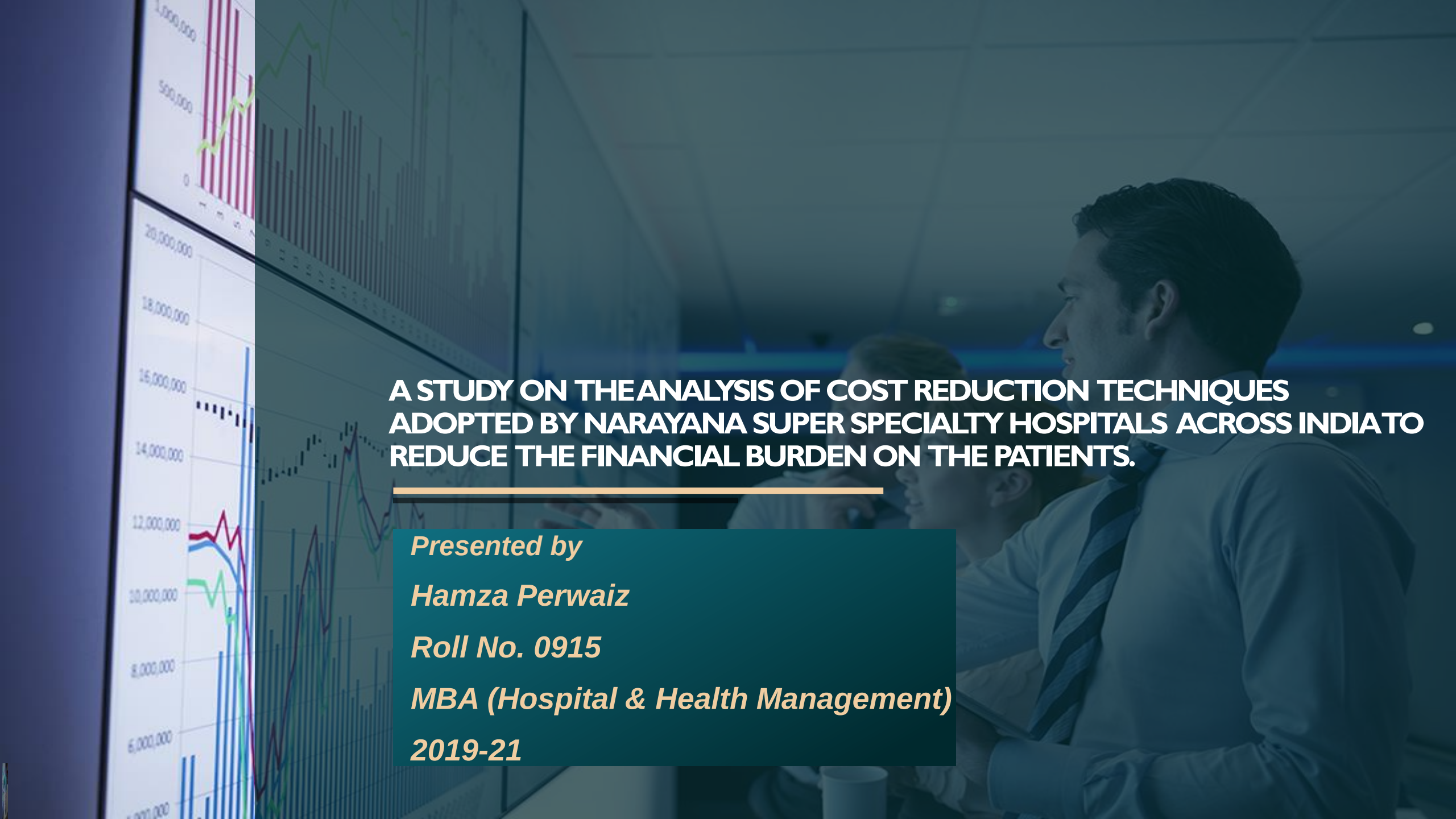

A STUDY ON THE ANALYSIS OF COST REDUCTION TECHNIQUES ADOPTED BY NARAYANA SUPER SPECIALTY HOSPITALS ACROSS INDIA TO REDUCE THE FINANCIAL BURDEN ON THE PATIENTS.

Presented by

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MBA (Hospital & Health Management)

2019-21

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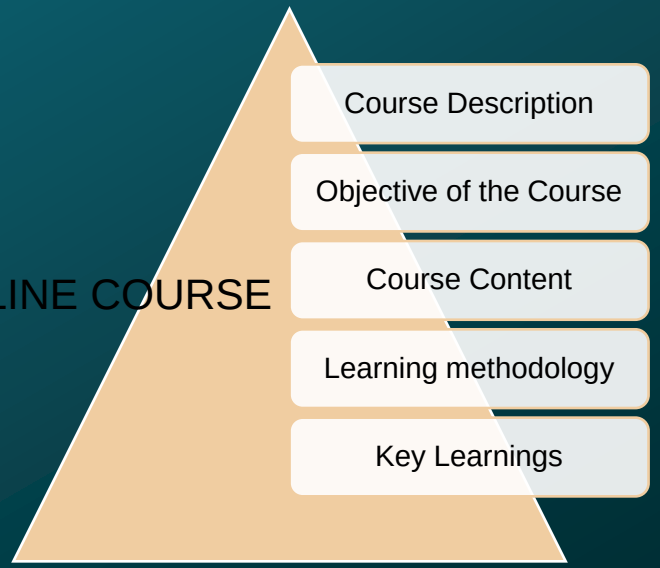
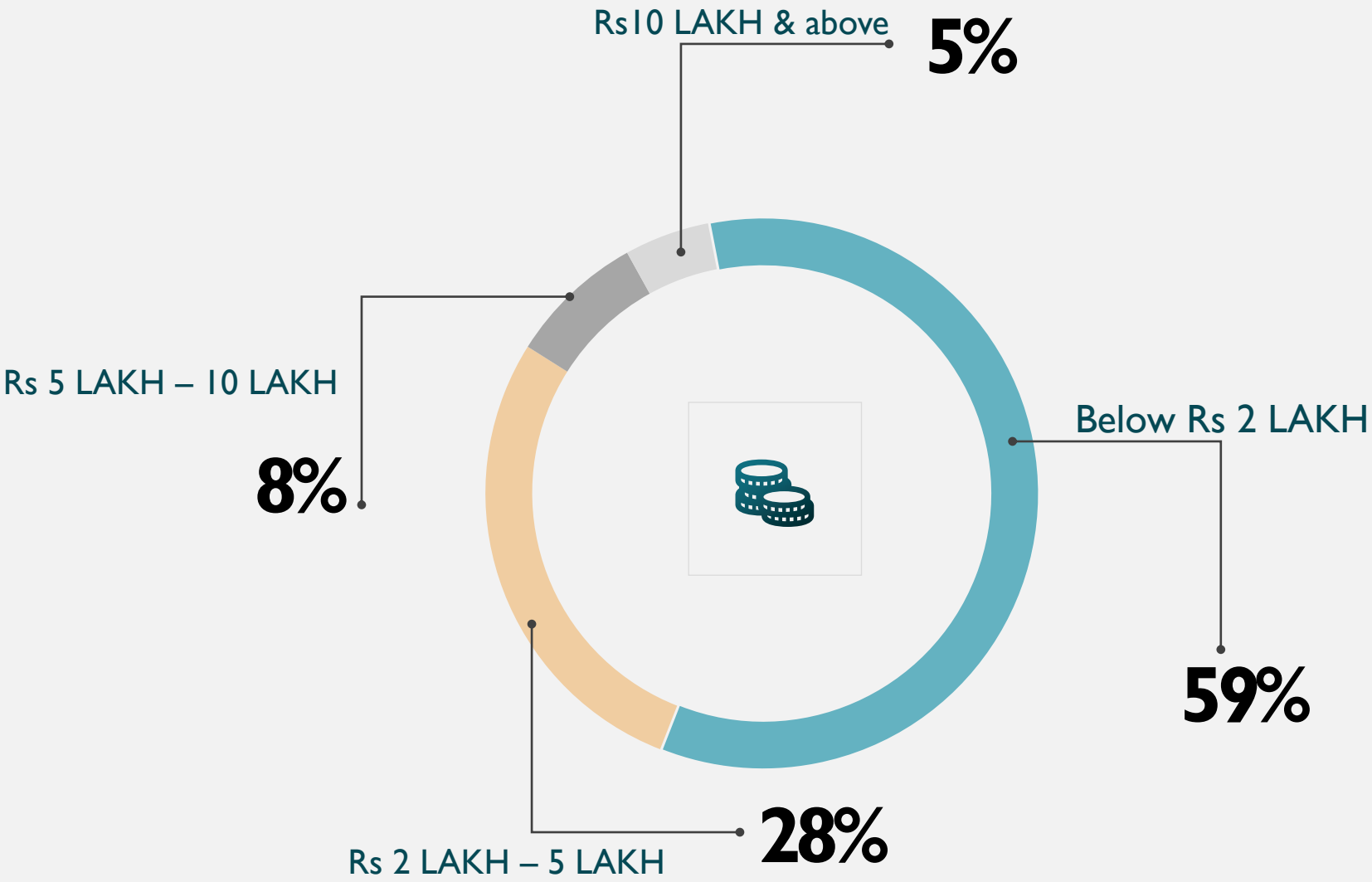


INTRODUCTION

Income demographics in India (2013-14) in percentage



(Source-https://www.narayanahealth.org/investor presentations/Q4-FY-2016)

INDIAN HEALTHCARE INDUSTRY OUTLOOK

58%

Private hospitals accounts for 58% of all hospitals

$372B

Healthcare industry to touch $372B by 2022

16.28%

CAGR (Healthcare industry)

$132B

Hospital industry to touch $132B by 2023

16-17%

CAGR (Hospital industry)

(Source : International Journal of Medicine and Public Health, 2013)

- The cost of affording healthcare services in India is much lower as compared to affording healthcare services globally, but still affording the services is a burden for most of the Indian population.
- The entry of the private sector has drastically improved the quality & infrastructure of healthcare services. The factors for critical success of healthcare industry in India are the use of latest medical technologies & information technology, both of which are cost intensive as well as essential for the continuous delivery of quality healthcare services in India.
- According to the study by the Union Ministry of Statistics & Programme Implementation, the cost of hospitalization in private hospital for any ailment is 6 times higher than the expenses occurred in a government facility.

There are three terms which needs to be differentiated & understood for analysing the adoption of cost cutting strategies in any organization.

Cost Containment

- A detailed plan and process of maintaining organizational cost and purchased prices within certain specified target limits over a period

Cost Avoidance

- An effort to prevent or reduce supplier price increases and ancillary charges using value analysis, negotiations, and a variety of other techniques.

Cost Reduction

- A reduction in the costs incurred by an organization which has tangible results; i.e., a reduction in outside spend and/or the availability of funds that can be used for purposes other than originally intended.

OBJECTIVE OF THE STUDY

To know what Narayana Hrudayalaya hospitals across India are doing to address the issue of maintaining high quality healthcare services in optimum cost.

To analyse the different techniques used by Narayana Hrudayalaya hospitals across India to reduce the cost of delivering healthcare services.

METHODOLOGY

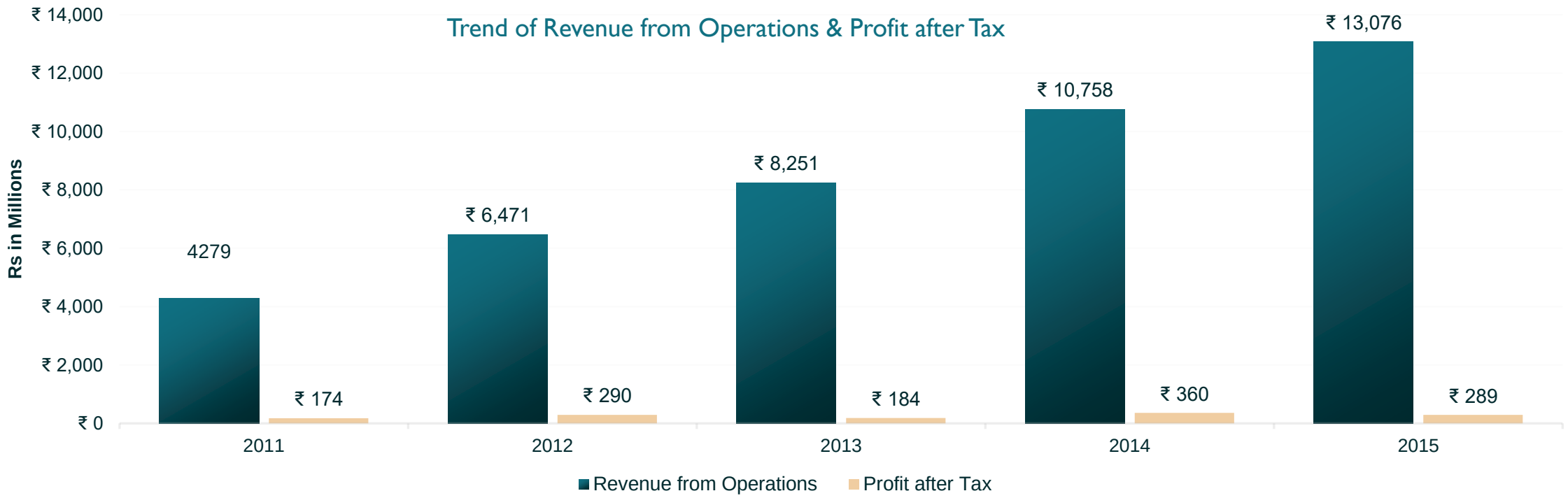
In this secondary research I have gone through various articles & writings published on International Journal of Medicine and Public Health, Express healthcare, Journal of Health Management , RFHHA (Research Foundation of Hospital & Healthcare Administration) , oikos international, Forbes India, The Wall Street Journal, Economic Times, Efficacy of Healthcare Information System in Improving Patients' Care: A Case of Narayana Hrudayalaya .

A manual searching of the reference lists of selected articles of cost reduction techniques was performed. Published studies that were highly cited in this field. The manual searching was conducted in the Google Scholar database as well as in the ResearchGate database.

FINDINGS

REVENUE

NH stood apart in the Indian healthcare market by providing quality healthcare to the masses at an affordable cost. In 2015, it had a standalone operational income of INR 13,075 million with a benefit of INR 289 million, treating patients from 25 nations.



(Source: Draft Red Herring Prospectus, Narayana Hrudayalaya Limited, September 28, 2015)

DR SHETTY ACHIEVED THIS INCREASING REVENUE THROUGH IMPLEMENTING COST REDUCTION STRATEGIES WHICH ARE LISTED BELOW: -

ECONOMIES OF SCALE

UTILIZATION EFFICIENCY

FINANCING SCHEME FOR PATIENTS

SMART USE OF DATA

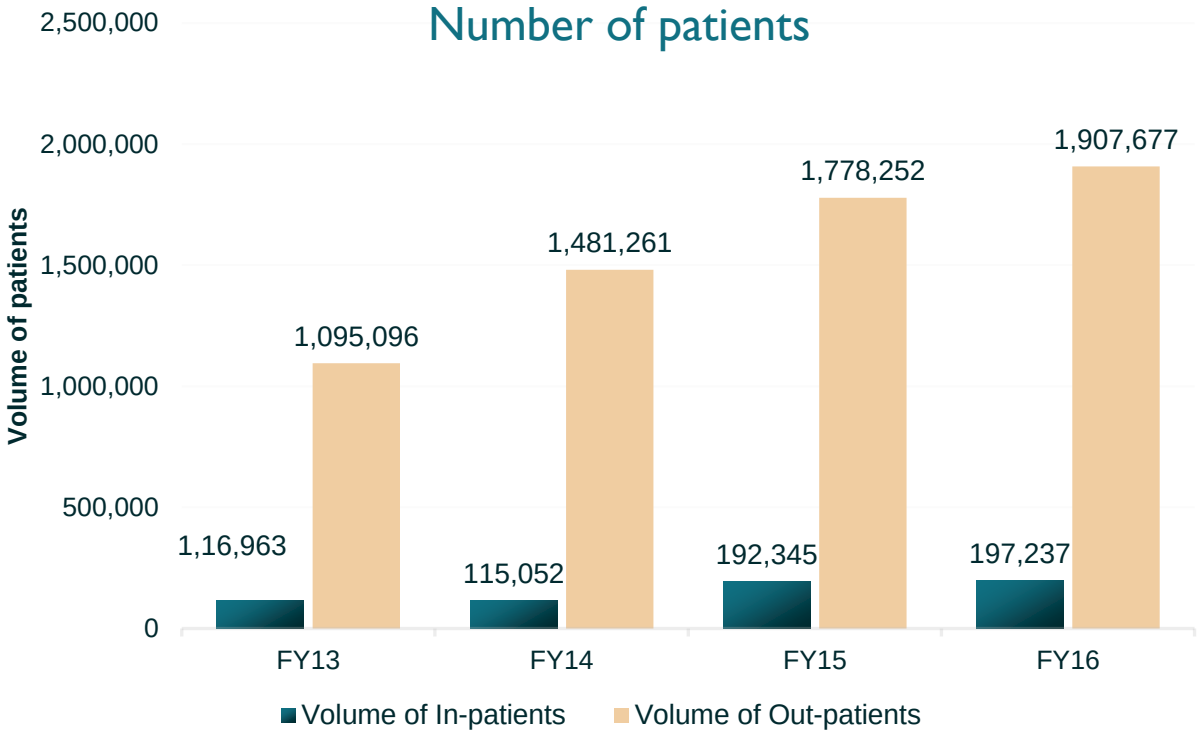
TELEMEDICINE

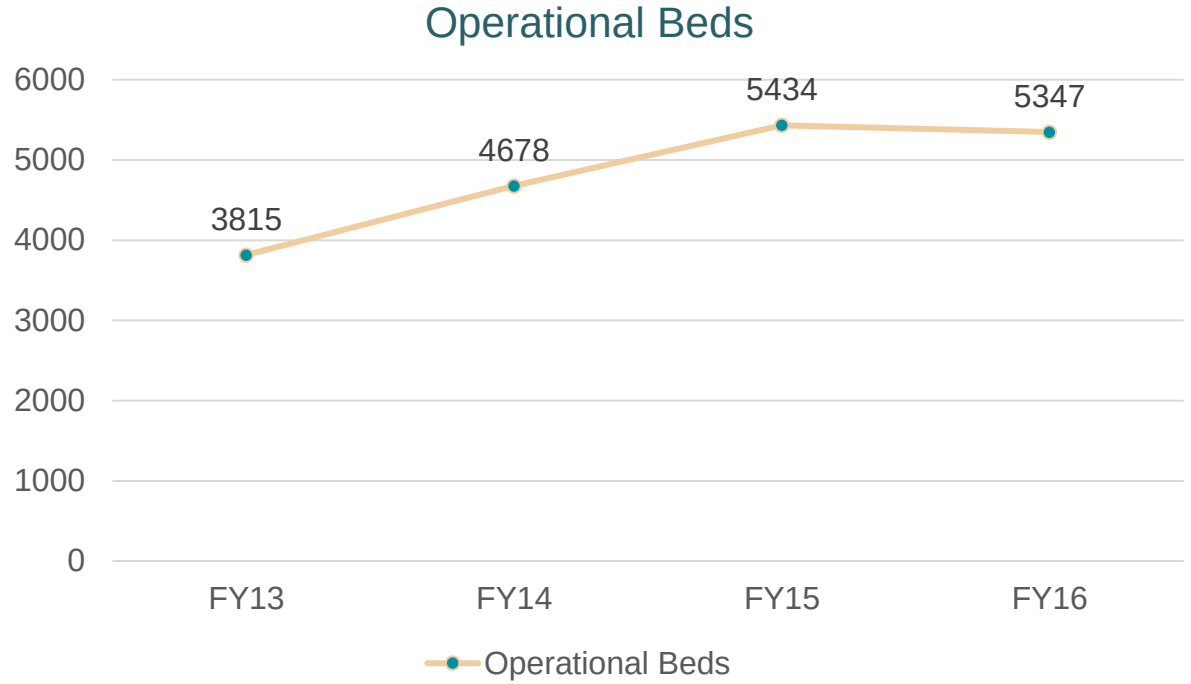
COST REDUCTION

ECONOMIES OF SCALE

1. Volume

- The Bangalore facility of NH performed around 30 cardiac surgeries every day, which was 10 per cent of the cardiac surgeries performed in the entire country.[1]
- Due to this Dr Devi Prasad Shetty gained a huge bargaining power for the dealing of both medical equipment manufacturers as well as consumables suppliers, so that Dr. Shetty could cut out the middlemen & source consumables directly from manufacturers.
- Therefore Dr. Shetty was able to buy reagents consumables at significantly lower prices, making the cost of conducting lab tests a fraction of what it was in other labs and hospitals.

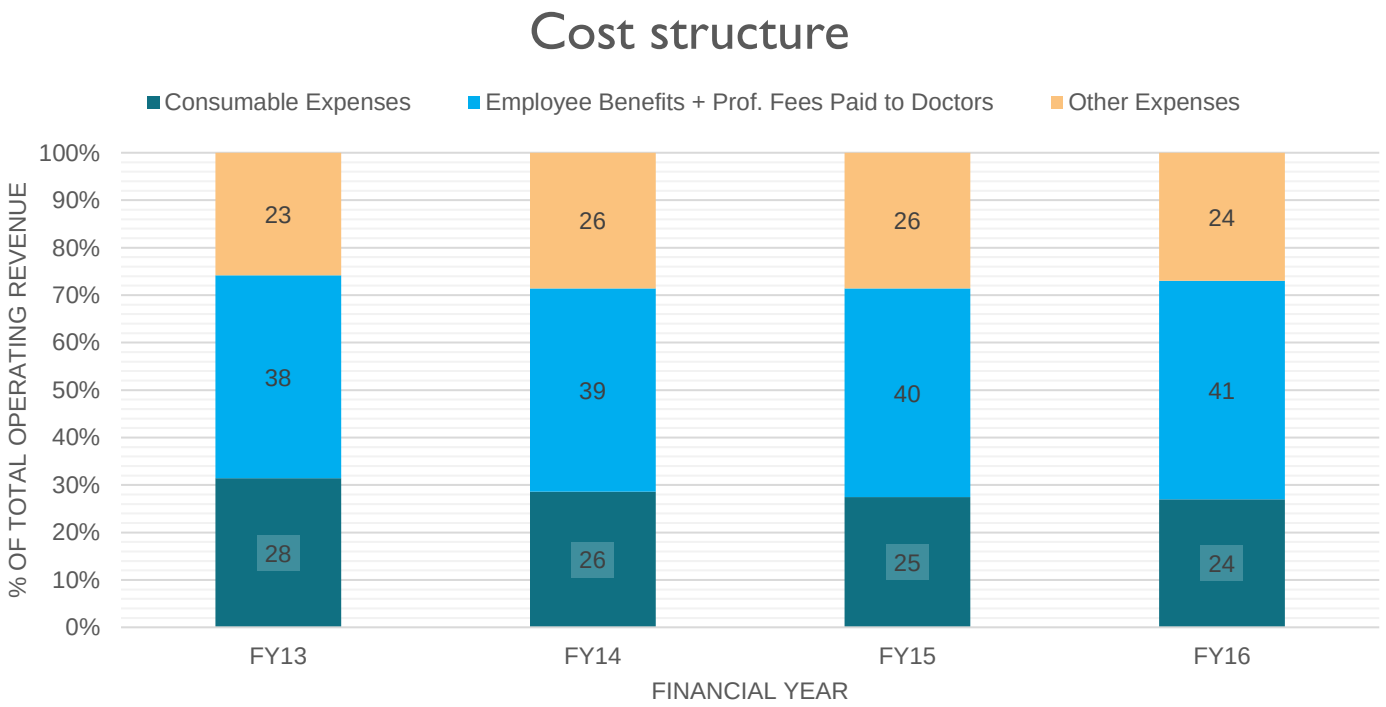




(Source-https://www.narayanahealth.org/investor presentations/Q4-FY-2016)

2. Centralized Procurement

- A Raghuvanshi (Raghuvanshi), Vice Chairman, MD and group CEO of NH, said, "We standardize the products that we keep on our shelves. Almost 95 per cent of the inventory is standardized across all the hospitals. Fairly around 5% is left to the local hospital to purchase".[2]
- NH performed an impressive average of 30 CT scans per machine per day, on the other hand the average number of CT scans performed in India was seven per machine.[3]
- The trend for employee benefits + professional fees paid to doctors was 38% in 2013, 39% in 2014, 40% in 2015 & 41% in 2016. This shows that there was an increase in 1% each year for employee benefits & professional fees paid to doctors.

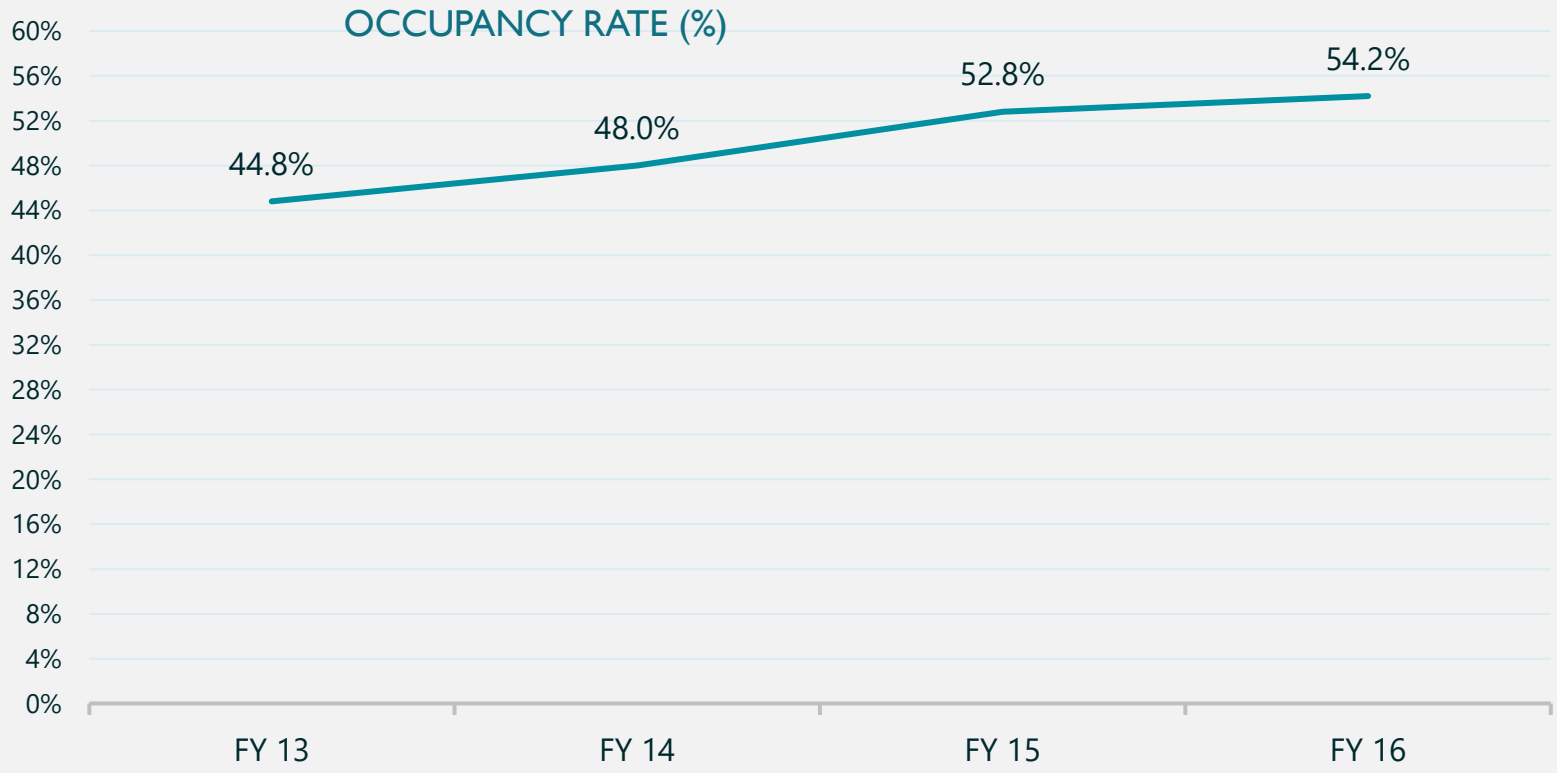


(Source-https://www.narayanahealth.org/investor presentations/Q4-FY-2016)

- *Convinced the equipment manufacturers to place their equipment in the hospital for use without having NH to pay any capital cost.*
- *The source of earning for the manufacturer became the sale of the reagents required for the tests & also*

UTILIZATION EFFICIENCY

- Dr. Shetty specialized every doctor in their respective field to increase their productivity.[4]
- Twice the number of operations per day for six days a week was performed by surgeons at NH, compared to a doctor in other hospitals.
- Dr. Shetty hired people with basic degrees and trained them to perform tasks like reading radiology reports or operating ECG machines.
- This brought down the manpower costs to a much extent.



(Source-https://www.narayanahealth.org/investor presentations/Q4-FY-2016)

NH specialized every doctor in their respective areas & increased efficiency so that the large volume of patients can be treated more efficiently.

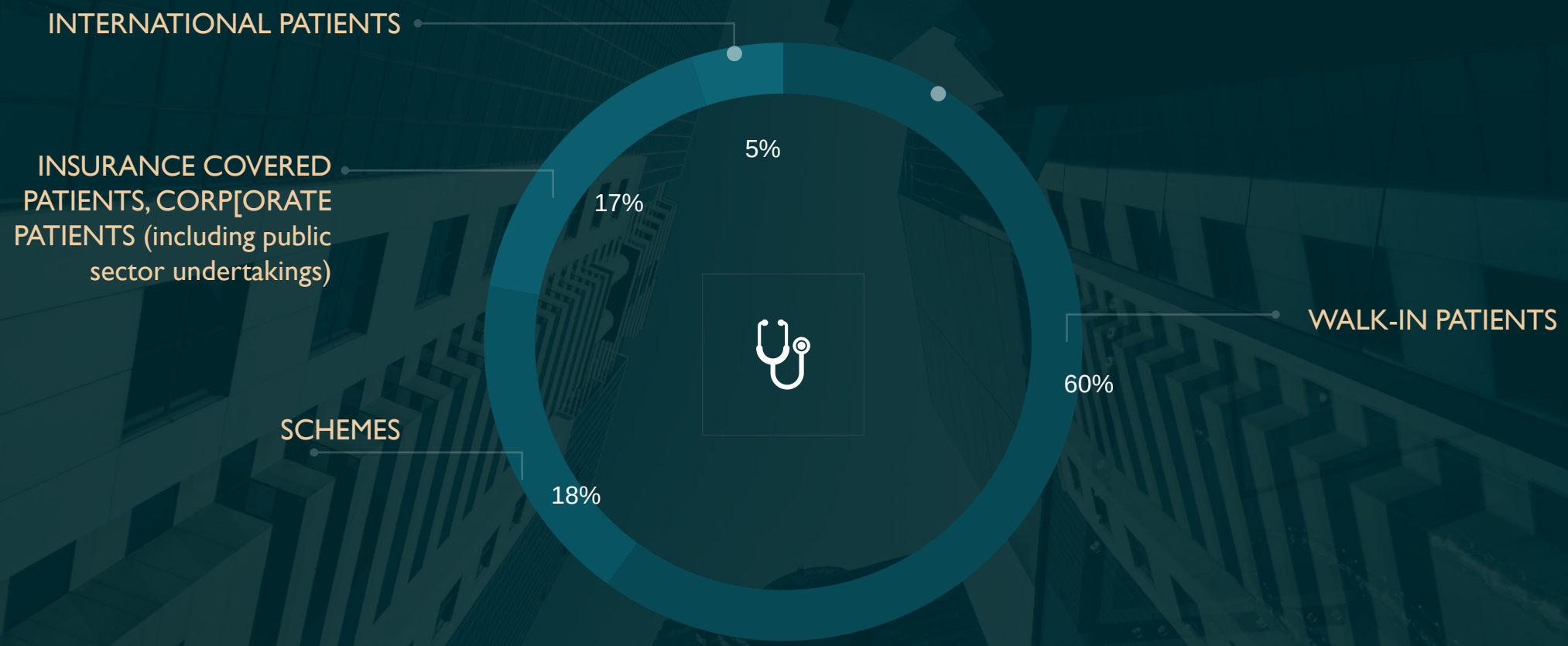
FINANCING SCHEMES FOR PATIENTS

YESHASVINI COOPERATIVE FARMERS HEALTHCARE SCHEME

The charity received by different sources was not enough for many patients to afford the cost of surgeries. Therefore, to ensure that the hospital could provide treatment to masses, he collaborated with the Karnataka government to start a micro-health insurance scheme which will provide the patients with the facility of heart operation at a nominal premium of Rs 5/- per month. In this scheme around 4 million farmers in Karnataka got enrolled.[5]

- Around 60% of the patients who underwent heart surgery and could afford to pay for it, paid almost twice the amount that a poor patient who couldn't afford it, paid.
- NH also received large contributions from many of the rich patients who had underwent surgery at NH.
- A patient from the US, for instance, contributed US $ 1 million to NH to express his gratitude for the successful operation he had undergone at NH.
- NH performed around 800 to 900 cardiac surgeries per month of which 70 to 80 heart surgeries every month were sponsored by merchants on Commercial Street, a prominent business area in Bangalore.
- In addition to this, around 12 per cent of such treatments were covered through an innovative health insurance scheme.[6]

Payee profile by Revenue (FY 16)

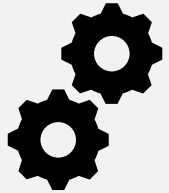


(Source-https://www.narayanahealth.org/investor presentations/Q4-FY-2016)

SMART USE OF DATA

- Thus, Dr. Shetty took a decision to put a private cloud and the development was commenced with a six-month proof of concept at one of its smaller unit hospitals in Jamshedpur with around 40 users logging into the cloud instance.
- HCL offered its blu Enterprise Cloud solution to be installed across 22 clients' hospitals.
- Today, the service includes more than 2,000 users across 23 facilities of the Narayana Hrudayalaya Group. [7]

blu EmaaS (Email as a Service): Mailing collaboration platform on cloud model. Close to 10,000 mailbox /collaboration.



blu IaaS (Infrastructure as a Service)- Iaas with Customized configurations and operating environment has been provided by HCL. This scalable and extremely dependable IT infrastructure solutions on Cloud has storage, servers and all-inclusive security stack powered by VMware vCloud®.

The installed blu IaaS' applications and services are without any capex investment. The platform is scalable, flexible & according to customers' need. Hence it suits the need of an individual enterprise.

blu BaaS (Backup as a Service) for application set on cloud & database server. 5. Cloud Helpdesk- An all time (24X7) voice and email support system

This cloud-based system helped the hospital to cut 15% of operating expenses.[8]

TELEMEDICINE

Dr. Devi Shetty asked helped from the state governments and the Indian Satellite Research Organization (ISRO) to use cutting edge telecommunication technology to extend the access of cardiac health care to the poor in India & abroad.

The project which Dr. Shetty was created includes two hubs: one is situated in Bangalore (at NH), and the other was in Kolkata, which is located Rabindranath Tagore International Institute of Cardiac Sciences (RTIICS).

Narayana Hrudayalaya had operated three different types of network for telemedicine: -

1ST PHASE

- The first network was the Coronary Care Unit Network.
- This network is consisted of CCUs in semi urban and rural areas or hospitals and these were both government and charity-run hospitals
- Dr. Shetty planned to train and place doctors and staff to provide cardiac care and treat cardiac emergencies.

2ND PHASE

- State government in Karnataka supported the idea and opened up its hospitals in all of its 37 districts headquarter towns so that Narayana Hrudayalaya could train local doctors in cardiac screening.
- Local doctors completed the initial screenings.
- They sent data to the cardiologist at NH.
- Then Narayana Hrudayalaya Scheduling for patient consultations was set up through satellite network
-

3RD PHASE

- Narayana Hrudayalaya established a Family Physicians Network of **TTECGs (Electro Cardio Grams that were transmitted online).**
- This network helped all private independent general practitioners who got an ECG device and free software from NH that ran on a standard PC to help poor.

OTHER FACTORS

SALARIES OF DOCTORS :-

- Dr Shetty pays his specialists competitive settled payrates (senior doctors receive around between 100,000-250,000 USD) and then urges them to increase the number of surgeries per day, rather than paying the specialists per surgery.[9]
- This helps bring down the cost per surgery.
- Strong investments in human capital recruitment, retention, and management is the reason for high productivity & low attrition of NH staff.[10]

PARTNERSHIPS :-

Biocon

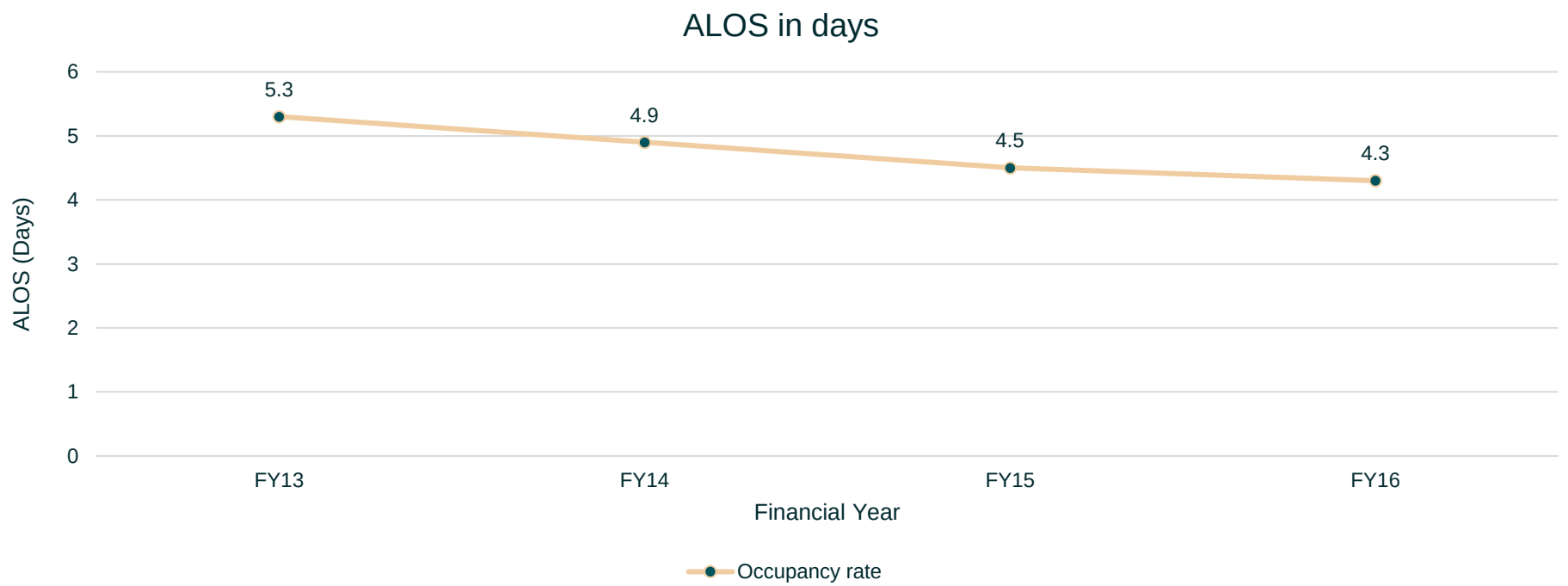
The hospital has major partnerships with the private and public sector organizations. A generic drug shop set up by Biocon Foundation, sells its drugs around 20 to 30 percent cheaper to its members.

Texas Instruments

The hospital thrives on innovation-based partnerships, such as the one with Texas Instruments. NH and Texas Instruments tied up to drive down the cost of equipment such as X-Ray plates (the cost was brought down from 82000 USD to 300 USD).[11]

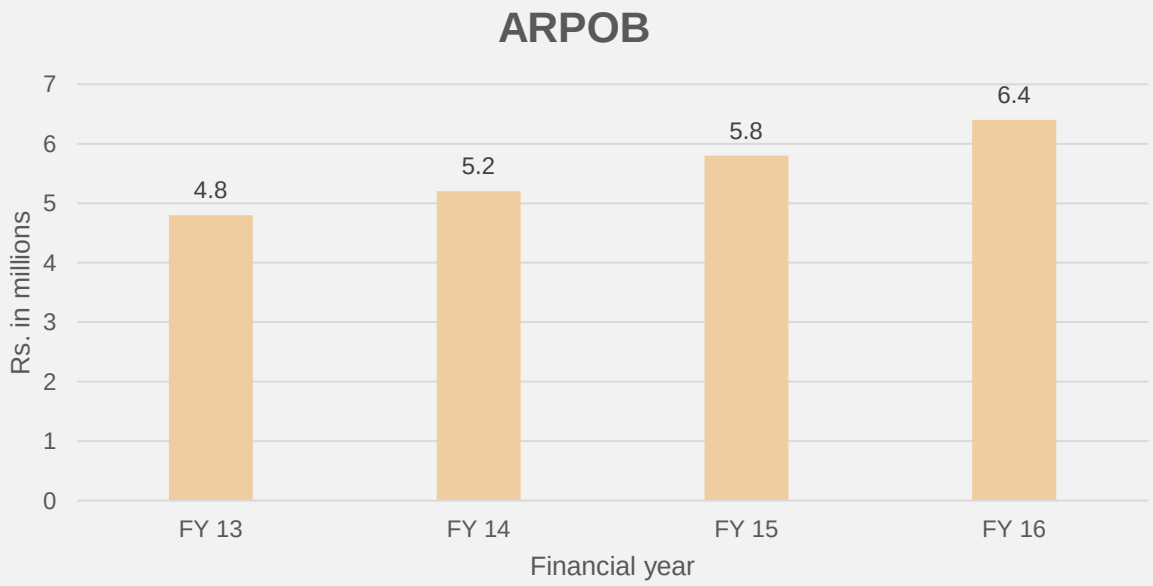

RESULTS

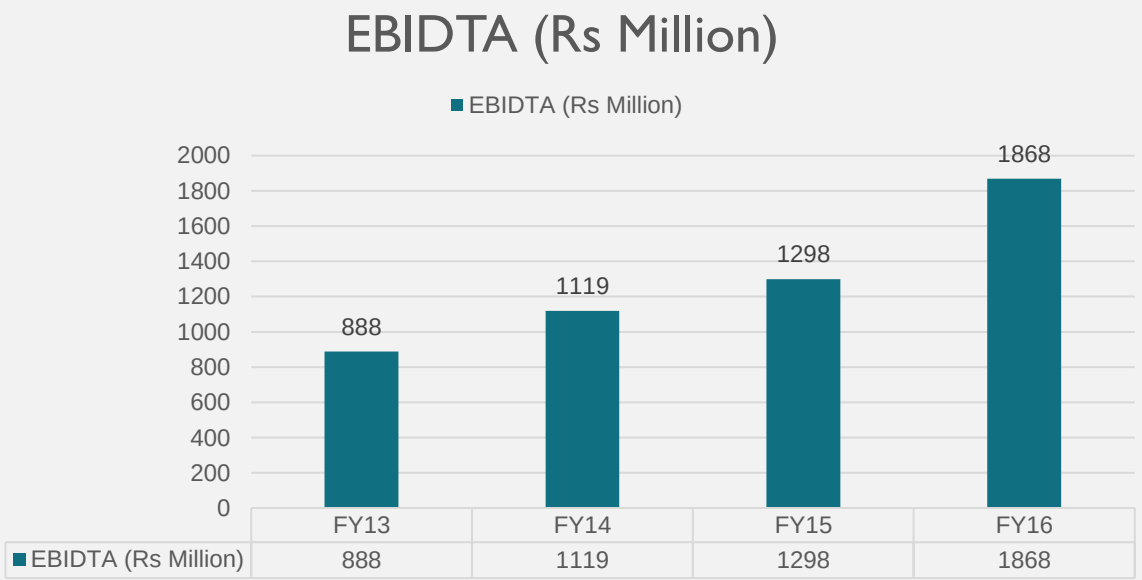
Through **economies of scale** & achieving high **efficiency in utilization** of medical equipment, Dr. Shetty was able to reduce the ALOS (Average length of Stay) of patients which in turn helped in providing treatment to masses.



(Source-https://www.narayanahealth.org/investor presentations/Q4-FY-2016)

As a result of all the above techniques adopted by Narayana Hrudayalaya, the hospital was able to success fully increase its ARPOB (Average Return per Operational Bed) & EBIDTA (Earnings before Interest Depreciation tax & Amortization).





(Source-https://www.narayanahealth.org/investor presentations/Q4-FY-2016)

CONCLUSION

It's an essential part of a hospital administration to control the cost & operating expenses. 70% of the Indian population lives in rural area, most of them who cannot afford the quality healthcare services which are costly in private hospitals

To sum up, the cost management strategies adopted by NH hospitals are listed below in the table: -

NH COST MANAGEMENT	
ECONOMIES OF SCALE	✓ Lower prices for equipment ✓ Equipment installed free of cost by the manufacturers ✓ Lower prices for consumables ✓ Better utilization of infrastructure
MANPOWER	✓ Specialization leads to higher productivity ✓ Right person for the right job ✓ Training
PROCESS INNOVATION	✓ Assembly line model ✓ Use of IT ✓ Telemedicine
INFRASTRUCTURE	✓ Lower investment per bed through innovative & appropriate design.

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1. Source-www.ndtv.com/the-unstoppable-indians-dr-devi-shetty-aired-february-2009)
2. source- http://www.thesmartceo.in/cover-story/narayana-healths-ten-year-plan.html)
3. Source- Rohini Mohan, 'Here's Why Devi Shetty Of Narayana Health Is Looking to Hit Dalal Street', Economic Times, September 1, 2015)
4. Source- Forbes India: Dr Shetty and his business with a heart, http://www.ibnlive.com/news/business/forbes-indiatuesday-320015.html
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6. source- http://www.bbc.co.uk/programmes/p00cz9dt)
7. Source- Efficacy of Healthcare Information System in Improving Patients' Care: A Case of Narayana Hrudayalaya / 885)
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9. Source- https://nextbillion.net/learning-from-narayanas-lean-model-to-scale-services/)
10. Source- https://www.innovationsinhealthcare.org/Narayana%20profile%202013.pdf)
11. Source- https://nextbillion.net/learning-from-narayanas-lean-model-to-scale-services/)

ONLINE COURSE

Budgeting Essentials & Development

A Report by

Hamza Perwaiz

Roll No. – 0915

MBA (Hospital & Health Management)

COURSE DESCRIPTION

- This course focuses on an integrative and practical view of concepts, methods, and techniques to develop a budget.
- This course teaches the learners how to develop the budget with a broad view of the corporate functions & integrate the strategic guidelines into the discussions of budgeting process.
- This course broadens the concept of structuring the budget planning and development in a logical sequence. The course actively promotes assumptions discussions to improve the process of developing the budget.
- It enhances the knowledge for applying financial concepts to support the budget planning process, design a budget monitoring and control model to support the performance management & also evaluate the performance of the company by managing the results and the budget.

OBJECTIVES OF THE COURSE

- To develop a deeper understanding of the budgeting process, its challenges, common issues, and approaches to mitigate the problems and improve the learning curve of budget planning.
- To provide an integrative approach by emphasizing the transition between the corporate strategy and the budget.
- To give learners a practical view by following a structured process of going through a framework that illustrates and demonstrates how to analyse, develop and control the budget.

COURSE CONTENT

MODULE 1

Strategy & Budgeting - Planning & Controlling

In this module of the course, the discussions aim to overview the transition between strategy to the budget planning process.

MODULE 2

Corporate budgeting

understanding the link between corporate budgeting and the business unit budgeting process; aligning strategic guidelines with planning guidelines and assessing the connections of the corporate budget to the business level budget.

MODULE 3

The company operations and the Budget

the discussion goes through a step-by-step framework to support the budget development.

MODULE 4

Financial and reporting model

develop an understanding of how to consolidate the reporting model on the budget, through a financial approach with emphasis on a budget perspective.

MODULE 5

Budget control

This module focuses on the “control” side of the budget. We understand how to apply concepts and will be guided on how to monitor and measure results, analyse and evaluate the potential gaps between actual and estimated outcomes.

MODULE 6

Planning Process – Approaches and evolution

reflecting about the different approaches to planning processes.

LEARNING METHODOLOGY

- Video lectures
- PowerPoint presentation
- Cases
- Reading materials
- Practice exercises
- Graded quiz

KEY LEARNINGS

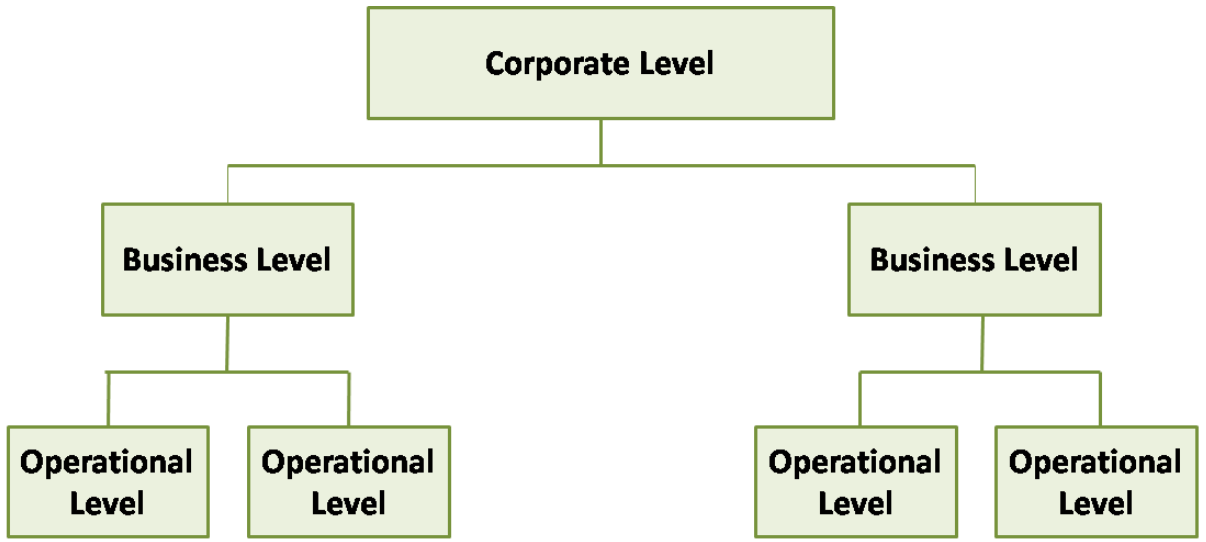
BENEFITS & LIMITATIONS

BENEFITS	LIMITATIONS
Bring more transparency	Budgeting is not an exact science
Early Decisions	Its quantitative nature
Predicting financial indicators such as profitability, cash flow, cash allocation and cost reduction	A budget is only a tool. Managers should use it for accomplishing their functions. Sometimes managers fail to understand that budget is meant to provide detailed information, goals, and targets which may help them in resource allocation decisions and achieve the company objectives.
Assumptions review	
Performance evaluation	

CORPORATE BUDGET

- The corporate budget is related to the corporate level strategic planning. Independently of the corporate or the business level, the concepts under discussion are the strategic foresight and scenario analyses.
- The mission, vision, values and corporate development plan with the strategic guidelines are all part of the strategy level analysis.
- These corporate strategy aspects shape the budgeting process.

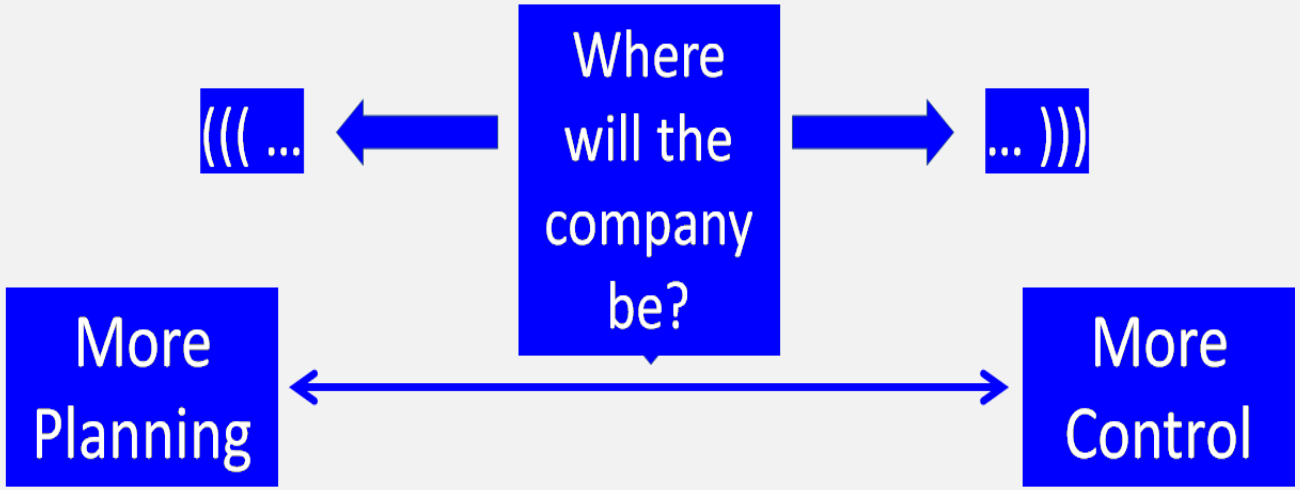
The figure below shows the different levels of strategy.



At corporate level planning, some major assumptions may be defined, such as: Macroeconomic trends:

- GDP growth
- Inflation
- Basic interest rate
- The minimum attractive return
- Exchange rate

The problem is whether the company should focus on more planning of the budget or more control of the budget. The illustration is projected below for a didactical purpose.



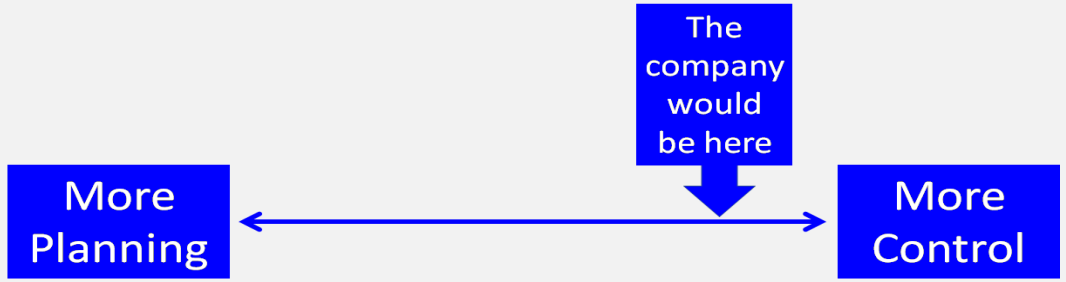
The decision of where to position the company, in the middle of more Planning versus more Controlling approaches emerges.

There are methods to allow managers to adapt their programs on the go.

For example, managers of companies in dynamic sectors of the economy may adopt a **lean-agile** planning model.

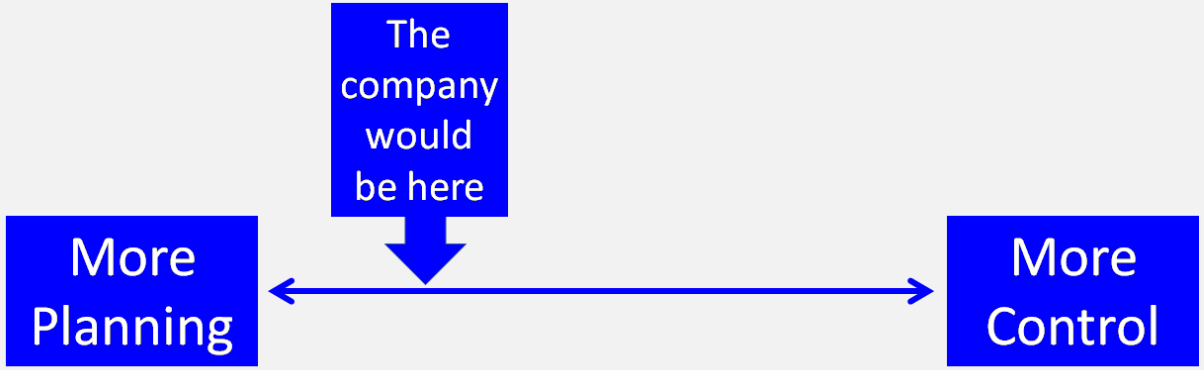
This approach for planning may be recommended in situations when managers conclude that the efforts seeking accuracy in planning don't pay back the diligence in developing the plan..

Lean-agile planning is about being closer to the more controlling side. So, the company would be to the right, look at the figure.

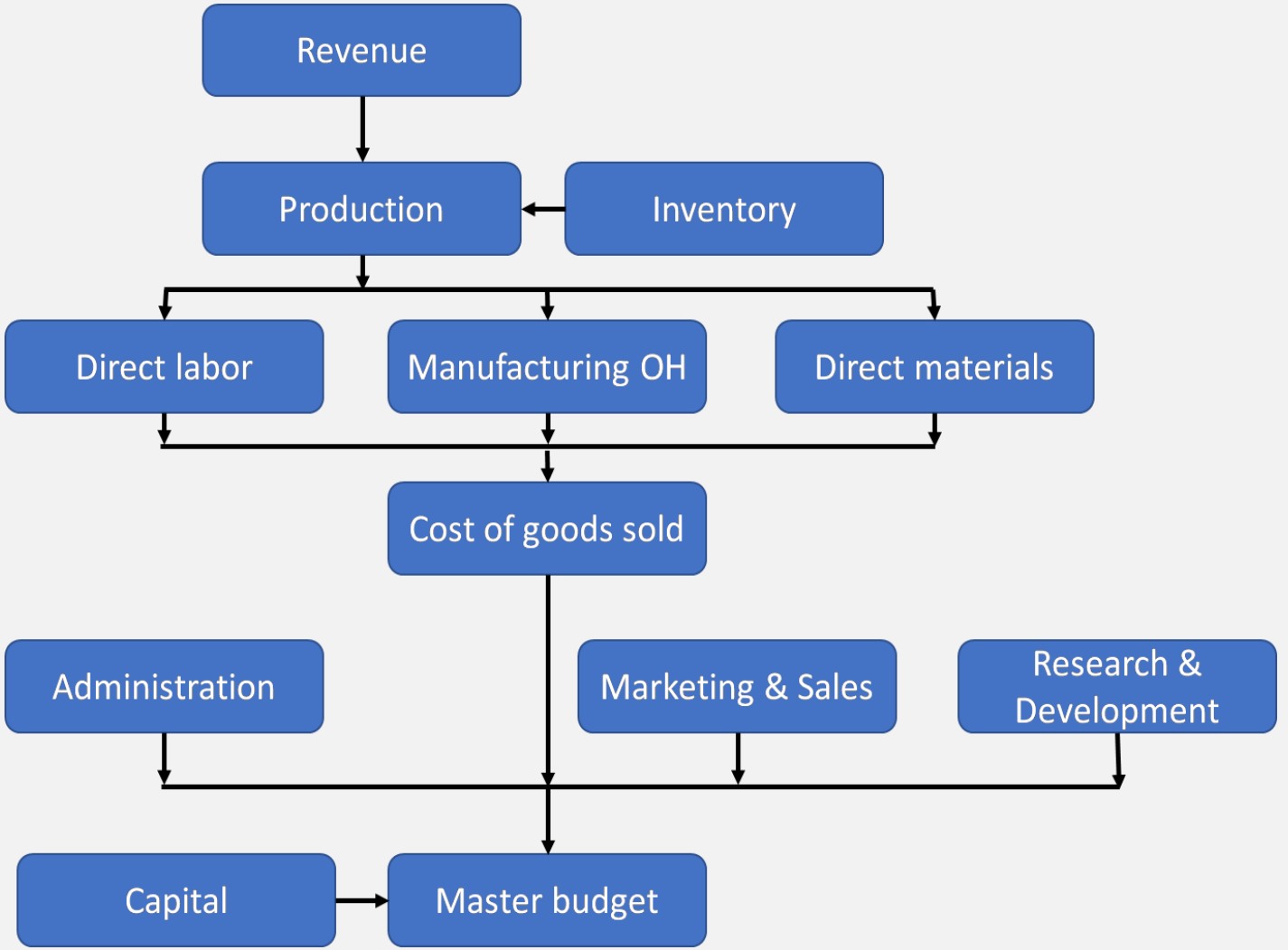


- This method would imply that managers would be reviewing planning and budgeting more often.
- The budget would be simpler in scope, for a time horizon not so long, and managers would be focused on tightly controlling and reducing costs.

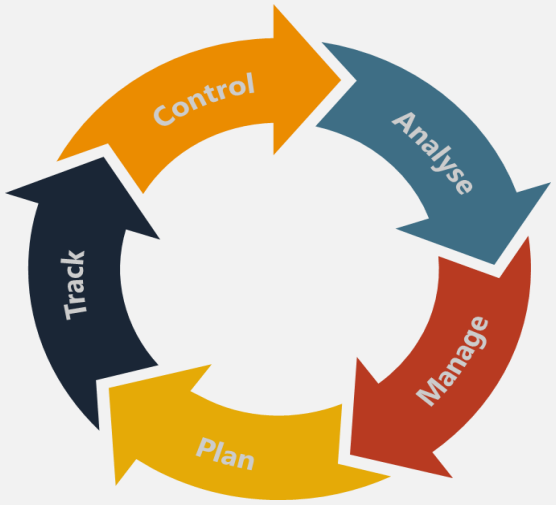
In the more planning approach, the company would be located to the left side. In this approach, managers certainly have concluded that the business environment is relatively stable. Therefore, they can invest more time in planning, and less in control.



BUDGET DEVELOPMENT FRAMEWORK



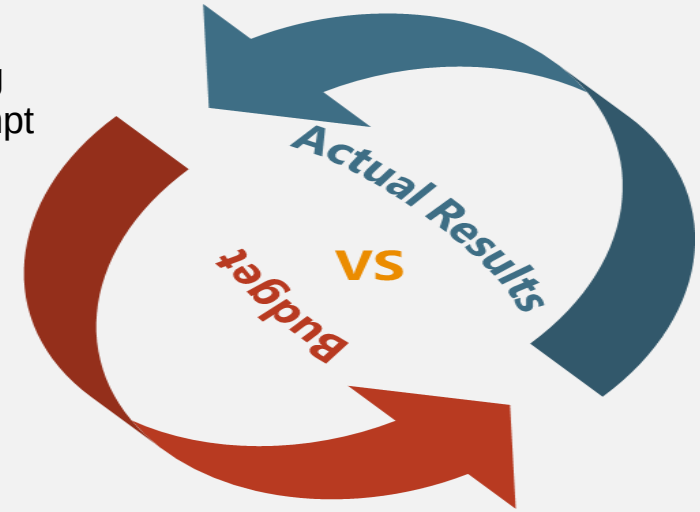
BUDGET CONTROL

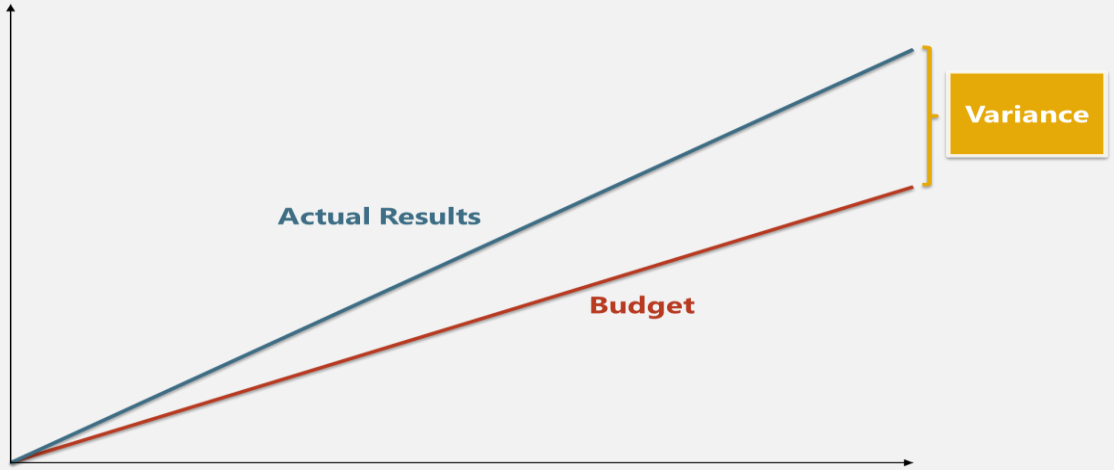


- After creating a budget, you should further compare it to actual results, so that you can see how the business is performing in comparison to your expectations.
- A budget provides benchmarks that can be used in the management of challenges.

One of the greatest values of budgets is to provide key decision-making tools. In reality, analysing the reasons why actual results differ from expected results is a far more useful tool than the attempt to predict the future.
The difference between actual results and the expectations described in the budget is called variance.

- When a variance is found, management will be wondering:
- What happened?
- Were the assumptions wrong?
- Were needs incorrectly calculated?
- Did the business environment, or the world, change?
- Is there a better method to do it?





By studying and analysing variances and the reasons for differences, one can continually improve the

- performance
- ability to predict the future
- the quality of the plans.

Evaluation is based on reports of actual results in comparison to budget and should include a calculation of the variance. The format of reports could vary a lot and you can decide what is best for your specific need.

PREPARING REPORTS

- The most efficient reports are those that deliver the message clearly and summarized.
- In any case, reports should be designed to highlight the most important parts of the message, so that the recipient does not have to waste time to understand important matters.

Current Period			
	Budget	Actual	Variance
Sales	10,000	9,550	(450)
Cost of goods sold	6,000	6,500	(500)
Margin	4,000	3,050	(950)

The difference could be caused by a several different reasons, such as:

- the number of units sold,
- the sale price per unit,
- the mix of products, or
- some combination of these or additional factors.

NOTE - In this example unfavourable variances are bracketed, regardless of whether they are revenues or expenses. This could vary depending on each company definition.

THANKYOU

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