



## **Project Report**

Phase- II

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<b>Purpose of Report</b>	<p>To show my work done on my projects:</p> <p>1) <b>RPA software selection for integrating medical reports with company portal:</b> To understand the actual requirement of Nephroplus, find &amp; contact the companies providing similar solutions, make these companies aware regarding the requirements, to analyse solutions offered by these company and then to suggest the most appropriate solution to Nephroplus.</p> <p>2) <b>Enpidia affiliation:</b> Get affiliation for enpidia (Nephroplus' training institute for dialysis technicians and nurses)</p>
<b>Prepared for</b>	Institute of Management, Nirma University
<b>Faculty Mentor</b>	Prof. Sandip Trada

### **Declaration**

I hereby declare that the project “RPA software selection for integrating medical reports with company portal” & “Enpidia affiliation” at Nephroplus is an original work done by me under the guidance of Mr Kamal Shah (Co-founder, Nephroplus) and Mr Sumeet Gupte (Business head- Western India, Nephroplus). This phase – II report is being submitted to Institute of Management, Nirma University, Ahmedabad in partial fulfilment of academic requirement for the award of degree of Master of Business Administration (MBA). I also declare that this project has neither been submitted to any other universities nor done by any other student earlier for the award of degree, diploma, associate ship or any other similar title.

DATE: 5<sup>th</sup> July, 2020

PLACE: SURAT

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## **ACKNOWLEDGMENT**

A successful project work can never be concluded with the efforts of a single individual. It requires the assistance and guardianship of some experienced individual who helps the undersigned effectively in the culmination of fruitful task.

I acknowledge my deep sense of gratitude to **Mr Vikram Vuppala (Founder and CEO, Nephroplus), Mr Kamal Shah (Co- founder, Nephroplus) & Mrs. Dipali Pallai (HR, Nephroplus)** for providing me the opportunity to work for their reputed company and for the valuable guidance as well as constant co-operation at every step of the project. This project was indeed the outcome of their clear vision and helpful attitude. Without their helping hand, fruitful completion of this project would not have been possible.

I would like to thank my mentor, **Mr Sumeet Gupte (Business head- Western India, Nephroplus)** and the entire staff of Nephroplus Healthcare Pvt Ltd who were always available to answer all my queries and helped me understand the functioning of the company. Their significant suggestions and collaboration helped me gain valuable knowledge from the internship.

Lastly, I would like to express my sincere regards to my Faculty mentor, **Prof. Sandeep Trada** for providing me with all the necessary guidance throughout the course of internship. Sir was always reachable to help me in the smallest of confusion or clarity required for the internship.

## **EXECUTIVE SUMMARY**

**Nephroplus Health Services Pvt Ltd** is India's largest dialysis centre network with more than 200 centers across 120 cities in 21 states. Through partnering with highly regarded nephrologists and tertiary care centers across the country, Nephroplus has become the **market leader** in the field of dialysis. Nephroplus aims to continue to dominate in India and looking to expand in 4 additional countries over the next 4 years.

They are dedicated to serve their patients like **guests** as they use to call them. They believe in the values mentioned below:

- Guest care comes first
- Cross infections should always be prevented
- Team is above the individual at all times

They even run their own internationally – accredited training academy for dialysis technicians that produces the best talent in the market. They have grown rapidly over the years and aim to continue this growth going forward. For this, they need to adopt various means of technology and automation in their operations.

One of the area of improvement is adopting automation in data entry in their BO portal. Till now, they have been using manual entry of data because of which the process has been error prone. To resolve this issue, they need to adopt Robotic Process Automation (RPA) which can aid in extracting the required data from the medical reports of their patients and can integrate the result with the BO portal.

To enable this technology, I was assigned the project of finding the appropriate company with the required software to serve Nephroplus' purpose. I need to contact different companies, make them realise our actual requirement, understand the way in which they can assist us and then finally compare and select the most appropriate solution accordingly.

My second project was to get accreditation for the enipidia- training academy for dialysis technicians and nurses. For this, I was required to search for all the applicable accreditation councils to get their affiliation. After that, we need to figure out what are the different criteria to get their accreditation and to fulfil them accordingly.



## **Part- A**

### **Section-1:**

#### **1.1. Company details:**

Nephroplus, with around 200 centres across 117 cities in 21 states, carrying out close to 1.5 lakhs dialysis sessions per month, is the India's largest dialysis centre network. It was founded in 2010 and within a decade, Nephroplus was successful in achieving the position of a market leader and status of only profitable quality dialysis network in India. It has its headquarter in Hyderabad city of Telangana. With more than 3200 employees, revenue CAGR of 80% over the past four years and revenue of USD 40 M, Nephroplus is growing rapidly.

Inculcating the values like guest care comes first, cross infections should always be prevented and team is above the individual at all times, Nephroplus has been able to win loyal customers over the years. Even the dialysis centres are designed in such a way that it does not feel like the patients are coming at hospital. They make use of bright and light colours which can have an uplifting effect on patient's mood.

In the journey of providing quality dialysis at affordable price by using standardized protocols, continuous training, and focussed innovation, Nephroplus has won many international awards like 'Best Medical Services Outsourcer, Healthcare Business International Awards London, 2017', 'HBI 2018 Business Model Innovation Awards, Finalist: Best Medical Service Outsourcer' and 'HBI 2018 Business Model Innovation Awards, Finalist: Best use of HR'.

Nephroplus is backed by investors like IFC, Bessemer Venture Partners and SeaLink Capital. It partners with highly regarded nephrologists and tertiary care centres across the country to deliver state of the art quality services. With the vision of enabling people on dialysis across the world to lead long, happy and productive lives, Nephroplus is keen on dominating India as well as looking at expanding in many additional countries in the coming years.



## **1.2 Products and services:**

At Nephroplus, guest (patients) care always comes first. It is more about the number of smiles the company put on their guests' faces than about the number of dialysis sessions they have done or the number of injections sold. The wide range of dialysis services that company provides are mentioned below:

### **1. In- center Hemodialysis:**

Every center of Nephroplus has best quality machines from world leaders in hemodialysis. The company only uses brand new machines. Their Reverse Osmosis plants are also made from the best manufacturers. Even their dialysis consumables are also of the highest standards. All this is to ensure that dialysis sessions of the guests are entirely trouble-free and of the highest comfort as possible.



**Fig. Hyderabad dialysis center, Nephroplus**

### **2. Home Hemodialysis:**

Hemodialysis can be done at home too! Following are the advantages of doing hemodialysis at home:

1. Dialysis at own convenience.
2. No need to adhere to center schedules and timings.
3. Become independent.
4. Enables better dialysis.

Following equipment are provide by Nephroplus to set up guest's hemodialysis at their home:

1. Hemodialysis machine.
2. Reverse Osmosis based water treatment plant.
3. Other electrical wiring and plumbing.

Additional benefit of dialyzing at home is that one can dialyze more frequently with ease. Research has shown that if hemodialysis is done more frequently, over longer durations and more gently (at low pump speeds and ultrafiltration rates) is much better for the body overall in terms of both short term and long term outcomes.

It is not comfortable to go to hospital or center every day of the week for long hours. It is much easier when done at home. So, this kind of 'optimal dialysis' is very easy if people dialyze at home.

### **3. Peritoneal Dialysis:**

Peritoneal Dialysis is a great treatment for those who want to get treated at home and can take good care of themselves.

Nephroplus has tied up with the market leaders in Peritoneal Dialysis to offer state of art, end-to-end Peritoneal Dialysis Services to its patients. The company realize that there is no one-size-fits-all approach to Peritoneal Dialysis and will customize the best possible treatment on individual basis.

Peritoneal Dialysis exchanges are usually done by patients themselves. Training a patient becomes important in this situation. Nephroplus has trained, certified clinical coordinators who teach patients how to do their exchanges and exit site dressings and to use aseptic techniques and proper hand-washing method to ensure that they get long years of services from their peritoneal cavities.

### **4. Holiday Dialysis:**

This is for the patients who want to go for a holiday in different states like a normal human being. Nephroplus takes care of everything right from the dialysis in the holiday destination, cabs to hotels to appointments in their local dialysis centers. Holiday centers which are currently operational are located below:



**Fig. Holiday locations where Holiday dialysis is available**

### **1.3 Customers:**

Nephroplus' biggest advantage is their loyal customer base. The patients are treated as guests at Nephroplus. They are made to believe that they can lead a long, healthy and productive life just as a normal person. With more than 200 centres, they provide their customers with the flexibility of visiting any centres when they are travelling. They just need to inform the centre on a prior basis. Customer profiling generally depends on the location of the centres. Customers choose to go to their closest centre, so if Nephroplus have a centre in their city only then they can visit it, since dialysis is needed three times a week. The patients come to the dialysis centre to get their dialysis done.

If we talk about the market penetration, there is a huge scope for Nephroplus to increase their customer base. In India, many of the kidney patients are not able to get their dialysis done because they are not able to afford it. Only 15% of India gets dialysis who needs it. So, with affordable pricing, we can only expect their customers to increase in future.

## **1.4 Market and competition:**

Top competitors of Nephroplus are Apex Kidney Care, DCDC Kidney Care, Dharma Kidney Care, Alexis Hospital, Nagpur, Sparsh Nephrocare, Primus Hospital, Apollo specialty hospital, Johal Multi Speciality Hospital and CCC.

### **Details of top competitors:**

**Apex Kidney Care:** Alex Kidney Care has more than 80 centres in 9 states. It was founded in 2008 with its headquarter in Mumbai, Maharashtra. It has around 240 employees. With the revenue of \$4.9 M, it is the biggest competition for Nephroplus. However, Nephroplus is way ahead of it in every aspect of the competition.

**DCDC Kidney Care:** DCDC Kidney care has around 108 centres and more than 750 machines. It has more than 6000 patients and has done more than 5, 00,000 dialysis till now. It was established on 2009. DCDC Kidney Care has its headquarter in Mayapuri, New Delhi. It has generated revenue of around \$4.7 M.

**Dharma Kidney Care:** Dharma Kidney Care was founded in 2015 in Bangalore city of Karnataka state. It is one of the advanced dialysis care units. It uses ultrapure water and advanced technology for dialysis which is generally found in well developed countries only. With 30 employees and revenue of less than \$1 M, it is not a direct competitor to Nephroplus. However, it can give them good competition in Bangalore.

**Other competitors** gives competitions to Nephroplus in particular regions only. They don't have big chains of hospital around India but only one or two hospitals in different cities. It is difficult for them to match the level of Nephroplus, however they can give tough fight in their capacity.

## 1.5 Financial performance:

Nephroplus is an unlisted private company. It has an authorised capital of INR 2300 Lacks and paid up capital of INR 2192.499 Lacks. It is a non- government company which is limited by shares. For the financial year ending in 2018, the EBITDA of the company has decreased by 2.9 % over the last year. Also, its book net worth gets decreased by 24.4 % over the previous year. Other information is mentioned below:

EBITDA	▼ -2.90 %
Networth	▼ -24.41 %
Debt/Equity Ratio	0.05
Return on Equity	-60.29 %
Total Assets	▼ -20.75 %
Fixed Assets	▲ 6.76 %
Current Assets	▼ -48.66 %
Current Liabilities	▼ -4.05 %
Trade Receivables	▲ 50.52 %
Trade Payables	▲ 13.74 %
Current Ratio	1.65

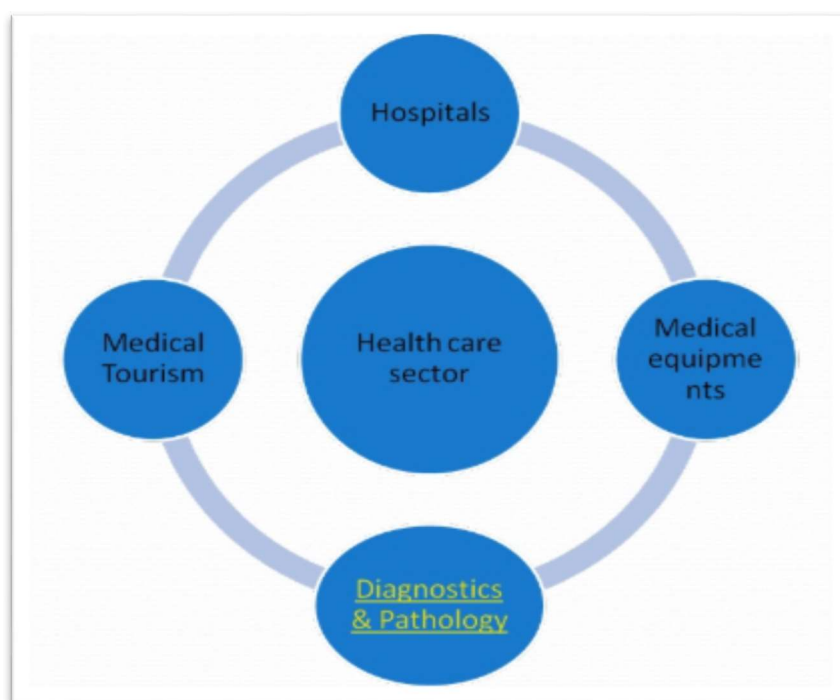
Source: tofler, Nephroplus healthcare services private limited company

## Section-2:

### 2.1 Industry classification:

Nephroplus comes under Healthcare industry. Healthcare industries under the economic system provides goods and services for all the patients whether they need curative, preventive, rehabilitative or palliative care. It is one of the worlds' largest and the fastest developing industries. It is the biggest part of any country's GDP. It almost covers 10 % of most of the country's GDP.

Healthcare industry classification:



Source: slide share

### 2.2 Industry structure:

In India, Healthcare industry includes hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment.

Nature of competition in healthcare industry is between various parameters like between cost and quality of goods and services provided by different healthcare companies. The competition over time has increased the value for customers. Customers are getting more affordable goods and services with better quality and satisfaction. Also, improvement and advancement in the technology is helping to reduce cost even further and in making the users more satisfied. Competition and the volatile external environment depends on the healthcare organization's

vision and mission and its internal environment i.e. quality and cost of the goods and services, and their impact on the level of customer satisfaction.

Regarding economic policy, Reinhardt in 1996 mentioned that competition could not enhance efficiency in the healthcare industry because public and private insurance companies were paying for most of the healthcare bills. So, participants of the healthcare are more into dividing value instead of creating it, said by Porter and Teisberg in 2004.

### **2.3 External environment sectors:**

As per the December 2007 index declared by Rajya Sabha, the per capita income in India is Rs 20734 per annum. The total population is 113 crore of which 26% live below the poverty line (BPL) where the daily earning is Rs 10, in comparison, the international standard BPL is US \$1 per day i.e. Rs 45 per day. By this parameter, in India, 70% of the population would be BPL. The government spends barely US \$8 per capita on health with priorities more on infectious disease, sanitation, nutrition etc.

## Section-3

### 3.1 Company's growth story:

Nephroplus' growth story is described in the figure below:

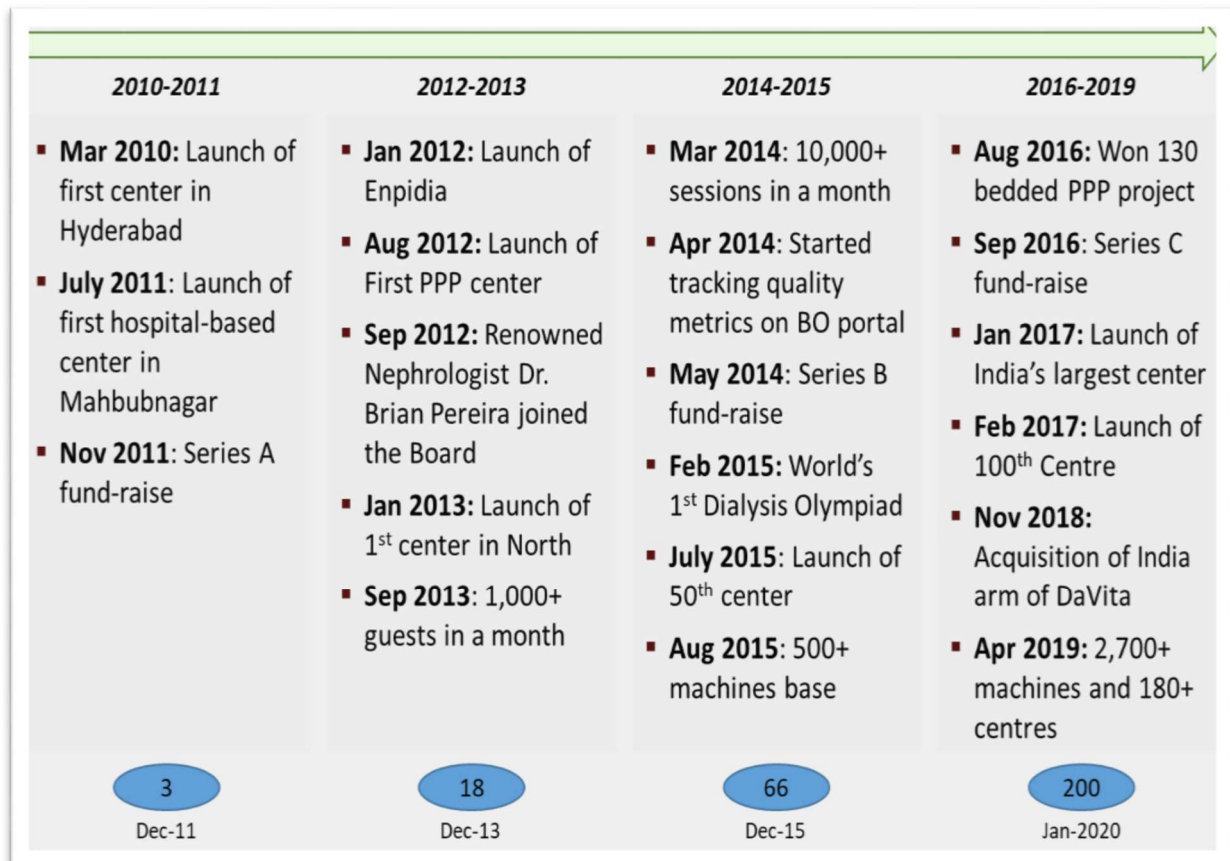


Fig. Growth trajectory of Nephroplus

### 3.2 Performance of the company w.r.t competitors:

Following qualities gives Nephroplus an edge over its competitor:

#### Quality

1. Stringent quality defined by top certified nephrologists.
2. 56 step dialysis process to eliminate cross infections.
3. In forefront of dialysis clinical research globally. Publishes largest dataset involving dialysis patients.
4. Only dialysis provider to introduce Zero Infection Kit to avoid cross infection.



**Patient Centricity (Core Value)**

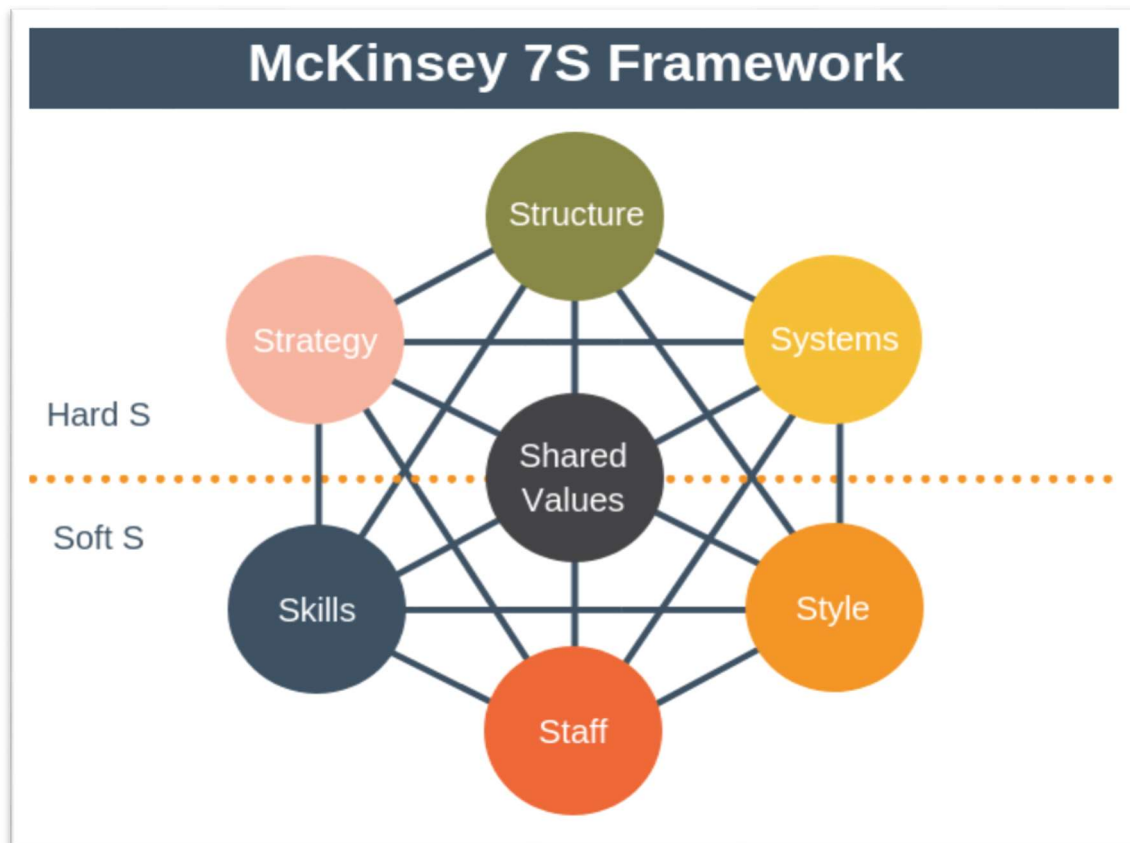
1. Introduced Buttonhole needle which reduces cannulation pain by 98% and also reduces the risk of aneurysm drastically
2. Mr Kamal Shah (co- founder) himself writes blog to provide various information for patients.
3. Conducts patient centric events from time to time to motivate patients.
4. Introduced innovative concept of Holiday Dialysis for the guests.

**Operational Excellence**

1. Extensive SOPs and periodic audits are performed to ensure compliance.
2. Recruiting qualified staff, skill enhancing of existing staff.
3. In house team of Bio-Medical Engineers and Quality Monitors.
4. Using latest technology like TDMS system, centralised monitoring of dialysis and machine parameters.
5. Running training academy, Enpidia to get skilled technicians.

## Section-4

### 4.1 Company's strategic framework (7-s)



1. **Strategy:** The core strategy that Nephroplus has adopted is of continuous expansion. Nephroplus started its operations in 2010 and today in 2020 it has over 200+ centres in 120+ cities in India. Not only this, the company is expanding its operations in outside countries also. Currently it has Dialysis centres in Nepal and Thailand and is eying Philippines in the coming future for expansion. The business development team is continuously working on different verticals of the company to expand the business in quick successions.

2. **Structure:** Nephroplus is a well-structured company. With the Co- founder himself on dialysis, the company never fails to realize the pain and problems that their patients (guests as they call) have to go through. In the hierarchy, as an employee, there are provisions that you can share anything straight to the CEOs and VPs.

3. **Shared Value:** These are the core values of the company:

- Guest care comes first.
- We deeply respect our Partners.
- Teammate is equally important

From the mission and values of the organization, we can infer that the organization is adhered to its mission and commitment. Their mission is to provide quality dialysis at affordable prices by using standardized protocols, continuous training and focused innovation.

4. **Style:** Nephroplus has always focussed on providing the best quality service to their guests. They follow stringent quality defined by top nephrologists, 56 step dialysis process to eliminate cross infection and is the only dialysis provider to introduce Zero Infection Kit to avoid cross infection. Nephroplus is in the forefront of dialysis clinical research globally and publishes largest dataset involving dialysis patients.

5. **Staff:** Nephroplus is not a huge organization. It has less than 1000 employees but they are the main pillar for the organization. Their staff members know their value and are oriented towards the company's vision and mission. Now they are working on making staffs capable enough to handle the system on a larger scale.

6. **Skills:** The real skills are their employees who are working in the company. Nephroplus have skilled Nephrologists, technicians and nurses who takes care of their guests. Then, there are managers and above them are managers who look after management and supply chain side of the business.

7. **Systems:** The formal and informal procedures which support the other strategies and structure of the companies are called systems. Nephroplus is using many systems like BO portal to store data of their patients as well as their test results for future use.

## Section-5

### 5.1 Competitive position in industry: (Porter's five force model)



**Threat of new entrants:** To enter into healthcare industry and particularly to set-up any dialysis centre, firms require high capital requirements for the machines and equipment in particular. So, entry barriers are very high. Brand loyalty also plays another important role in this. With Nephroplus quality service and wide network across different states attract patients and helps in creating strong customer base. Then, with years of experience in the field of dialysis and constant innovations, helps Nephroplus to have an upper hand than new entrants. Also, as the switching costs are very high, any new entrant would not try to take any chance as the loss could amount to a huge sum.

**Bargaining power of buyers:** Bargaining power of customers has increased over the years with the rise in competition and technology advancements in the medical sector. However, Nephroplus, being the market leader, has been able to deliver quality services at affordable prices. Price sensitivity and buyer's ability to easily substitute to other dialysis centres increases the bargaining power of buyers but partnerships with top hospitals keeps Nephroplus in a strong position.

**Bargaining power of suppliers:** Number & size of the suppliers, uniqueness of each supplier's product and company's ability to substitute affects the power of the suppliers. While all the above mentioned factors can help suppliers to gain a strong place, with the size of requirement of Nephroplus they have an advantage over their suppliers.

**Threat of substitutes:** The number of substitute products or services available in the industry is very limited. Dialysis is an irreplaceable need for the kidney patients. The dearth in availability of kidney and even the adoptability of the kidney by the patient leads to the dialysis

being the only option for the kidney patients. Even the cost of kidney transplant and lack of surety of kidney working properly makes dialysis the best option.

**Degree of rivalry:** Number of competitors, diversity of competitors, quality differences, brand loyalty, barriers to exit and switching costs are some of the most important factors which affect the degree of rivalry among the competitors. While there are many competitors in the market but at the same time there is a huge scope of opportunities for everyone. Market is still not saturated. A lot of patients are still not getting dialysis for themselves. Nephroplus at the same time has expanded into many cities and is even looking into foreign markets to have a strong position.

## Section-6

### **6.1 Problem areas that company might foresee in coming years and approaches to address it.**

1. One external problem which will affect the company is definitely going to be COVID- 19. With the number of cases increasing right now, many dialysis centres are converted to COVID hospitals. This severely affects the patients of the Nephroplus. They need dialysis at least thrice a week. If they don't have centres available near their home, it is very difficult for them to travel to different cities for dialysis in these challenging situation. Many of the patients have even lost their lives because of this. So, in the coming years they need to look after their patients in a better way.

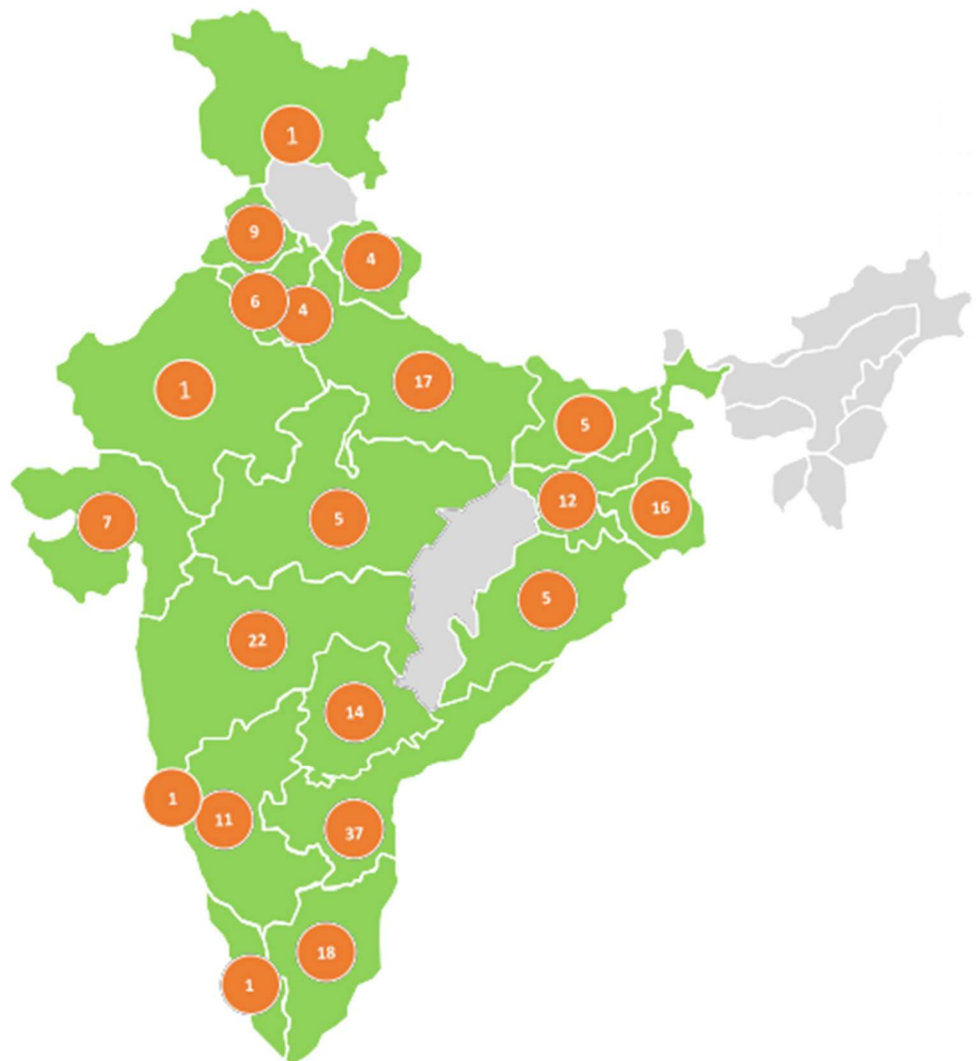
To facilitate dialysis, Nephroplus should look towards mobile dialysis so that the patients need not to travel and can have dialysis at the comfort of their home. This can make a huge difference in terms of the brand value and get even aid in building loyal customer base.

2. Secondly, Nephroplus is looking at venturing into other countries in the span of 3-4 years. So, establishing your market in the foreign might be a challenge for Nephroplus. Factors which we need to take into consideration are factors like culture differences, legal and regulatory frameworks, government consideration of foreign country and looking into the foreign business environment. To analyse all these factors and then to choose the appropriate country for expansion requires a lot of effort.

To make the task simpler and easier to implement, Nephroplus should look for countries with similar demographic conditions as well as the rules & regulations of the foreign government as that of India. Firstly, they should avoid venturing into other countries for some time as the spread of corona virus is hampering their operations in India. So, they should wait for the situation to get better and then look for further developments.

3. One internal issue that Nephroplus might face in the coming years is of the patient handling capacity at various dialysis centres. If we look at the spread of dialysis centres of Nephroplus across India, we observe that in many states there are less centres. For example, in a big state like Rajasthan, there is only one dialysis centre. So, with in coming years they may need to increase their capacity to meet the demand. Also, we know that only 15% of the population who needs dialysis are actually able to receive it, there is huge scope of increase in demand for dialysis in the coming years.

So, Nephroplus need to consider all the above mentioned facts and should look into increasing the capacity of their plant and at the same time should even think of setting new centres according to the demand at particular regions. The number of dialysis centres of Nephroplus in different states are shown below:



*NephroPlus Footprint in India*

## **Part- B**

### **Section 1: Project- I**

#### **1. Introduction:**

##### **1.1 Nature of Problem**

Nephroplus with around 200 centres across 117 cities in 21 states is India's largest dialysis centre network. They have grown rapidly over the years and want to continue this growth going forward. They are the market leader in the field of dialysis. They are years ahead of their competitors and to remain at the top, they believe in continuous improvement. With this belief, they are aiming at quality improvements by minimizing errors at every stage of their operations.<sup>i</sup>

One of the area of improvement could be in **entry of data in their BO portal**. Till now, they have been using manual entry of data because of which the process has been error prone. To avoid this errors, they need to **adopt automation** such that the data that need to be entered in the portal can be directly extracted from their medical reports and then can be directly integrated into the portal.

To facilitate above mentioned development, it was assigned to me as a project in this internship. It was mentioned that there is a technology with the help of which we would be able to achieve the required result. So, my project is a **problem solving kind of project (Type-II)**.

##### **1.2 Objective of the study:**

To understand the actual requirement of Nephroplus, find & contact the companies providing similar solutions, make these companies aware regarding the requirements, to analyse solutions offered by these company and then to suggest the most appropriate solution to Nephroplus.

##### **1.3 Expected benefits:**

After the successful completion of project i.e. from the suggested solution, the company will be able to get achieve following benefits:

- Appropriate solution at a reasonable price.
- Additional support from the company providing the solution.
- Capability to process the required number of pages.
- Ability to process different templates from the solution.
- Ability to integrate the extracted results into the BO portal.



## Section-2:

### 2. Methodology/ Approach adopted

#### 2.1 Information collection related to the problem:

Firstly, when I was assigned this project, I was told the objective of the project by Mr Kamal Shah (Co-founder). He mentioned that the main agenda of this project is to extract data (like guest name, all the investigating parameters and their values) from their medical report of the patients and to integrate this data with their in-house portal named Back Office (BO) portal. He also stated that there are three sources of these reports:

- 1) Medical reports from their own laboratories.
- 2) Medical reports from 3<sup>rd</sup> party laboratories.
- 3) Medical reports from outside.

Another important information which was provided was regarding the input format of the reports. He mentioned that it can be in both hard copy format as well as in the soft copy format (jpeg, pdf, etc.).

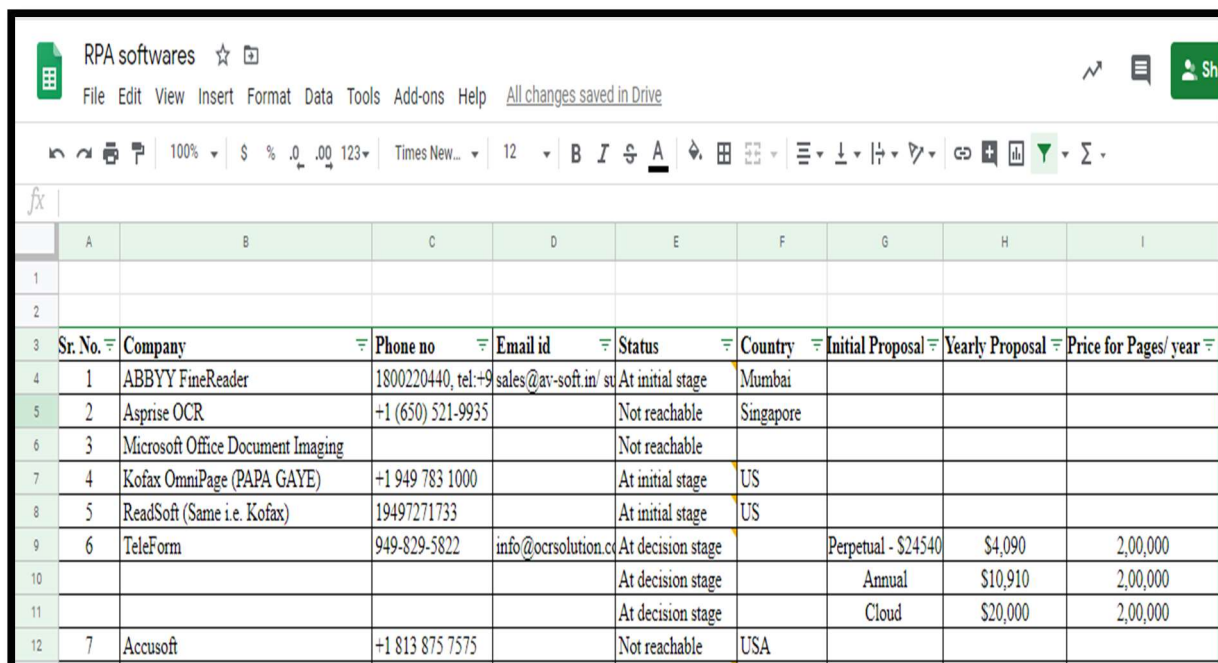
Till now, all the information is entered by the team in the BO portal manually, which is prone to errors. So, the agenda of the project was to automate the process which can reduce this human errors. So, I need to figure out the list of companies which can self-read the reports and extract data from it that can be integrated with the portal.

#### 2.2 Analysis of the information:

From all the information mentioned above, I got clarity regarding the objective of the project and what I need to do. However, it was still not clear what this technology is called which I need to figure out which can self-read the reports and extract data from it that can be integrated with the portal. So, first I searched for this technology and I came to know that extracting characters from a file is called **OCR (Optical Character Recognition)** which is a part of **RPA (Robotic Process Automation)**.

After getting information about the OCR technology, I try to search for the companies providing similar services. So, I made a **list of all those companies** mentioning the name of the company, contact details, where they are based out of and lastly the status of these companies with respect to the project. At the same time, before approaching any company I prepared a **questionnaire** to clearly understand the services provided by the company with respect to the requirements of the project. I got it reviewed from Mr Kamal Shah and he also added his side of questions in the questionnaire. After that, I approached all the companies and tried to cover all the questions from the questionnaire to verify if the company fits our requirement.

Snapshot of the spreadsheet mentioning all the companies' status and the questionnaire which was prepared is shown below in **Fig. 1**:



Sr. No.	Company	Phone no	Email id	Status	Country	Initial Proposal	Yearly Proposal	Price for Pages/ year
1	ABBYY FineReader	1800220440, tel:+9	sales@av-soft.in/ su	At initial stage	Mumbai			
2	Asprise OCR	+1 (650) 521-9935		Not reachable	Singapore			
3	Microsoft Office Document Imaging			Not reachable				
4	Kofax OmniPage (PAPA GAYE)	+1 949 783 1000		At initial stage	US			
5	ReadSoft (Same i.e. Kofax)	19497271733		At initial stage	US			
6	TeleForm	949-829-5822	info@ocrsolution.co	At decision stage		Perpetual - \$24540	\$4,090	2,00,000
				At decision stage		Annual	\$10,910	2,00,000
				At decision stage		Cloud	\$20,000	2,00,000
7	Accusoft	+1 813 875 7575		Not reachable	USA			

**Fig. 1 Spreadsheet mentioning all the companies' status**

### Questionnaire:

1. If the software fulfils our requirement.
2. If any additional system requirements to be fulfilled for operating the software.
3. What are the services provided after the installation?
4. If timely support provided in case any issue arises in the software.
5. What is the installation time?
6. If installation hampers the daily operation? If yes, for how much time?
7. What is the quotation for the system?
8. Can the software read documents of any template or does the template need to be configured and only configured templates can be read?
9. Can we see a demo of the system?
10. Can they integrate with our existing software portal?

## Section-3:

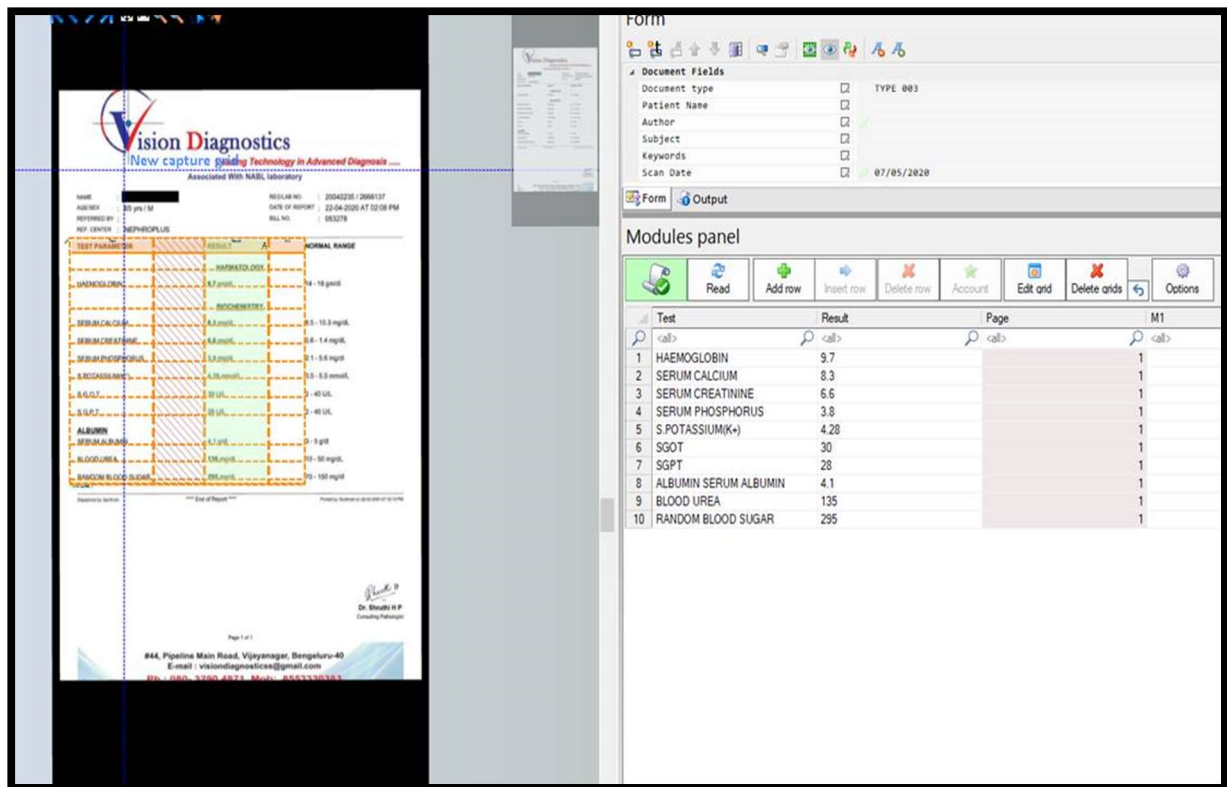
### 3. Exploration of Alternatives:

After compiling the list of all the companies, I started contacting them one by one. I tried contacting them on **call** first but many of the companies were from outside India so I was unable to reach them on call. So, I prepared a draft to make them understand our requirement on **mail** and sent it to them.

After that I set-up an **initial level meeting** with these companies to clearly state our requirements as well as to get an idea of how their software can aid us in the project. In this initial level meeting, I tried to cover all the questions of the questionnaire and even companies were asking a lot of questions regarding the system that we are using and how can they help us integrate the data into the BO portal.

From the initial level meeting, we got a fair idea of the company and they also showed confidence that they will be able to help us in our project. After that, we provided them with the **sample medical reports** to examine them and to send us the **processes reports** so that we get assured if the results obtained are in line with what we expect. Couple of sample reports and their processed results are shown below in **Fig. 2, Fig. 3, Fig.4 and Fig. 5**.

Many of the companies sent us the processed reports after extracting the required data and many of the companies even gave us the demonstration of the same. After getting assured by the service provided by the companies, I asked for the **pricing** of their services (both set-up as well as annual cost) to see if these companies fit into our **budget**. Although, we don't have any budget in particular but as the solution is not going to aid us directly and will only help us improve our efficiency, we want the pricing to be as low as possible.



**Form**

Document Fields

Document type ☐ TYPE 003

Patient Name ☐

Author ☐

Subject ☐

Keywords ☐

Scan Date ☐ 07/05/2020

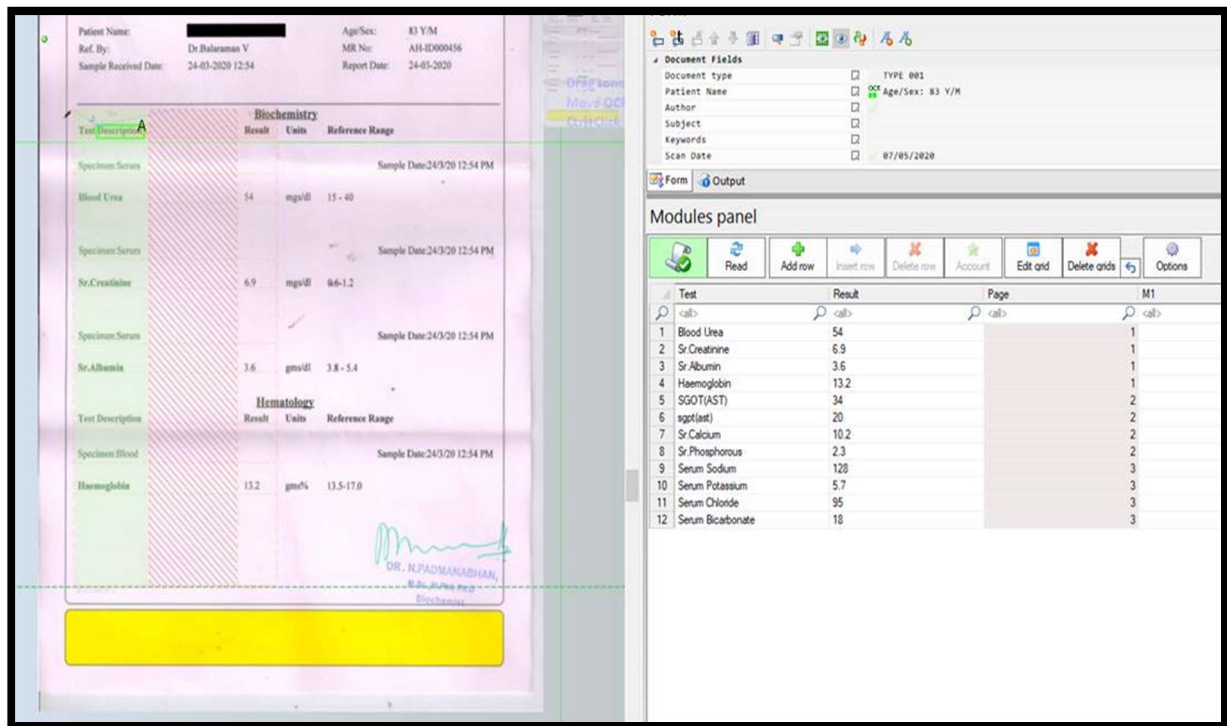
Form Output

Modules panel

Read Add row Insert row Delete row Account Edit and Delete and Options

Test	Result	Page	M1
1 HAEMOGLOBIN	9.7		1
2 SERUM CALCIUM	8.3		1
3 SERUM CREATININE	6.6		1
4 SERUM PHOSPHORUS	3.8		1
5 S POTASSIUM(K+)	4.28		1
6 SGOT	30		1
7 SGPT	28		1
8 ALBUMIN SERUM ALBUMIN	4.1		1
9 BLOOD UREA	135		1
10 RANDOM BLOOD SUGAR	295		1

Fig. 2 Sample reports and their processed result



**Form**

Document Fields

Document type ☐ TYPE 001

Patient Name ☐ Age/Sex: 83 Y/M

Author ☐

Subject ☐

Keywords ☐

Scan Date ☐ 07/05/2020

Form Output

Modules panel

Read Add row Insert row Delete row Account Edit and Delete and Options

Test	Result	Page	M1
1 Blood Urea	54		1
2 Sr Creatinine	6.9		1
3 Sr Albumin	3.6		1
4 Haemoglobin	13.2		1
5 SGOT(AST)	34		2
6 sgpt(ast)	20		2
7 Sr Calcium	10.2		2
8 Sr Phosphorus	2.3		2
9 Serum Sodium	128		3
10 Serum Potassium	5.7		3
11 Serum Chloride	95		3
12 Serum Bicarbonate	18		3

Fig. 3 Sample reports and their processed result

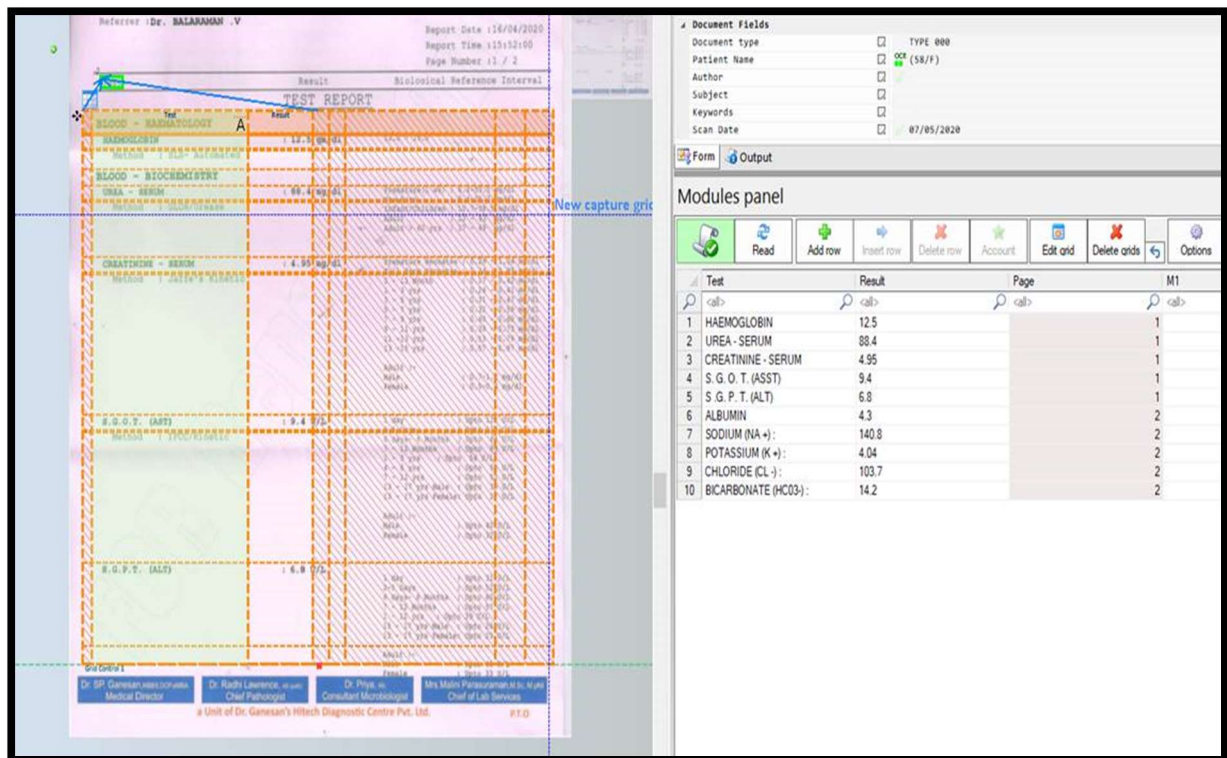


Fig. 4 Sample reports and their processed result

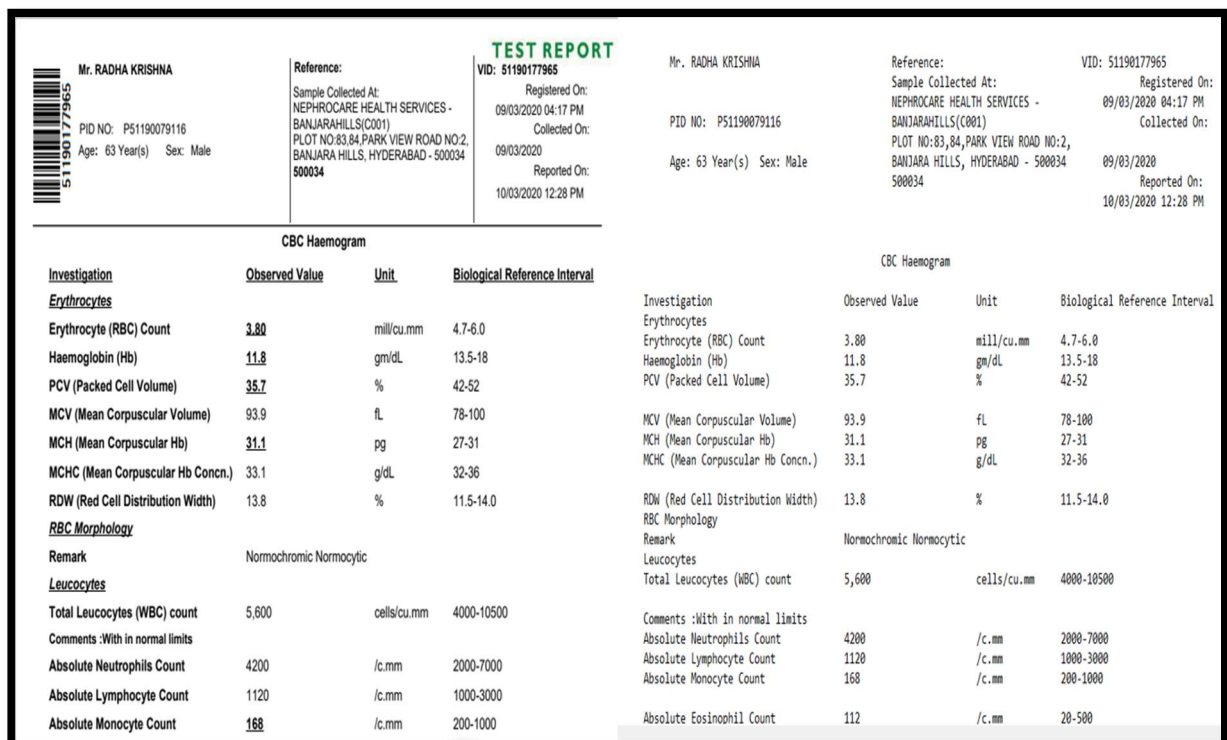


Fig. 5 Sample reports and their processed result



## Section-4:

### 4. Criteria for evaluation:

The questionnaire which I have mentioned in the **Section-2**, was based on the criteria for evaluation itself. Following criteria was considered for evaluation of all the companies and there comparison:

- Cost. (set- up & subscription cost both)
- Additional support provided by the company.
- Number of pages that can be processed per year.
- Ability of software to process different templates.
- Additional system requirements to be fulfilled for the solution (provided by the company) to be operational.
- Integration of the software with our existing software portal.

After the collection of all the relevant data and getting clarity after analysis the processed report, we set-up another demonstration meeting with the companies. These meetings were on the basis of the above mentioned criteria and questionnaire only. This time Mr Kamal Shah was also present in the meeting and was making sure how the solution offered by the company will work. He even pointed out areas where the solution might be difficult to execute. For example, different centers might use different spellings or notations in their medical reports and this might be an issue at the time of capturing data by the software. Similarly, other issues were highlighted by Mr Kamal Shah and solutions offered by the companies were analysed.

## Section-5:

### 5. Evaluation of Alternatives:

After all the above steps are completed, we got an idea of all the solutions which are capable of fulfilling our requirements. So, we selected the best suitable software out of all the software and then compared them among themselves to see which one is the best fit of all.

#### Best suitable software:

- Teleform
- Automation anywhere
- Docuphase
- Prime recognition
- Zerosnap

### Comparison of software:

#### 1. Teleform:

Pros of Teleform	Cons of Teleform
Three options: Perpetual, Annual and Cloud based.	All the options provided are very costly.
2,00,000 pages can be processed annually.	Training is required for the IQ bot whenever we need to process a new template document.
Capable of processing documents with different templates.	
Support provided for all the above mentioned options.	

## 2. Automation anywhere:

Pros of Automation anywhere	Cons of Automation anywhere
They have multiple offices across India which can help us in getting timely support.	It is very costly for us.
3,00,000 pages can be processed annually.	Training is required for the IQ bot whenever we need to process a new template document.
Capable of processing documents with different templates.	

## 3. Docuphase:

Pros of Docuphase	Cons of Docuphase
It can extract upto 150 parameters from the medical reports.	It is very costly for us.
	It can process only 1,20,000 pages annually



#### 4. Prime recognition

Pros of Prime recognition
It is providing better results than others, comparatively.
It is also providing additional add- on modules to enhance accuracy.
The cost is on a lower side, comparatively.

#### 5. Zerosnap

Pros of Zerosnap	Cons of Zerosnap
Cost in the long run would be low.	Initial cost is high.
Unlimited pages can be processed.	It is a desktop application, so we need to pay license fee for every centre separately.
They will provide us with the solution which can process 40 different templates. For every other unique template, they will charge a nominal amount.	

### Alternate option:

#### CamScanner:

- It is an application for mobiles and tablets which enables functions like: scanning (in black & white mode also), OCR, converting images into excel, text, word, etc.
- While it is very economical, comparatively, number of pages that it can process could be an issue.

### Cost comparison:

Software	Set- up cost	Annual cost	No. Of pages/year
Teleform			2,00,000
(perpetual)	18,40,500	3,06,750	
(Annual)	-	8,18,250	
(Cloud)	-	1,50,000	
Automationanywhere	-	41,36,250	3,00,000
Docuphase	7,50,000	24,75,000	1,20,000
CamScanner	-	5,250	12,000
Prime recognition	4,48,875	67,331	Unlimited
Zerosnap	16,00,000	9,440	Unlimited

All costs are in INR, assuming the exchange rate as \$1 = INR 75.

### **Cost associated with CamScanner (Company- wide):**

- For processing 22,500 pages per month (assuming 750 pages daily), we need to have 23 subscriptions.
- 23 subscriptions would cost us:  
 $23 \times 5,250 = 1,20,750$ .
- So, to fulfil our requirement, we need to spend INR 1,20,750 annually on ‘CamScanner’.

### **General comparison: Software versus Application**

<b>Particular</b>	<b>Software</b>	<b>Application</b>
Set- up cost	A huge amount	No set- up cost as such
Subscription cost (annual)	Still a big amount	Nominal amount
Additional support	Better	Not really
No. Of pages being processed	More	Far less
Installation	Required	Not required

## **Section-6:**

### **6. Conclusion**

#### **6.1 Nature of solution:**

After all the discussions and evaluation of the companies and the solutions offered by them, I was told to suggest the best solution among all these alternatives. After analysing all the options, we can conclude that 'CamScanner' perfectly fulfils our requirement in the most economical way.

Having selected the solution offered by the 'CamScanner', as it is an application, BO portal team needed to further help in integrating these extracted data from excel into the BO portal. Eventually, after some time BO portal team figured out a solution through which excel data can directly be entered into the BO portal. So, an end to end solution was able to achieve successfully.

#### **6.2 Recommendations and action plan:**

Some of the suggestions while using 'CamScanner' is mentioned below:

- We need to have a device (mobile or tablet) in every centre.
- We should directly use the option of 'excel' instead of 'OCR' option.
- For better accuracy in scanning, we should take the photos in full and even lighting.
- The 'excel' option in the app is to scan a table and then to convert it into an excel sheet. Here, we are using it to scan our medical reports, so sometimes it may not accept these reports. So, we may need to crop this reports in 'CamScanner' only and then need to try again. Though, it happens very rarely.

#### **6.3 Contingency Plan:**

Under the contingency plan, I would recommend the solution offered by 'Prime recognition'. They are offering the best proposal as per our requirement. Their set-up cost as well as the annual cost is well within our budget and they are even offering us the solution for unlimited pages to be scanned. They have provided better results to us as compared to other solutions and even offer various add-on modules to enhance the quality even further. Also, since it is a company offering the solution, it can provide better and timely support required as compared to an application offering company like 'CamScanner'.

So, I would definitely recommend 'Prime recognition' if any unforeseen event takes place and 'CamScanner' becomes unsuitable.

## **Project- II**

### **1. Introduction:**

#### **1.1. Nature of problem:**

**Nephroplus** Healthcare Pvt Ltd observed that there exist a gap between the demand for certified dialysis technicians and nurses and the availability of the same. They saw that this lack of certified technicians and nurses not only will be a challenge for them but if they are actually capable of getting quality professionals they can improve their brand name.

In this view, they started their own institute, enpidia wherein the training is provided to the interested candidates and those candidates were eventually be hired by Nephroplus themselves. They give 100 % placement guarantee to the qualified individuals.

However, to make enpidia reach new heights to get more attention and credibility, enpidia needed accreditation from reputed accreditation councils.

#### **1.2 Objective of the study:**

Objective of the study is to get accreditation from reputed accreditation councils which can increase the credibility of enpidia and which can thus attract brighter talents in the field of dialysis for technicians and nurses roles.

#### **1.3 Expected benefits:**

Expected benefits include following:

- More credibility
- More support from the government
- More students can benefit from it as they are giving 100% placements.
- Dialysis field would be benefited at large

### **2. Methodology/ approach:**

The approach to obtain affiliation was simple. First we need to search for all the accreditation councils which are providing affiliation to institutes like us. Then we need to check if these councils are applicable to us or not. After that, we need to verify all the criteria required to be fulfilled to get their affiliation. After fulfilling these criteria, we need to apply for their affiliation and wait for them to inspect the institution. In the end, we will get the affiliation.

### **3. Exploration of alternatives:**

After checking the applicability from all the available accreditation councils, following five councils were found applicable:

- Indian Medical Association
- All India Council for Vocational Training
- Skill Management & Accreditation of Training center
- National Institutional Ranking Framework
- National Assessment & Accreditation Council

### **4. Criteria for evaluation:**

Following are the criteria for evaluation of the accreditation councils:

- Whether a council provides affiliation or not
- Whether a council provides affiliation in our field or not
- When does the council will provide affiliation
- What are the criteria to be fulfilled to get their affiliation
- How much time it takes to get affiliation.

### **5. Evaluation of alternatives:**

#### **a) Indian Medical Association**

- The only way to contact IMA for affiliation is through email.
- We have sent them the mail mentioning all the information about enpidia.
- However, they have not responded till now.
- We sent them a follow-up mail and even called but no positive response was provided.

#### **b) All India Council for Vocational Training**

Registration and affiliation fee- Rs. 2000 for five years (not refundable).

2. Exam fee per student- Rs.1150 for diploma (12 months) and Rs. 1500 for advanced diploma (24 months). (To be submitted to head office as per course only for per students after exam.)

[Note: Mode of payment for the registration fee/Exam fees- Online]

3. Area: 150-300sq ft.

4. One computer and internet connection (for online registration).

5. Your centre registration, authorization name, address and code in websites (in 2 sites).

**Agreement Documents of head of institute:**

1. 4 copy passport size colour photographs.
2. Identity proof documents (Ration card, Voter ID card, Aadhaar card, Electric bill, Pan Card).
3. Xerox copy of trade license. (Not mandatory this time)
4. Rental agreement.
5. Admit card & last qualification certificate.
6. BIO data.
7. HS result certificate

**Important points:**

- Diploma certificate will be provided.
- We can use our own curriculum and syllabus will be provided if we ask for it.
- Mode of exam is upto us. We can conduct it on any of the online or offline mode. Also, we can do the correction at our institute and can even send it to them for correction.
- We will get the certificate under 3-4 months post examination.
- No particular pattern or schedule for exams as such. We can conduct it at our discretion.

**c) Skill Management & Accreditation of Training center**

- We had already applied for Skill India earlier but it is stuck.
- We have created the training centre on their portal but physical inspection is due from their end.
- Farhana ma'am is directly in contact with the people of Skill India.

**d) National Institutional Ranking Framework**

- Not able to contact right now.
- They release a circular in October every year and ask institutions to apply for it.
- We need to wait and apply in October.

#### **e) National Assessment & Accreditation Council**

There are three options to get their accreditation:

1. Institution should be MHRD/UGC approved University.
2. Institution should be affiliated with a University recognized by UGC.
3. Institution should be offering programmes recognized by Statutory Professional Regulatory Councils & should be recognized by Association of Indian Universities (AIU) or other such Govt. agencies concerned, as equivalent to a degree programme of a University.

#### **6. Conclusion:**

In conclusion, we observed that this accreditation is a long term process and it cannot be done during this internship period. Hence, I have provided them all the information required for the affiliation and have even applied for a number of accreditation. For further process, company will work on it themselves.



## **Part- C**

### **Section- 1**

#### **1. Learnings:**

- First and foremost learning came from the real time experience of working in a corporate environment. We learn how to interact with people working at different levels of the organization. We get familiar to the culture of the organization. Being in a Healthcare industry, I get to learn how the well-being and comfort of the patients (guests as they call them) is of utmost priority and everything else comes after it.
- This few months have also served as a medium which has enhanced my knowledge of the Healthcare industry and dialysis in particular. I got to know of the different services and facilities provided in this field to the patients. I have also realized what problems and challenges the patients as well as the service providers face in this field of work.
- When we work in a service providing business specially Healthcare, we see the importance given to the technology and work ethics taking into consideration the impact of it on lives of thousands of people.
- Internship also helped in improving my inter-personal skills while conversations with experts. It also helps to build personal relations in the corporate world which helps in enhancing our knowledge and keep us updated with the ever changing VUCA world.
- My speaking also improved with the way I dealt with the potential solution providers in my first project as well as in my second project where I was required to gather information from different accreditation councils.
- Interactions with the top level management as well as the founders in the form of mid-review and final review meetings have also helped in getting their valuable feedback which I think was the main take-away.
- Lastly, I am grateful that in this internship, we were given the opportunity which required us to apply our critical thinking skills and knowledge to explore different ways of solving the given project. We were not given the mundane tasks and that I feel was very helpful to gaining varied experiences.

## Section- 2

### 2. Conclusion:

To conclude I would like to say that this kind of opportunities are very crucial for people like us who don't have much working experience beforehand. This has helped us in realizing how one should behave and present themselves before top management. We even made some mistakes but eventually this was the main crux of the internship. We were required to learn from our mistakes and to make sure that we don't repeat them when we work in future.

In particular, I have realized how daunting the task of maintaining a huge company with a number of centres is. Nephroplus Healthcare Pvt Ltd have more than 200 centres across 21 cities in India. To maintain the expansion and at the same time improving the existing centres is a herculean task. We get tough competition from everywhere whether it is from a domestic players or a similar franchise kind of a set-up. I learnt that the most important criteria in a service providing organization is to take care of the customers and everything else is negotiable. I have also gained extensive knowledge of Healthcare industry and dialysis in particular. Also, we get to see how the VUCA world can be in real. We saw how the COVID-19 pandemic impacted the operation of Nephroplus. Many of their centres were converted to COVID hospitals which presented a totally different kind of challenge to the operations department of Nephroplus to take care of their customers.

So, this opportunity of working with such huge and reputed organization have helped me to be ready with every situation of working and to have a holistic view. It will also help me get closer to my dream of starting my own business one day.

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<sup>i</sup> Nephroplus webpage, <https://www.Nephroplus.com/about-us/>.