

DIAGNOSTIC CENTER PROJECT



BEST HEALT
LIMITED COMPANY

Diagnostic Center Project

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1. Project Information

1.1. Project Name

TANZANIA DIAGNOSTIC CENTER PROJECT

1.2. Project Owner

Best Health Limited Company

1.3. Project Summary

MRI and CT Scan devices are external diagnostic devices that play a crucial role in disease diagnosis. Their primary benefit is to enable accurate and rapid diagnoses, leading to effective treatment.

The use of MRI devices varies significantly between countries. Japan has the highest density of MRI devices globally, with 55.2 MRI machines per one million people. In other developed countries, this rate is lower: 38.1 in the USA, 34.6 in Germany, and 19.4 in Sweden. In Turkey, this figure is around 15, while in Africa, it is below one MRI machine per million people.

The first phase of this project involves establishing a diagnostic center in Dar es Salaam, Tanzania, equipped with MRI, CT Scan, X-Ray, Mammography, Bone Densitometry, Dental Panoramic X-Ray, and Doppler USG devices. A medical laboratory will be added in the second phase.

A unique aspect of this project is the transmission of imaging results via DICOM (Digital Imaging and Communications in Medicine) to Turkey, where specialist doctors will analyze and report on them.

There are limited countries that manufacture MRI and CT Scan devices. Our preference is for European-manufactured devices. One of the critical considerations is technical service, and companies certified from Europe and the UK operate in Turkey.

There is no significant competition in the market. To ensure accessibility, pricing will be set at the lower end of the market average.

Tanzania has sufficient human resources capable of operating these devices and interpreting imaging results.

Our target audience includes private healthcare institutions without the necessary equipment, NSSF patients, privately insured patients, and high-income groups.

The total investment is planned at approximately USD 1.6 million if second-hand devices are preferred. Financial analyses indicate that the investment will be recouped in a shorter period than expected under market conditions.

1.4. Project Location

We aim to implement this project in Dar es Salaam. The exact location will be determined after securing a rental property.

1.5. Entrepreneur's Background

The entrepreneur group has been active since 2006 under the name FTR Healthcare Group in Turkey.

Founder Hurflit Ellialtı is currently the Chairman of the Board. The group specializes in establishing and operating hospitals and healthcare facilities, as well as medical tourism.

It collaborates with government hospitals.

Hurflit Ellialtı studied on cost accounting in healthcare institutions at Sakarya University.

FTR Healthcare Group includes the following institutions:

FTR Health Group <https://ftrsaglikgrubu.com.tr/tr>

Private Hospital Turk Investment Partnership
Pendik Medical Center
Pendik Physiotherapy Center

<https://hospitalturk.com/>
<https://pendiktip.com/>
<https://www.pendikfiziktedavi.com.tr/>

Republic of Turkey Health Ministry Sakarya Province General Physiotherapy

Service Provider

Republic of Turkey Health Ministry Erenköy Physiotherapy Hospital Management

1.6. Project Objectives

The project's objective is to make advanced radiology and medical laboratory services accessible and widespread in Tanzania.

The short-term goal of the project is establishing a radiology-focused diagnostic center with the equipment listed in the project summary.

The Medium-term goal is expanding to include medical laboratory services.

Finally, the long-term goal is replicate this system across all Tanzania.

1.7. Required Permits for Establishing the Business

1.1.7. Permission List

Permission List		
Stage	Detail	Time Frame
Company establishment	Incorporation of a company	
	Tax Identification Number and Tax Clearance	
	Administration of the company stamp	
	Processing business license from Municipal	
Tanzanian Investment Center Registration		
Health Minister Process	TMDA Registration	
Costum Border Authority		
Other Things		

2. Needs and Resource Utilization

2.1. Technology and Equipment

The number of countries that manufacture MRI and CT Scan devices is limited. We prefer European-manufactured MRI and CT Scan devices.

We have received an offer for new devices from Siemens, a company active in the market in Tanzania, for the project.

The offer provided by Pacific Diagnostic for the Siemens MRI Magnetom Amira 1.5 Tesla device, which is widely used in Europe and Turkey, is attached. This offer only covers one device in the package we prepared, specifically the MRI device.

A package offer that includes the Siemens MRI Magnetom Amira 1.5 Tesla device, provided by Renova Engineering, is also attached.

According to the proforma offered by Renova, the total package price for a second-hand device is 960,000 Euros.

This price includes installation costs.

Additionally, it should be noted that the transportation of the MRI device is quite specialized.

It can only be transported via a large-bodied aircraft.

Renova has stated in our discussions that they hold a technical qualification certificate in the UK.

2.2. Human Resources

In discussions in Tanzania, it was noted that there are over 70,000 doctors, with approximately 10% being specialists.

Additionally, there are sufficient schools training radiology technicians, indicating an adequate workforce.

3. Market Analysis

3.1. Market Conditions

3.1.1. Healthcare Financing in the Target Country

Social Security System

The healthcare financing model of Tanzania's social security system National Health Insurance Fund (NHIF) has been analyzed. The collaboration between public healthcare services and the private sector in financing healthcare should be further explored. Additionally, NHIF has a determined payment system.

For MRI scans, which make up a significant portion of the project's investment and revenue, NHIF pays an average of \$120 per scan.

Private Insurance

The payment system of private insurance providers has been examined in terms of healthcare service financing and pricing policies. Private insurers set payment limits according to the

packages they offer, and payment amounts are based on current market prices.

The proportion of privately insured individuals is below 1% of the total population.



3.1.2. Market Analysis

Our market analysis is primarily focused on MRI services, as MRI machines and their related services form the core of our investment.

MRI (Magnetic Resonance Imaging) is a diagnostic method that uses a strong magnetic field and radio waves to produce detailed images of soft tissues, organs, and other structures within the body. Since it does not use ionizing radiation, it is considered safe and widely preferred.

Applications of MRI

1. Brain and Nervous System:

- Diagnosis of brain tumors, strokes, and multiple sclerosis (MS).
- Visualization of abnormalities in brain blood vessels.
- Issues related to the spinal cord and nerves.

2. Musculoskeletal System:

- Joint injuries, cartilage damage, and connective tissue disorders.
- Bone and soft tissue tumors.
- Spinal disc herniation and nerve compression.

3. Cardiovascular System:

- Evaluation of heart and blood vessel anatomy and function.
- Diagnosis of heart muscle damage or infections.
- Blood flow and vascular blockages.

4. Abdominal and Pelvic Regions:

- Assessment of masses in organs such as the liver, kidneys, and spleen.
- Diagnosis of prostate, uterus, and ovarian disorders.
- Detection of abnormalities in the digestive system.

5. Oncology:

- Determining the location, size, and spread of tumors.
- Monitoring treatment outcomes.

6. Fetal Imaging:

- Evaluation of developmental abnormalities in the fetus during pregnancy.

Advantages

- Provides high-resolution and detailed images.
- Does not use ionizing radiation.
- Offers a comprehensive examination option (both anatomical and functional information).
- MRI is a highly valuable tool for doctors in diagnosing diseases and planning treatments.

MRI Usage Worldwide

The usage of MRI machines varies significantly between countries. Japan has the highest MRI density globally, with 55.2 MRI devices per million people. In other developed countries, this rate is generally lower: 38.1 in the USA, 34.6 in Germany, and 19.4 in Sweden. In Turkey, this figure is approximately 15, whereas in Africa, the ratio is below one MRI device per million people.

These variations are influenced by healthcare policies, population density, the cost of MRI machines, and the structure of the healthcare system. For instance, the widespread availability of MRI machines in Japan allows for quicker diagnostic processes,



whereas some countries impose restrictions on the use of these devices. For more information or data analysis, global health statistics provided by official institutions can be reviewed.

For example:

<https://www.who.int/data/gho/data/indicators/indicator-details/GHO/total-densityper-million-population-magnetic-resonance-imaging>

MRI Usage in Africa

Most MRI machines currently available in Africa are low-field magnetic devices that perform basic diagnostic functions. While these machines are essential for managing neurological and musculoskeletal diseases, they have limitations in cases requiring more advanced imaging techniques. Despite recent improvements in access to MRI machines across the continent, availability remains insufficient relative to the large population size.

To address these limitations in MRI services, it is recommended that more investment be made in areas such as ensuring sustainable energy sources, expanding training programs, and improving device maintenance.

For more information:

<https://www.panafrican-med-journal.com/content/article/30/240/full/>

Market Structure

Some of the devices used in Tanzania are low-field magnetic machines and consist of older models. The number of modern devices is increasing, depending on access to energy sources and technology transfer.

The utilization capacity of MRI machines is low, with most facilities scanning fewer than 15 patients per day. The main reasons for this include a lack of training, equipment maintenance issues, and operational infrastructure deficiencies.

Our research in Tanzania has identified 28 actively functioning MRI machines.

System Operations

Imaging services are generally provided in hospitals.

Worldwide, imaging requests are made by doctors, and the same applies to Tanzania.

In our field research, the doctors we interviewed stated that they could not use MRI and CT scans as frequently as needed due to a lack of available devices and high service costs.

MRI Prices

The reason why we are starting with MRI scan prices is that MRI scan prices are used as a reference point for service pricing.

In the private sector, MRI prices range between USD 200–450, depending primarily on device quality and efficiency. One of the clinics we visited charged USD 220 for an MRI scan using a 25-year-old outdated machine. In public hospitals, uninsured patients pay an average of USD 150 per scan, but due to high demand, appointment wait times are long.

As noted earlier, NHIF payment is set at USD 120 per scan.

As mentioned in the Market Analysis section, it is possible to work with NHIF.

3.2. Target Group

3.2.1. Private Healthcare Facility Patients

Our target audience includes private healthcare institutions and clinics that lack radiology imaging units or use outdated technology.

The devices we will use are advanced and will include specialized diagnostic technologies such as cardiology and urology. Additionally, as described in the project introduction, specialized imaging scans will be analyzed and reported by expert doctors in Turkey.

3.2.2. NHIF Patients

Tanzania's Social Security Service (NHIF) contracts with private providers for such services. As outlined in the financial tables, a specific portion of the total capacity will be allocated to NHIF patients.

3.3. Competitor Analysis

Many institutions in the market have MRI and CT scan devices, but there is no dedicated center solely equipped with diagnostic devices, as planned in our project.

The closest competitor to our organization is Besta Super Specialized Poly Clinic.

Their marketing approach and relationships with other institutions can be key factors in competitor analysis.

However, it should be noted that every device has a maximum capacity. The maximum daily capacity for an MRI machine is 48 scans and the maximum daily capacity for a CT scan machine is 72 scans. Considering the country's population size and growth, along with the limited number of diagnostic devices, it is difficult to speak of excessive competition.

3.4. Demand Status

Even when compared to developing countries, there is an insufficient supply of services, making it difficult to measure demand accurately.

Given the long appointment wait times in public hospitals and the fact that diagnostic devices in the private sector operate at near full capacity despite high costs, we do not expect any demand issues.

3.5. Marketing Plan

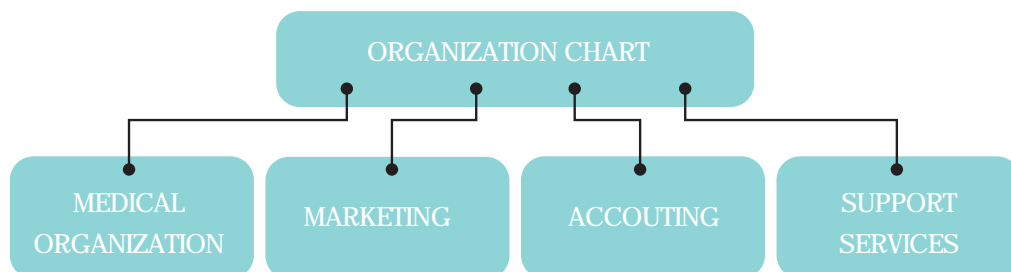
Marketing Activities	1	2	3	4	5	6	Responsible	Budget
Creating Corporate Identity	X	X						
Market Analysis		X	X					
Marketing Strategy	X	X						
Brochure, catalogue, business card, letterhead printing				X				
Website and Web Marketing				X	X	X		
Social Media and Marketing								
Advertising and appearing in the								
NSSF Agreement								
Private Insurances Agreement with other								
Private hospitals Agreement								
Dotkor visits - Information								
Training and Promotion Meetings								

4. Organization Plan

4.1. Process Planning

Diagnostic Center Business Plan			
Level 1	Level 2	Beginning	Duration
Company Establishment	Partnership Structure		
	Determination of Capital		
Building Rental	Location		
	Building Selection		
	Rent		
Device	Device List		
	Supplier Choose		
	Purchasing		
Project Cost	Devices		
	Construction Cost		
	Operational Capital		
Financing	Equity Capital		
	Leasing		
TIC Accreditation			
Permissions	Phab		
	PMO		
	TMDA		
	Custom Border Process		
Operation	Buildin Rinovation		
	Establishing Infrastructure Ssystems		
	Installing Devices		
	Personnel Recuitenet		
	Work Permit		
	Marketing		

4.2. Organization Plans



5. Financial Planning

5.1. Investment Amount

5.1.1. Building Renovation

The required building area to carry out the project should be at least 500 m². Converting this area for healthcare service delivery, based on local prices, will cost approximately 230,000 USD.

5.1.2. Medical Equipment

The list of necessary equipment for the planned project is as follows. For these devices, only an MRI proposal has been obtained from Siemens, the strongest local company in Tanzania. The proposals will be included in the project appendix.

To standardize alternatives, we have also obtained a second-hand proposal for a Siemens Magnetom Amira 1.5 Tesla MRI, with a quoted price of USD 1,030,052 for Tanzania.

- MRI
- CT (Tomography)
- X-Ray Machine
- Mammography
- Bone Densitometry
- Dental Panoramic X-Ray
- USG Doppler

5.1.3. Use of Second-Hand Equipment

To make costs more affordable, devices that have been used for five years abroad may be imported. In Turkey, the estimated lifespan for such devices is 15 years.

Procurement and installation will be handled by Turkish companies that hold technical service competency certificates from the UK (certificates will be provided).

These Turkish companies guarantee five years of service.

For the above-mentioned equipment set, Turkish companies have proposed an approximate cost of EUR 960,000. However, the final price will vary depending on the selected devices and their installation location.

5.1.4 Investment Amount Tables

General Investment Table

Investment	Amount
1.Machinery Equipment	\$1,008,000
2.Project study	\$340,000
3.Building Construction Expense	\$223,000
4.Investment period building Rent	\$36,000
5.Investment period staff salary	\$50,140
TOTAL FIXED INVESTMENT	\$1,657,140

General Investment Table

Financing Need	
Financing Type	
1.Initial Investment	\$1.008.000
2.Working Capital	\$649.140
Total Financing Need	\$1.657.140
Financial Resources	
1.Equity Capital	\$1.657.140
2.Debts	\$0
3.Credit	\$0
Total Leasing Demand	\$0

5.2. Profit Calculations

5.2.1. Revenue Accounts

Maximum Capacity and Revenue Accounts

Process	Estimated Price \$	Max Capacity	
		Capacity Usage per Day	Total For Year
MRI	\$150,00	48	\$2.253.600,00
CT	\$80,00	72	\$1.802.880,00
X-Ray	\$40,00	40	\$500.800,00
Mammography	\$40,00	48	\$600.960,00
Bone Dansitometer	\$40,00	48	\$600.960,00
Panaromic x-Ray	\$40,00	48	\$600.960,00
USG Doppler	\$80,00	20	\$500.800,00
Total			\$6.860.960

Revenue Account Timed Optimum Capacity

Process	Estimate d Price \$	2026		2027		2028		2029	
		Capasit y Usuga For Day	Total For Year	Capasit y Usuga For Day	Total For Year	Capasit y Usuga For Day	Total For Year	Capasit y Usuga For Day	Total For Year
MRI	\$150,00	20	\$939.000,00	24	\$1.126.800,00	28,8	\$1.352.160,00	34,56	\$1.622.592,00
CT	\$80,00	12	\$300.480,00	14,4	\$360.576,00	17,28	\$432.691,20	20,736	\$519.229,44
X-Ray	\$40,00	10	\$125.200,00	12	\$150.240,00	14,4	\$180.288,00	17,28	\$216.345,60
Mammografi	\$40,00	8	\$100.180,00	9,6	\$120.192,00	11,52	\$144.230,40	13,824	\$173.076,48
Kemik Dansitometre	\$40,00	8	\$100.180,00	9,6	\$120.192,00	11,52	\$144.230,40	13,824	\$173.076,48
Panoramik Ronger	\$40,00	8	\$100.180,00	9,6	\$120.192,00	11,52	\$144.230,40	13,824	\$173.076,48
USG Doppler	\$80,00	10	\$250.400,00	12	\$300.480,00	14,4	\$360.576,00	17,28	\$432.691,20
TOTALLY			\$1.915.560		\$2.298.672		\$2.758.406		\$3.310.088

5.2.2. Cost Account

Salary Account

Name	Amount	Salary	Total	Total Annual Personnel Expense			
				2026	2027	2028	2029
1. DOKTOR	1	\$2.500	\$30.000	\$30.000	\$33.000	\$36.300	\$36.300
2. Radiology Technician Local	5	\$400	\$24.000	\$24.000	\$26.400	\$29.040	\$29.040
3. Radiology Technician Türk	1	\$2.000	\$24.000	\$24.000	\$26.400	\$29.040	\$29.040
4. Patient Admission Staff	4	\$300	\$14.400	\$14.400	\$15.840	\$17.424	\$17.424
5. Accountant	1	\$500	\$6.000	\$6.000	\$6.600	\$7.260	\$7.260
6. Biomedical Technician	1	\$500	\$6.000	\$6.000	\$6.600	\$7.260	\$7.260
7. Manager	1	\$3.000	\$36.000	\$36.000	\$39.600	\$43.560	\$43.560
8. Salesmen	2	\$500	\$12.000	\$12.000	\$13.200	\$14.520	\$14.520
9. Driver	2	\$300	\$7.200	\$7.200	\$7.920	\$8.712	\$8.712
10. Security	1	\$300	\$3.600	\$3.600	\$3.960	\$4.356	\$4.356
11. Driver for Parking	1	\$300	\$3.600	\$3.600	\$3.960	\$4.356	\$4.356
Total Employee Expense	20		\$166.800	\$166.800	\$183.480	\$201.828	\$201.828

Cost Account Total

Expenses	2026	2027	2028	2028
1. Medical Material	\$13.800	\$15.180	\$16.698	\$16.698
2. Marketing and Sales expenses	\$95.778	\$114.934	\$137.920	\$165.504
3. Building Rent	\$72.000	\$72.000	\$72.000	\$72.000
4. Elektric	\$40.800	\$40.800	\$40.800	\$40.800
5. Water	\$7.200	\$7.200	\$7.200	\$7.200
6. Other expenses	\$36.000	\$36.000	\$36.000	\$36.000
7. Salary Expense	\$166.800	\$183.480	\$201.828	\$201.828
8. Maintenance Repair	\$72.000	\$72.000	\$72.000	\$72.000
9. Patent License	\$9.600	\$9.600	\$9.600	\$9.600
10. General Operating Expenses	\$51.600	\$51.600	\$51.600	\$51.600
Total Expenses	\$565.578	\$602.794	\$645.646	\$673.230

5.2.3. BBN and Profitability Analysis Tables

Income	2026	2027	2028	2029
Health Service sales	\$1,915,560	\$2,298,672	\$2,758,406	\$3,310,088
Total Expenses	\$565,578	\$602,794	\$645,646	\$673,230
Profit Loss / Profitability	\$1,349,982	\$1,695,878	\$2,112,760	\$2,636,857

Net Profit Calculation Table

Years	2025	2026	2027	2028	2029
Sales Revenue	\$0	\$1,915,560	\$2,298,672	\$2,758,406	\$3,310,088
Operating Expenses		\$565,578	\$602,794	\$645,646	\$673,230
Depreciation		\$246,200	\$246,200	\$246,200	\$246,200
Financial Expenses		\$50,400	\$50,400	\$50,400	\$50,400
Profit Before Tax		\$1,053,382	\$1,399,278	\$1,816,160	\$2,340,257
Taxes (25%)		\$263,346	\$349,820	\$454,040	\$585,064
Profit After Tax		\$790,037	\$1,049,459	\$1,362,120	\$2,340,257
Working Capital	\$333,600				
Fixed Investment	\$1,306,860				

5.3. Cash Flow Tables

Cash Flow Statement

CASH INFLOWS	2025	2026	2027	2028	2029
INVESTMENT LOAN	\$1,008,000	\$0			
EQUITY	\$649,140				
OPERATING REVENUE-EXPENSE DIFFERENCE	\$0	\$1,053,382	\$1,399,278	\$1,816,160	\$2,340,257
SALVAGE VALUE	\$0				
BEGINNING CASH BALANCE	\$0	\$335,625	\$1,389,007	\$2,788,285	\$4,604,445
TOTAL CASH INFLOWS	\$1,657,140	\$1,389,007	\$2,788,285	\$4,604,445	\$6,944,703
CASH OUTFLOWS					
TOTAL FIXED INVESTMENT	\$1,323,540				
WORKING CAPITAL					
RECEIVABLES NSSF PAYMENT DELAY		\$287,334	\$57,467	\$68,960	\$82,752
LOAN INTEREST PAYMENTS		\$50,400	\$50,400	\$50,400	\$50,400
LOAN PRINCIPAL PAYMENTS		\$252,000	\$252,000	\$252,000	\$252,000
TAXES		\$263,346	\$349,820	\$454,040	\$585,064
TOTAL CASH OUTFLOWS	\$1,323,540	\$853,080	\$709,686	\$825,400	\$970,217
YEAR-END CASH BALANCE	\$335,625	\$535,928	\$2,078,599	\$3,779,045	\$5,974,486

5.4. Loan Request and Content

Our loan request is primarily in the form of leasing, aiming to finance the medical equipment through leasing arrangements. The requested leasing amount is EUR 960,000, to be utilized in USD equivalent.



6. Risk Analysis

6.1. Financial Risk

The primary financial risks associated with investing in Tanzania include:

- **Currency Risk:** Fluctuations in the Tanzanian Shilling (TZS) may increase foreign exchange-based costs.
- **Inflation Risk:** High inflation may impact operating costs and price stability.
- **Regulatory Risk:** Changes in tax policies and investment incentives may create financial burdens.
- **Collection Risk:** Payment delays may occur in transactions with both public and private sectors. NHIF, in particular, sometimes experiences delays of up to seven months in payments.

6.2. Operational Risk

Key operational risks related to healthcare investment in Tanzania include:

- **Medical Equipment Supply and Maintenance:** Importing, maintaining, and obtaining spare parts for high-tech medical devices may be time-consuming and costly.
- **Logistics and Supply Chain Issues:** The timely procurement of medications and medical supplies may be hindered by logistical infrastructure challenges.
- **Regulatory and Licensing Processes:** The healthcare sector is subject to strict legal regulations, and licensing procedures may take a long time.
- **Patient Safety and Hygiene Standards:** Additional measures may be necessary to comply with international healthcare standards.
- **Electricity and Water Shortages:** Frequent power and water outages in Tanzania may negatively impact healthcare services. Power outages, in particular, pose a serious risk.
- **Insurance and Payment Systems:** Patient's insurance coverage may be limited, there may be delays in collections.

To mitigate these risks, strong human resource strategies, alternative energy solutions, and an efficient supply chain management plan should be implemented.

6.3. Legal Risk

Key legal risks related to healthcare investment in Tanzania include:

- **Licensing and Permits:** A license must be obtained from the Tanzanian Ministry of Health and relevant regulatory bodies to provide healthcare services. The process can be lengthy and complex.
- **Tax and Financial Regulations:** Tax incentives for investments may change, and corporate taxes and other financial obligations could increase investment costs.
- **Insurance and Patient Rights:** Patient rights and health insurance regulations are strictly monitored. Malpractice lawsuits may pose financial risks.
- **Pharmaceutical and Medical Device Regulations:** Imported drugs and medical equipment must be approved by the Tanzania Food and Drug Authority (TFDA).
- **Employment Laws:** Employee rights, work contracts, and work permits must comply with local labor laws.
- **Property and Investment Protection:** While foreign investors' property rights are protected, legal uncertainties may arise during legal proceedings.