana_Google_Mailer

56. Catract_Google_Mailer

57. Inbound_Call_Data

58. Credit_Sales_Report

59. External_Patient_Details

60. Optical_Data_Order_Date

61. Patient_Order_Item_Details

**List of Projects**

1. EyeQ

2. Retina

3. Cataract

4. OPD

5. Digital

6. Vaccination

7. Opticals

8. Lasik

**List of Dashboards**

1. Eyeq Ceo

2. Prime Behaviour Summary

3. Campaign Summary

4. System Health

5. Power BI

6. TCN

7. Validation

8. Raw Data

9. SCM Reports

**Graphs in dashboard Eyeq Ceo**

1. Prime Patient Summary

2. OPD Summary

3. Cataract Summary

4. Optical Summary

5. Lasik Summary

6. Social Media Summary

7. Prime Billing Summary

8. Lagos Victoriaisland Revenue Summary

9. Pharmacy Summary

10. Lagos Victoriaisland Transaction Summary

11. Location Login Summary

12. Call Centre Summary

13. Call Centre Stats

14. Ayushman Surgery Summary

15. Surgery Scheduled Done IP Billing

16. Special Procedure

17. Lagos Billed Summary

18. Retina Summary

Graphs in dashboard Prime Behaviour Summary

1. Prime Patient Behaviour Analysis

2. Prime Behaviour Summary

**Graphs in dashboard Campaign Summary**

1. Campaign Summary

2. OPD Campaign Summary

3. Special Procedure Campaign Summary

4. Optical Campaign Smmary

5. Pharmacy Campaign Summary

6. Surgery Campaign Summary

7. Overall Campaign Summary

8. Ytd Revenue Summary

9. Ytd OPD Summary

10. Lead Revenue Summary New

11. Campaign Summary Daily

**Graphs in Power BI**

1. EyeQ Revenue
2. OPD Collection
3. Cataract
4. Retina
5. Lasik
6. Medicine
7. Optical
8. ABH
9. Others
10. Age Wise OPD Visit
11. Cataract Diagnosis
12. Cashless Cash Summary
13. Lasik Advised
14. Lasik Patient 18 To 35
15. Lasik Counselling Form Filled Percentage
16. Cataract Counselling Form Filled Percentage
17. Cashless Category Wise
18. RCO
19. Retina Injections
20. Retina Surgeries
21. Optical Sumary
22. Retina Compliance
23. MEDICINE Summary
24. HVF/OCT/FFA/Laser/Yag
25. C Lasik S Lasik I Lasik C3R ICL
26. High Value
27. Retina Mix Summary
28. Phaco/Mics/Femto
29. Pre Op OCT
30. VR Proc Inj Sur Done From Pre Op OCT
31. OPD OCT Summary
32. Second Opinion Cataract Summary
33. Cataract ABH Summary
34. RCO 2
35. 18 35 Relevant Count
36. Optical Bill Wise

37. Optical Order Wise

38. Optical Order Wise Count

39. Optical Bill Wise Count

40. Glaucoma Tracker

41. Physiol Vs Other

**Graphs in TCN**

1. Inbound Analysis

2. Relevant Not Relevant

3. Outbound Conformation Analysis

4. Outbound Prime Membership Analysis

5. Not Visited Yesterday Analysis

6. Inbound Summary

7. Outbound Conformation Summary

8. Outbound Prime Membership Summary

9. Not Visited Yesterday Summary

10. Cataract Analysis

11. Cataract Summary

12. Digital Analysis

13. Digital Summary

14. Inbound Campaign Summary

15. Inbound Campaign Summary Table

**Graphs in Validation**

1. Business Summary Tab4

2. Business Summary Tab2

3. Business Summary Tab3

4. Business Summary Tab2 Agg

5. Business Summary Tab3 Agg

6. Business Summary Tab4 Agg

7. CO Compliance Daily

8. Cataract Business Summary Tab1 Acm

9. Doctor Wise Analysis RetinaSheet1

10. Business Summary Tab1

11. RCO RetinaSheet2

12. Cataract Business Summary Tab2

13. Cataract Business Summary Tab4

14. Cataract Business Summary Tab3

15. Injections RetinaSheet4

16. CentreWise Revenue RetinaSheet5

17. Pre OP OCT RetinaSheet3

18. Prime Tracker

19. ABH OPD OPD Tracker2

20. Retina Procedures Sheet1

**Graphs in Raw Data**

1. Lead OPD

**Graphs in SCM Reports**

2. Location Vs Quantity

3. Imported VS Indian

4. IOL Wise Consumption

5. Company VS Consumption

6. Medicines Item Wise Consumption

7. Consumables Item Wise Consumption

8. IOL Consumables Depot Wise Consumption

9. Medicine Pinnacle Wise Consumption

10. Expired Products Count

11. Medicine Dispatch Vs Sale

12. Item Wise Stock

13. Dispatch Plan

14. Dry Eye Kit Item Wise Sale

15. Intransit Details

16. Deepika Ideal Inventory

17. Center Acceptance Report

18. Indent Vs Issue

19. OT OPD Tracker

20. Patient Order Tracking

21. SV Stock Consumption Report

22. Frame Consumption Report

23. Frame Dispatch Report

24. Vendor TAT

25. Vendor Tat Monthly

26. Center Acceptance Report Count Wise

27. Center Wise Consumption

28. Expired Medicines Raw Data

29. Indent Vs Issue Item Description Wise

30. Vendor TAT Class Wise

The above list is all the different ways of leveraging the Data sourced from different categories and systems to bring insights for the study.

## Supplementary

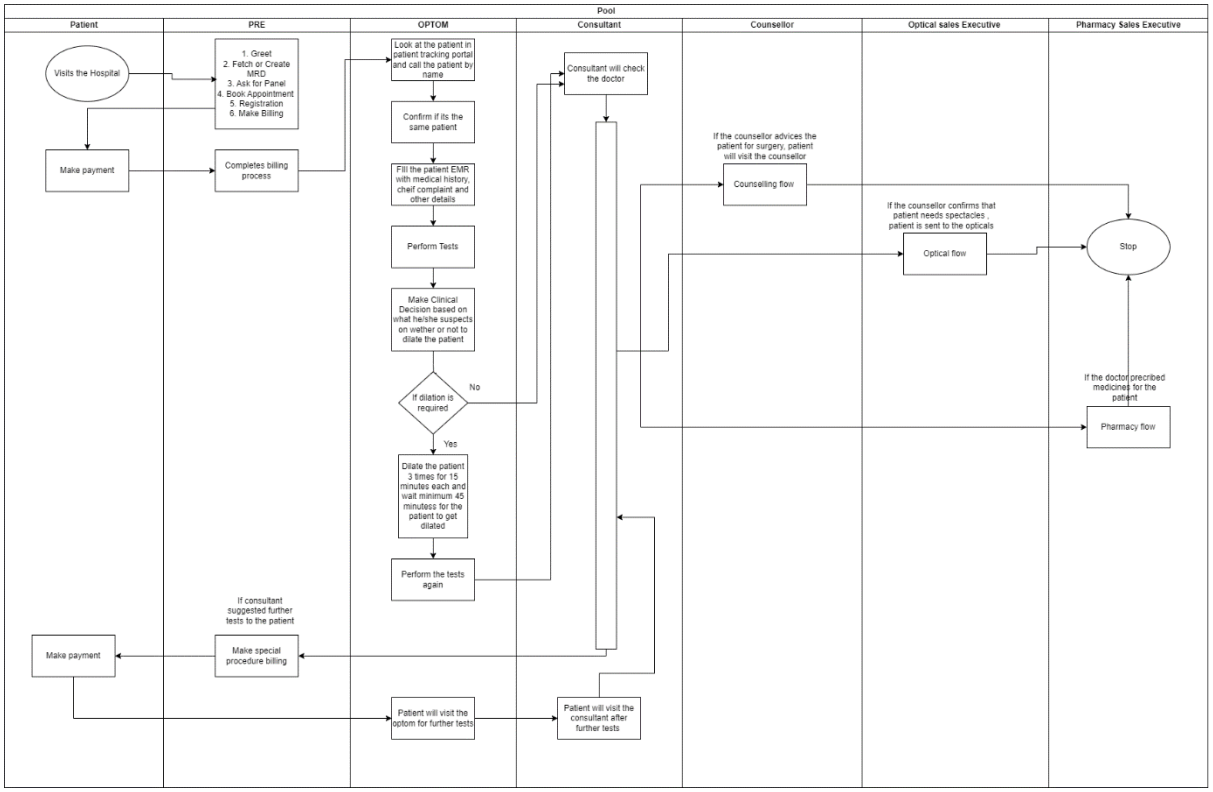



Figure 3 : This figure elucidates the OPD flow of the hospital.

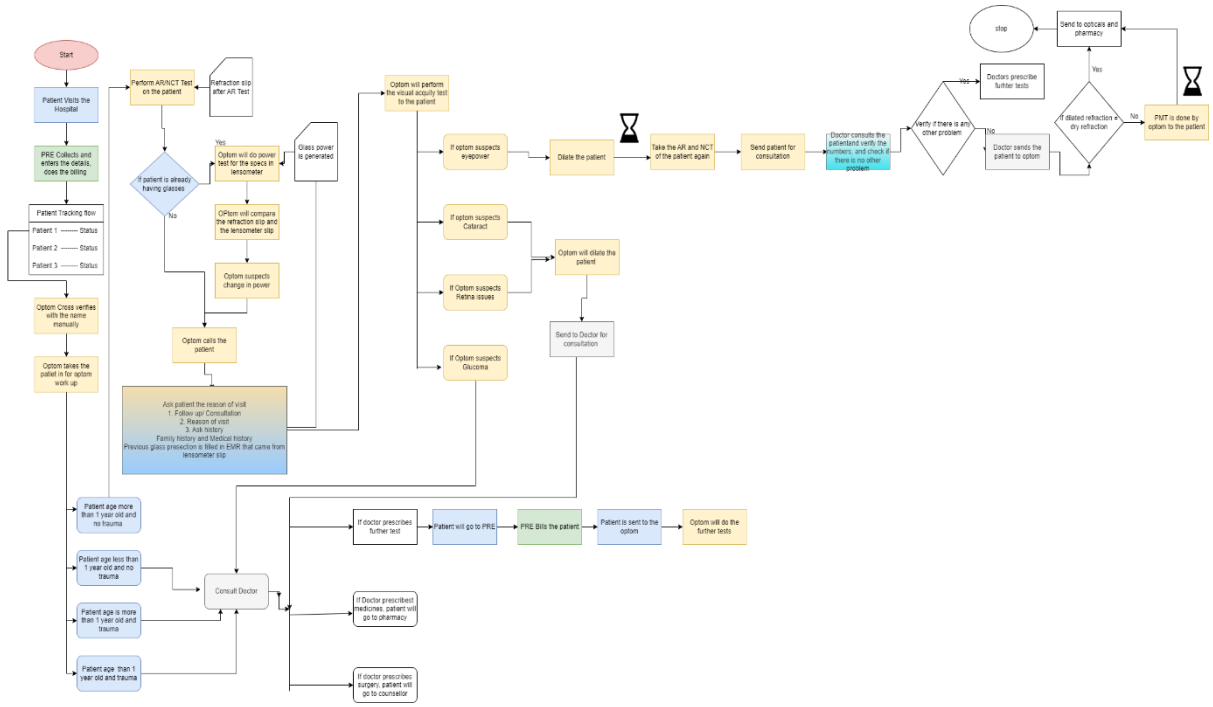



Figure 4 : The above flow elucidates the flow at Optometrist department.

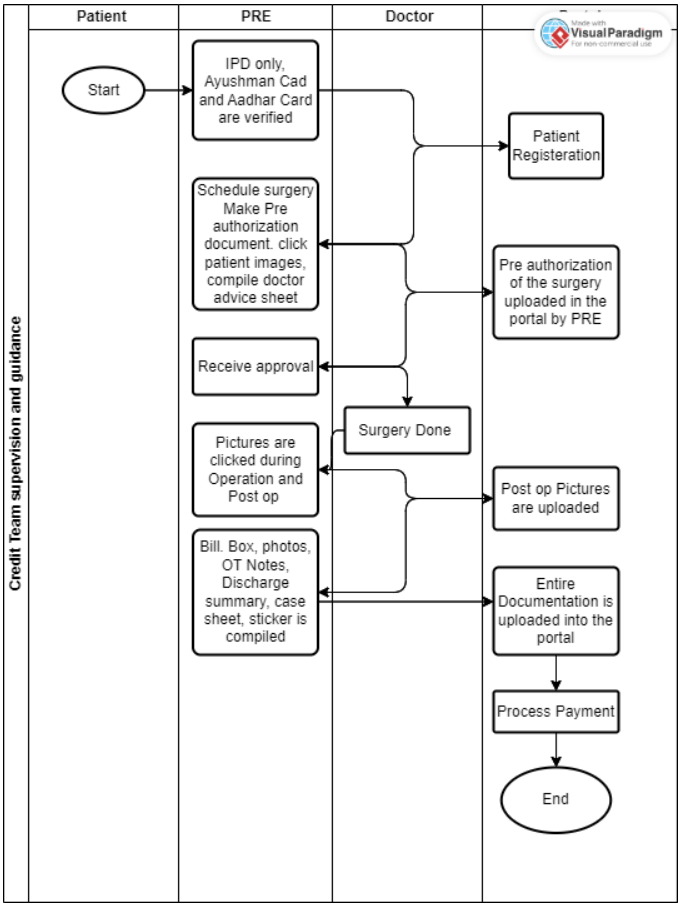



Figure 5 : The above image elucidates the flow of credit team dealing with Ayushman patients

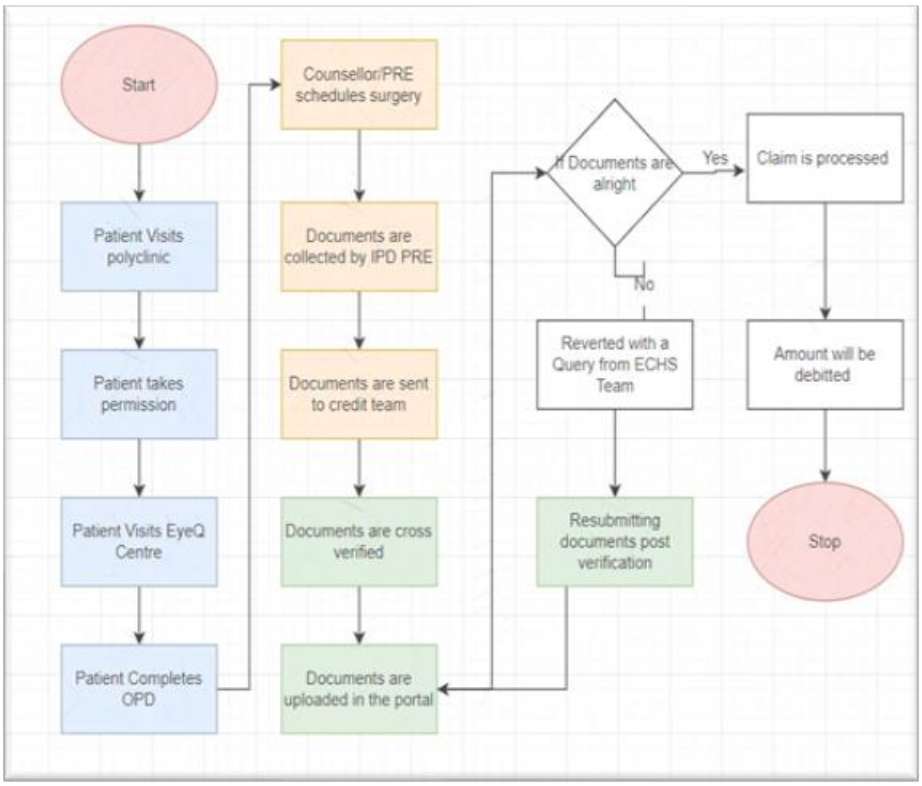



Figure 6 : The above image depicts flow of ECHS and CGHS patients

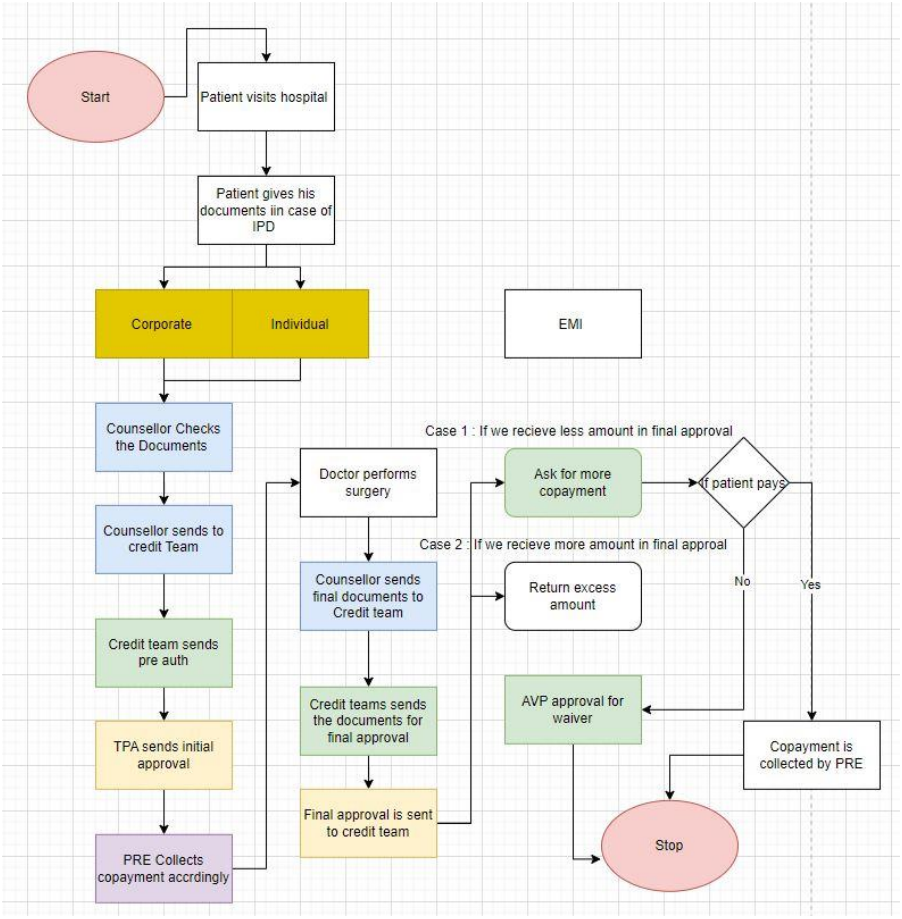



Figure 7 : The above picture depicts the flow of TPA process.

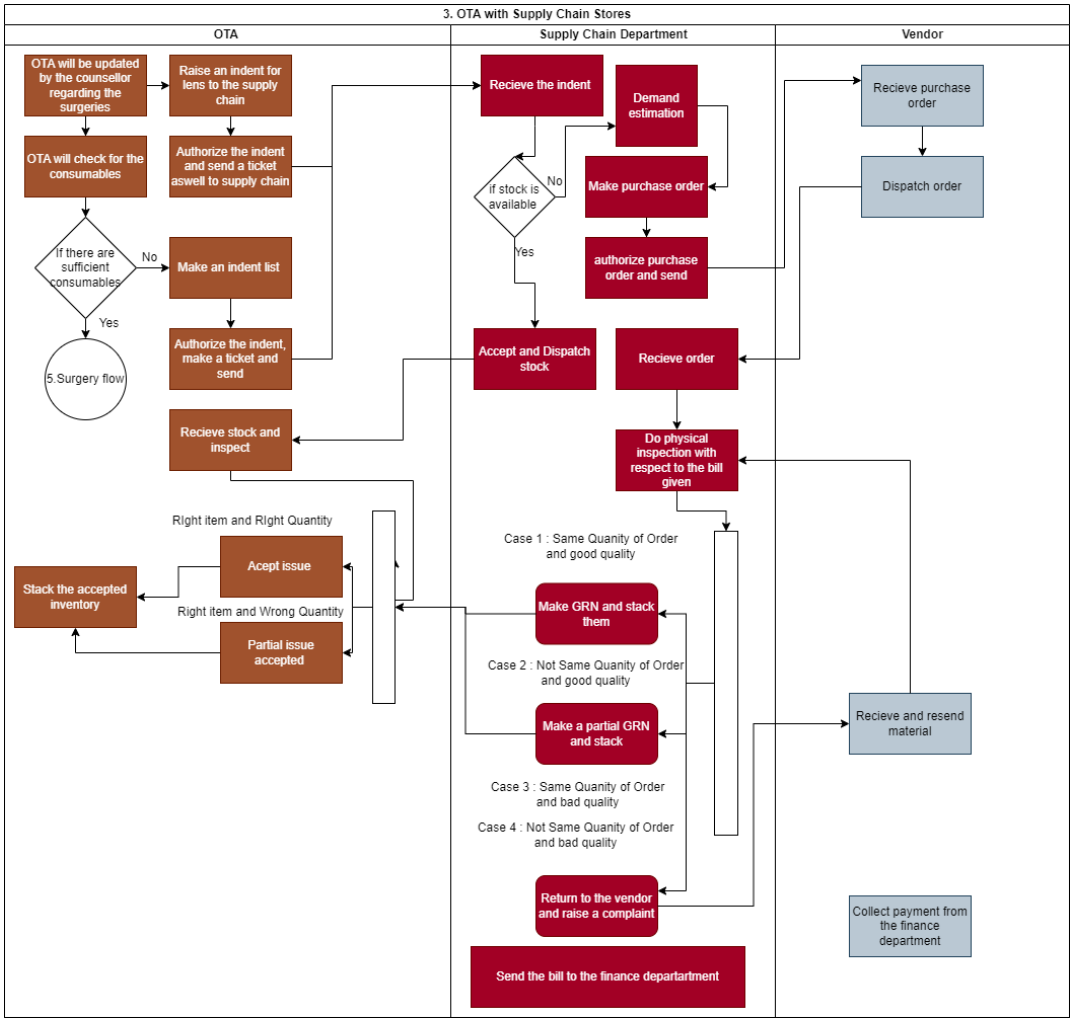



Figure 8 : The flow of OTA and Supply Chain

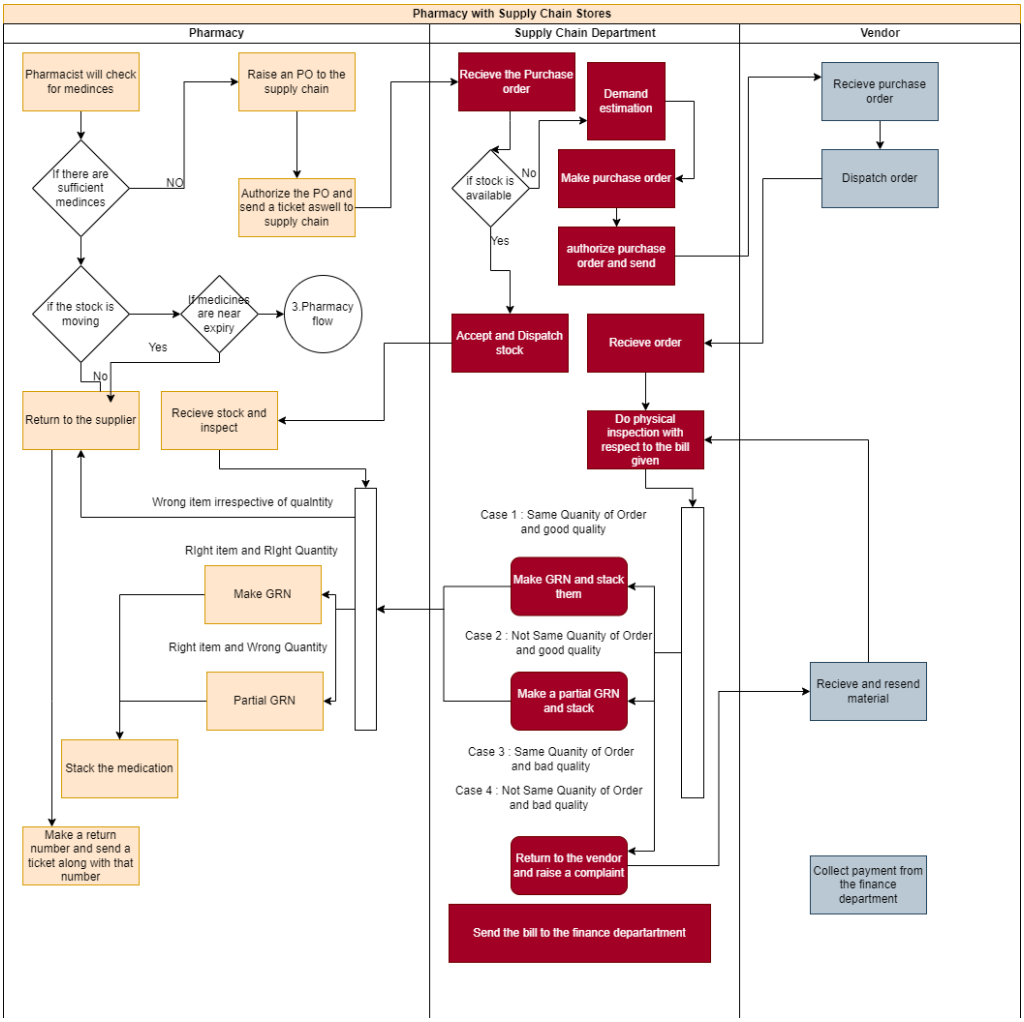



Figure 9 : The above image depicts the flow of pharmacy and supply chain

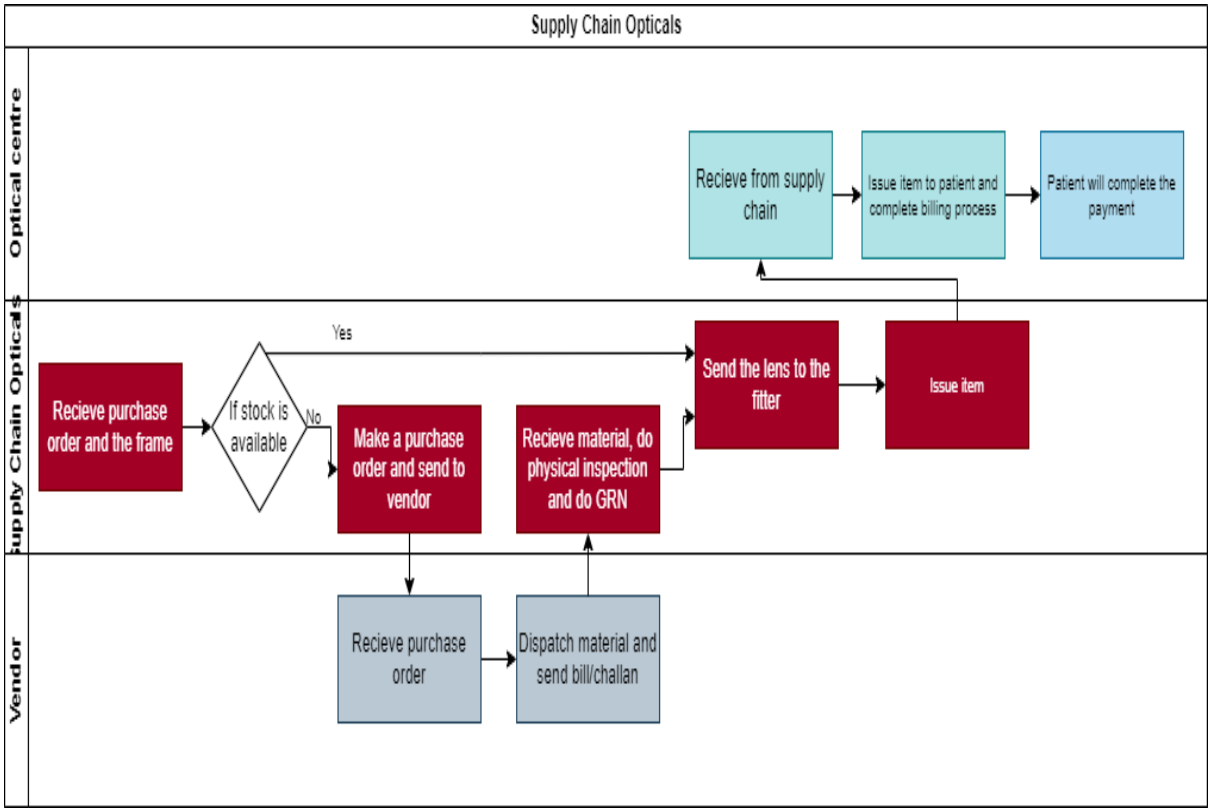



Figure 10 : The above image depicts the flow of the supply chain of opticals.

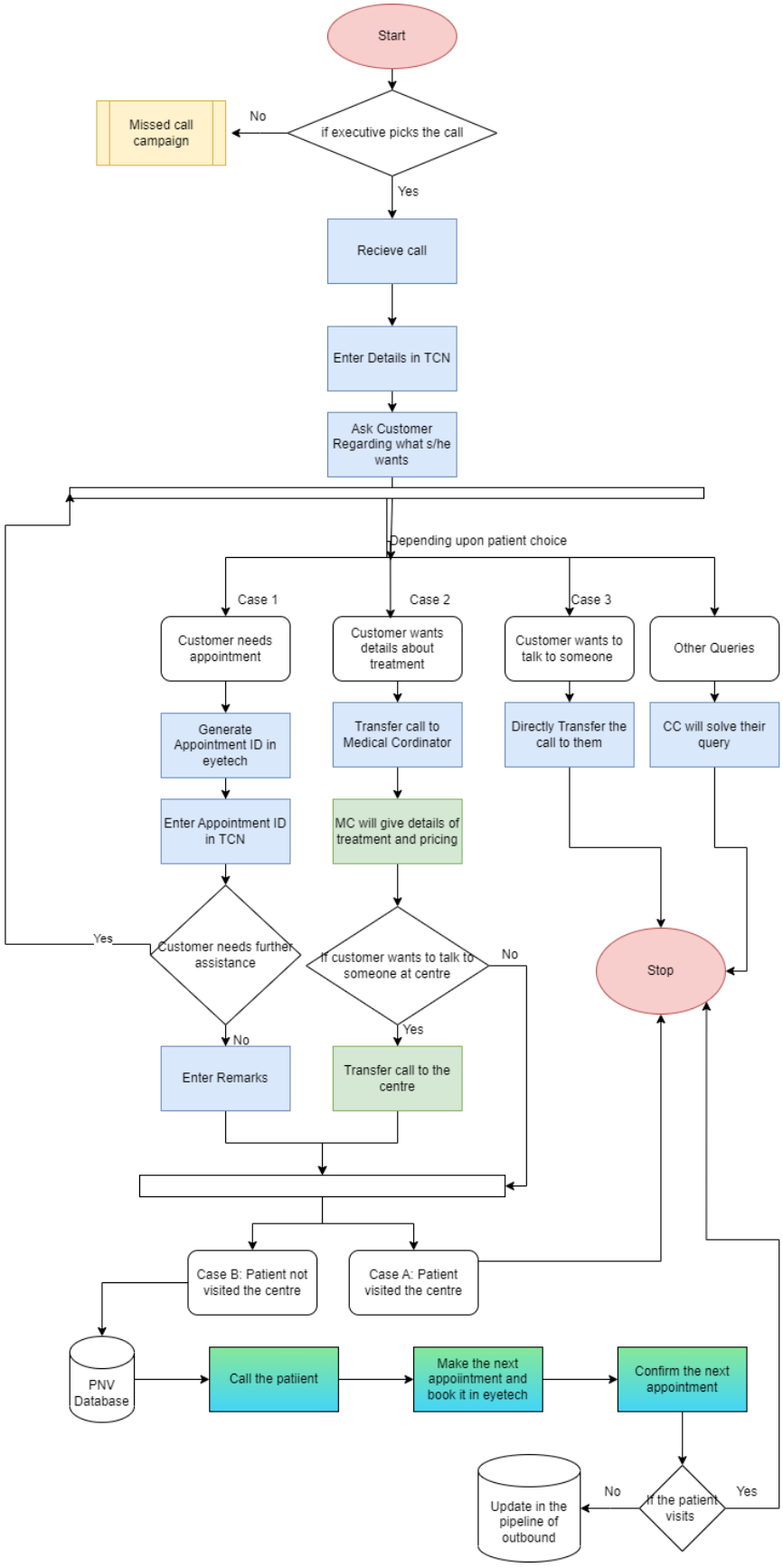



Figure 11 : The above figure explains the flow of inbound flow

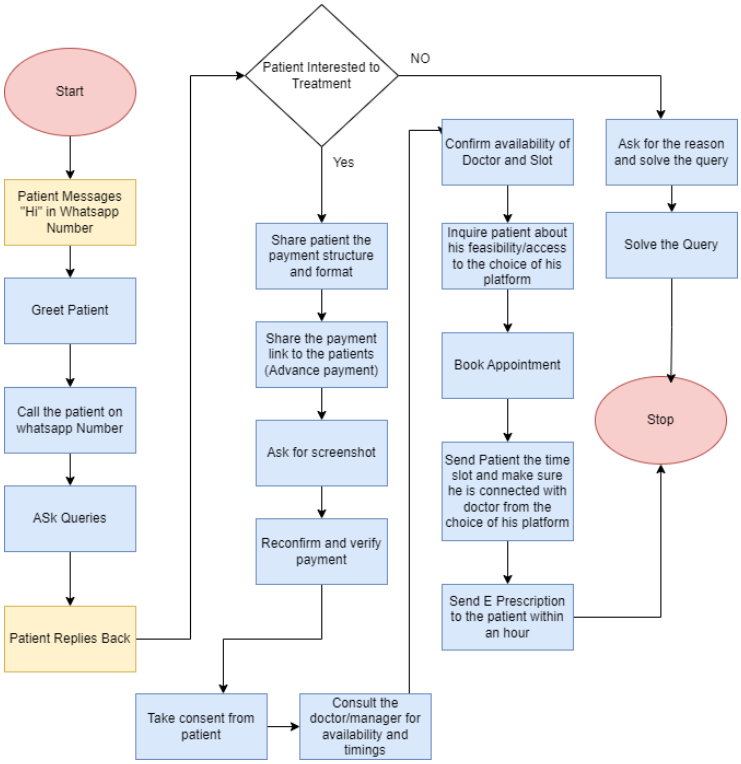



Figure 12 : The above figure speaks about the teleconsultation process

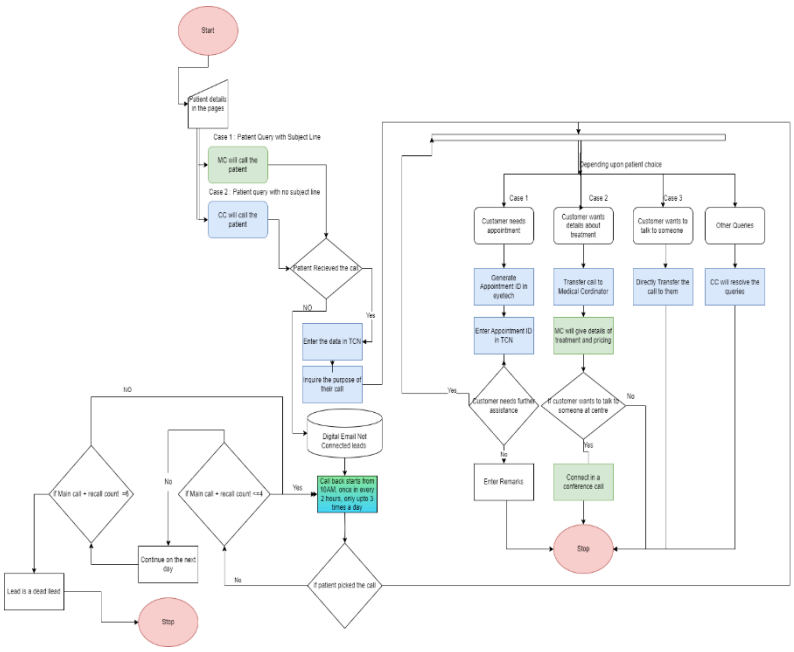



Figure 13 : The above figure speaks about the manual flow of the hospital.

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