# ON CARDIOPAX.Inc

# IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE AWARD OF DEGREE IN BIOTECHNOLOGY



# Siksha 'O' Anusandhan (Deemed to be University) Bhubaneswar, Odisha

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4<sup>th</sup> Semester

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Integrated MSc Biotechnology

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**CERTIFICATE OF GUIDE** 

This is to certify that this Project report is being submitted by Rishita Jena, Centre of

Biotechnology, Siksha 'O' Anusandhan (Deemed to be university), Bhubaneswar, Odisha in

partial fulfilment for the award of degree in Biotechnology. It is a record of Bonafede work

carried out by him during her 4th Semester under my supervision and guidance.

It embodies the report of his report has not been submitted to any other University or Institution

for the award of any degree.

I wish him all the best and success in future endeavours.

(Dr.) Bhabani Shankar Rout

Institute of Business and Computer Studies (IBCS)

Siksha 'O' Anusandhan (Deemed to be University)

Bhubaneswar, Odisha

DATE:

PLACE: BHUBANESWAR

**ACKNOWLEDGEMENT** 

The satisfaction that accompanies the successful completion of any task would be incomplete

without mentioning people who made it possible, whose encouragement and consistent

guidance helped in accomplishment of the task from various angles and presenting it with all

sincerity.

The work of some unknown person makes our lives easier every day. I believe it's appropriate

to acknowledge all of those unknown persons; but it is also necessary to acknowledge those

people, we know have directly shaped our lives and our work.

I express my deep sense of gratitude to my Professor who provided me the scope and

opportunities, and for being the constant driving force to put to practice the theoretical

knowledge that I imparted from the program.

Rishita Jena

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DATE:

PLACE: BHUBANESWAR

### **DECLARATION**

I do hereby declare that this Project Report is an original report and has been written by me and has not been submitted for any other previous degree. The collaborative contributions have been indicated clearly and acknowledged.

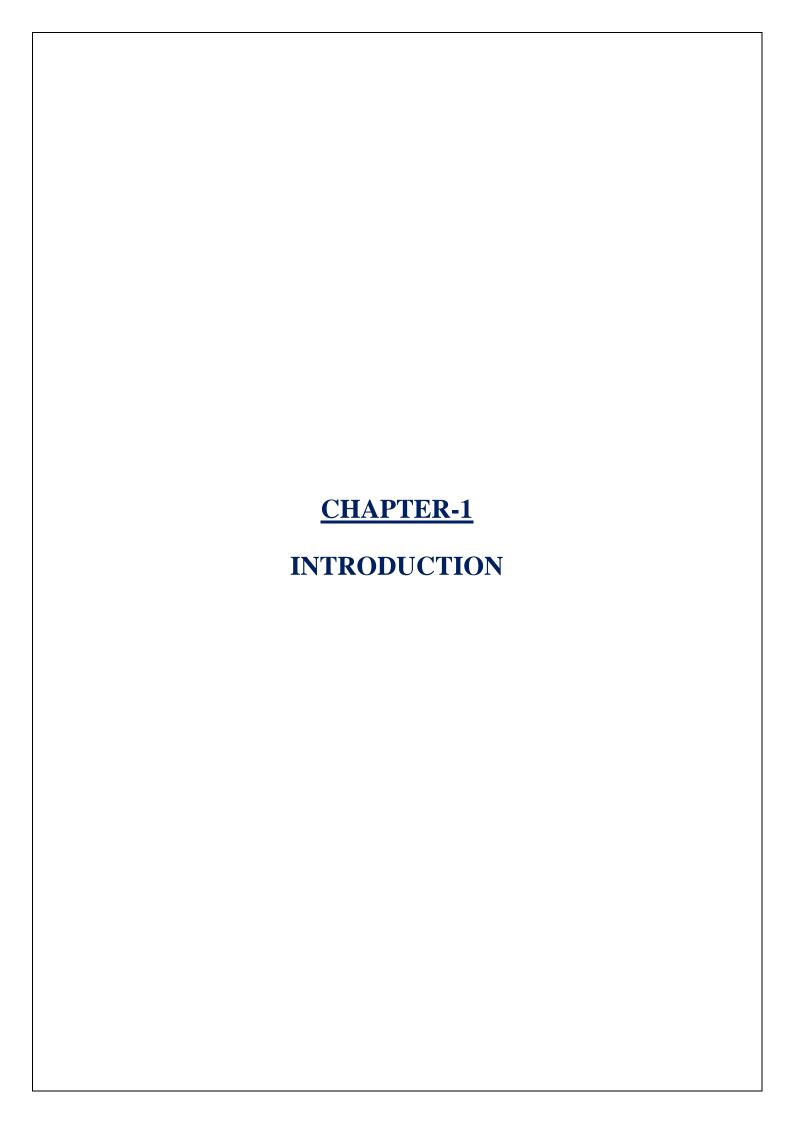
I declare that this Project Report is prepared myself under the guidance of (**Dr.**) **Bhabani Shankar Rout**; that the work contained herein is my own except where explicitly stated otherwise, and that this work has not been submitted for any other degree or professional qualification elsewhere in full or in part.

Rishita Jena

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#### 1.1 EXECUTIVE SUMMARY

Using a non-invasive, drug-free alternative to conventional pain relief techniques, Cardiopax.inc is a start-up that aims to create and market a cardiac pain relief device. Our device is intended to relieve chest pain brought on by illnesses like angina, myocardial infarction, and other cardiac conditions.

Our offering is a wearable gadget that relieves pain by stimulating the chest's nerves with electromagnetic fields. The device is made to be worn discretely, and users can control the electromagnetic fields' frequency and intensity using an app on their smartphone.

From 2023 to 2028, it is anticipated that the global market for cardiac pain relief devices will expand at a compound annual growth rate of 9%. The market is being propelled by an increase in non-invasive treatment options demand, rising healthcare costs, and an increase in the prevalence of cardiac diseases.

Cardiovascular patients who frequently experience chest pain are part of our target market, as are the medical professionals who treat them. In addition to direct sales to hospitals and clinics, we intend to market our product online to individual consumers.

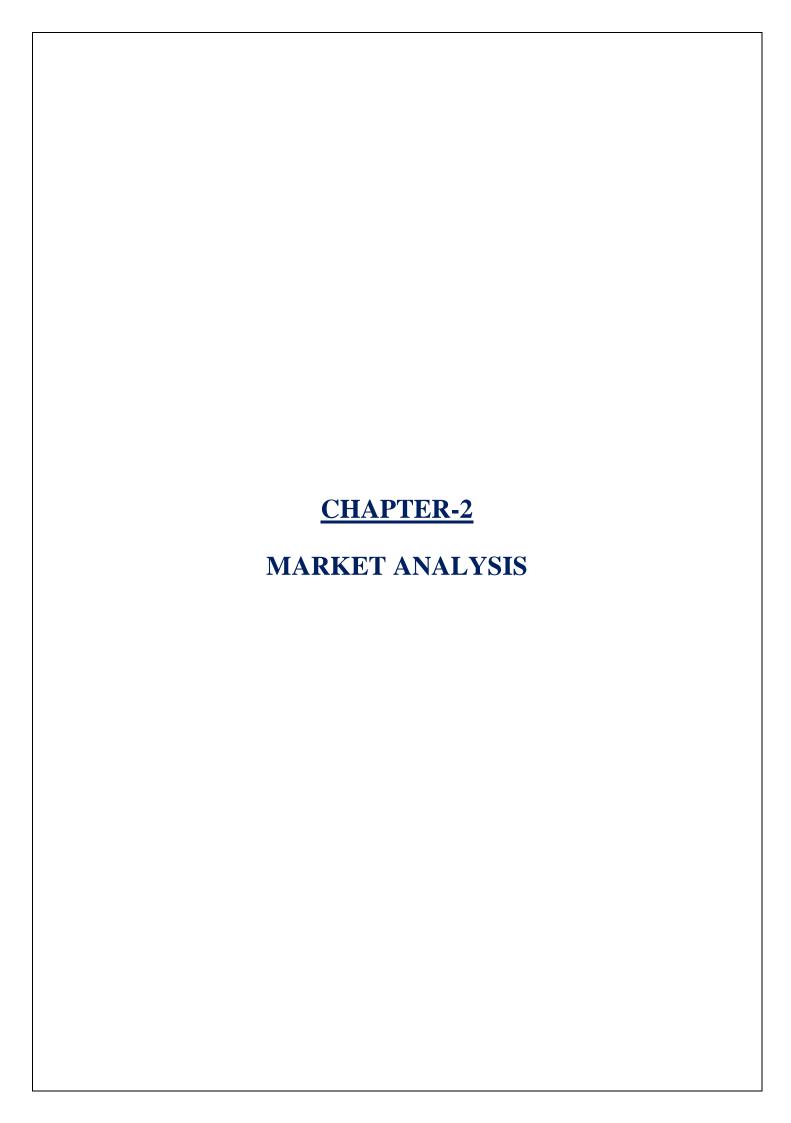
Our team has a wealth of experience in the medical device sector and a successful track record of launching ground-breaking products. We are certain that our product will offer a critical remedy to a pressing issue, and we eagerly anticipate releasing it on the market soon.

#### 1.2 COMPANY'S DESCRIPTION

A start-up company called Cardiopax.inc focuses on the creation and promotion of a cardiac pain relief device. Our product is intended to relieve chest pain brought on by conditions like angina, myocardial infarction, and other cardiac diseases by offering a non-invasive, drug-free substitute to conventional pain relief techniques.

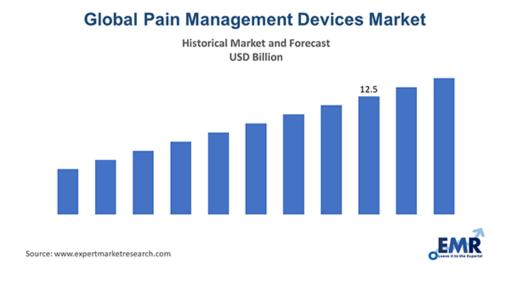
Our team has extensive experience in the medical device industry, with a proven track record of bringing innovative products to market. The idea for our product was born out of personal experience with cardiovascular diseases, chest pain and the limitations of existing pain relief options.

We are dedicated to offering a top-notch product that satisfies the requirements of cardiac patients and medical professionals alike. Our device, which can be operated by a smartphone app for maximum convenience and usability, stimulates the nerves in the chest to relieve pain. Our device not only relieves pain, but it also has the potential to lower healthcare costs related to conventional pain relief techniques and enhance patient outcomes. As soon as possible, we intend to bring our product to market because we are enthusiastic about the potential positive effects it may have on the lives of cardiac patients.



#### 2.1 Global Market

A compound annual growth rate of 9% is anticipated for the global market for pain relief devices between 2023 and 2028. Rising healthcare costs, an increase in the prevalence of cardiac diseases, and a rise in the demand for non-invasive treatment options are all driving the market. A report by states that the global market for pain relief devices is anticipated to reach USD 14.5 by 2026.

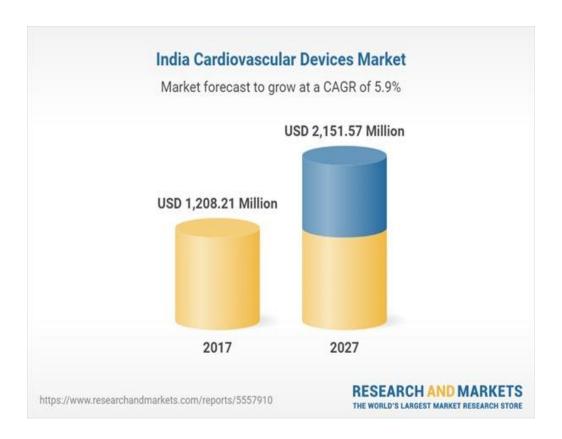


The market for pain relief devices is dominated by North America, with Europe and Asia Pacific coming in second and third. However, the Asia Pacific region is anticipated to experience the highest growth rate over the course of the projection period due to rising healthcare costs, increased knowledge of non-invasive treatment options, and an increase in the prevalence of cardiac diseases.



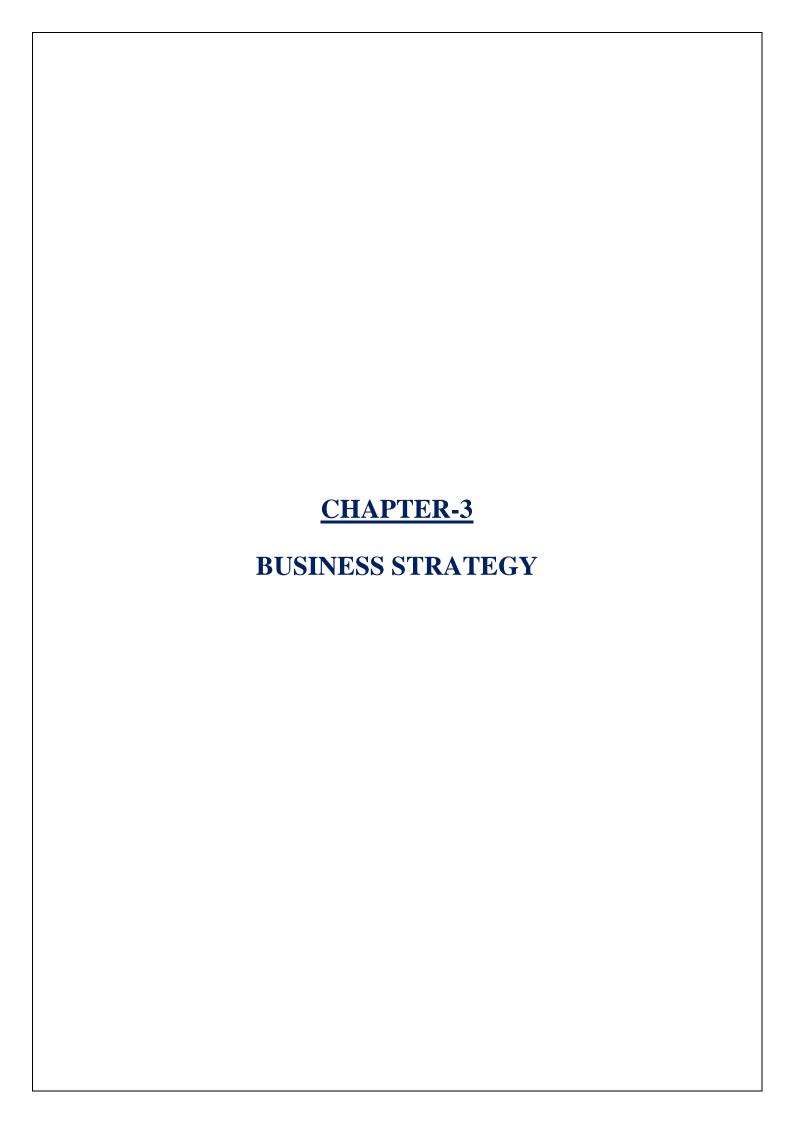
#### 2.2 Indian Market

Due to factors like a sedentary lifestyle, poor diet, and an increase in risk factors like diabetes and hypertension, the incidence of cardiac diseases is rising in India. The Indian market for cardiac devices is estimated to be worth \$0.85bn in 2023 and is anticipated to grow at a CAGR of 5.9% resulting in a market volume of \$2151.57 million by 2027.



The majority of patients in India currently rely on conventional pain relief techniques like nitroglycerine and opioids because there are so few non-invasive pain relief options available for cardiac patients. However, there is a growing demand for devices that can deliver efficient pain relief without the negative side effects of drugs, as well as a growing awareness of non-invasive treatment options.

CardioPax.inc, a start-up that offers a non-invasive, drug-free substitute to conventional pain relief techniques, is well situated to profit from this expanding demand. We are dedicated to getting our product on the market as soon as possible because we think it has the potential to completely change how cardiac patients in India and other countries manage their chest pain.



#### 3.1 PRODUCT LINE

For non-invasive, drug-free relief from chest pain brought on by conditions like angina, myocardial infarction, and other cardiac diseases, Cardiopax.inc offers a variety of cardiac pain relief devices. Our product line includes:

#### Angioease:

Our flagship product, Angioease, relieves pain by stimulating the chest's nerves with electromagnetic fields. To ensure maximum comfort and simplicity of use, the device can be managed by a smartphone app.

#### **Myorelief:**

A portable version of our flagship product, Myorelief, was created for patients who require pain relief on the go. For maximum comfort, the device can be worn under clothing because it is small and unobtrusive.

#### **ReliFy:**

ReliFy is a customised version of our flagship product made specifically for use in clinics and hospitals. The device, which is bigger and more potent than our other products, is made to simultaneously relieve pain for several patients.

Every one of our products is made to be simple to use, non-invasive, and drug-free, offering a secure and efficient alternative to conventional pain relief techniques. As part of our commitment to meeting the needs of cardiac patients and healthcare professionals alike, we are always looking for ways to enhance and broaden our selection of products.

#### 3.2 OPERATIONS

Cardiopax.inc will run as a lean start-up, with an emphasis on cutting expenses and increasing productivity. For the development, production, and distribution of our products, we will mix internal and external resources.

#### **Product Development**

For the development and improvement of our products, we will collaborate with a group of skilled engineers and product designers. To make sure that our products are secure, efficient,

and satisfy the needs of our target market, a thorough testing and validation process will be part of our development process.

#### **Manufacturing**

To guarantee consistent quality and economical production, we intend to contract out our manufacturing to a reliable third-party contract manufacturer. To make sure that our products are made precisely to our specifications and that all production procedures adhere to the highest quality standards, we will closely collaborate with our manufacturing partner.

#### Distribution

We will sell our products online through both our own website and recognised e-commerce platforms. To market our goods in healthcare facilities like clinics, hospitals, and other facilities, we will also cooperate with a network of distributors.

#### Logistics

In order to manage our supply chain and guarantee prompt customer delivery of our products, we will collaborate with a reliable logistics partner. The control of inventory levels and the reduction of shipping expenses will also fall under the purview of our logistics partner.

#### **Customer Support**

Through various channels, such as email, phone, and social media, we will offer thorough customer support. When required, our support staff will be able to offer technical assistance and respond to customer inquiries.

#### **Quality Control**

We are dedicated to offering premium goods that satisfy customer demands and adhere to the strictest industry standards. To make sure that our products are secure, efficient, and dependable, we will put in place a thorough quality control programme.

We are dedicated to operating a lean and effective business that offers superior customer service and high-quality products.

#### **3.3 FINANCIAL PROJECTIONS**

#### **Revenue Projection:**

Provides an estimate of the revenue the company expects to generate in the next three years. It includes sales revenue, which is the revenue generated from the sale of products, and other revenue, which includes revenue from other sources such as licensing or service fees.

#### Year 1 (2023-2024)

• Sales revenue: INR 50,00,000

• Other revenue: INR 1,00,000

• Total revenue: INR 51,00,000

#### Year 2 (2024-2025)

• Sales revenue: INR 1,00,00,000

• Other revenue: INR 2,00,000

• Total revenue: INR 1,02,00,000

#### Year 3 (2025-2026)

• Sales revenue: INR 2,00,00,000

• Other revenue: INR 4,00,000

• Total revenue: INR 2,04,00,000

#### **Cost Projections:**

Estimates the various costs that the company expects to incur in the next three years. It includes the cost of goods sold, research and development expenses, marketing expenses, salaries and wages, rent and utilities, and other expenses.

#### Year 1 (2023-2024)

• Cost of goods sold: INR 25,00,000

• Research and development expenses: INR 15,00,000

• Marketing expenses: INR 5,00,000

• Salaries and wages: INR 20,00,000

• Rent and utilities: INR 3,00,000

• Other expenses: INR 2,00,000

• Total expenses: INR 70,00,000

#### Year 2 (2024-2025)

• Cost of goods sold: INR 50,00,000

• Research and development expenses: INR 20,00,000

• Marketing expenses: INR 7,50,000

• Salaries and wages: INR 30,00,000

• Rent and utilities: INR 4,00,000

• Other expenses: INR 2,50,000

• Total expenses: INR 1,14,00,000

#### Year 3 (2025-2026)

• Cost of goods sold: INR 80,00,000

• Research and development expenses: INR 25,00,000

• Marketing expenses: INR 10,00,000

• Salaries and wages: INR 40,00,000

• Rent and utilities: INR 5,00,000

• Other expenses: INR 3,00,000

• Total expenses: INR 1,63,00,000

#### **Profit projections:**

Estimates the gross and net profit that the company expects to generate in the next three years. Gross profit is the revenue minus.

#### Year 1 (2023-2024)

• Gross profit: INR 25,00,000

• Net profit: INR 5,00,000

#### Year 2 (2024-2025)

• Gross profit: INR 50,00,000

• Net profit: INR 8,50,000

#### Year 3 (2025-2026)

• Gross profit: INR 1,20,00,000

• Net profit: INR 21,00,000

#### **FUNDING REQUITEMENTS:**

To bring our cardiac pain relief device to market, we will require significant funding. We estimate that our funding requirements for the next three years will be as follows:

#### Year 1 (2023-2024)

• Research and development: INR 15,00,000

• Manufacturing and production: INR 25,00,000

• Marketing and advertising: INR 10,00,000

• Salaries and wages: INR 20,00,000

• Rent and utilities: INR 3,00,000

• Other expenses: INR 2,00,000

• Total funding required: INR 75,00,000

#### **Year 2 (2024-2025)**

• Research and development: INR 20,00,000

• Manufacturing and production: INR 40,00,000

• Marketing and advertising: INR 15,00,000

• Salaries and wages: INR 30,00,000

• Rent and utilities: INR 4,00,000

• Other expenses: INR 2,50,000

• Total funding required: INR 1,11,50,000

#### Year 3 (2025-2026)

• Research and development: INR 25,00,000

• Manufacturing and production: INR 60,00,000

• Marketing and advertising: INR 20,00,000

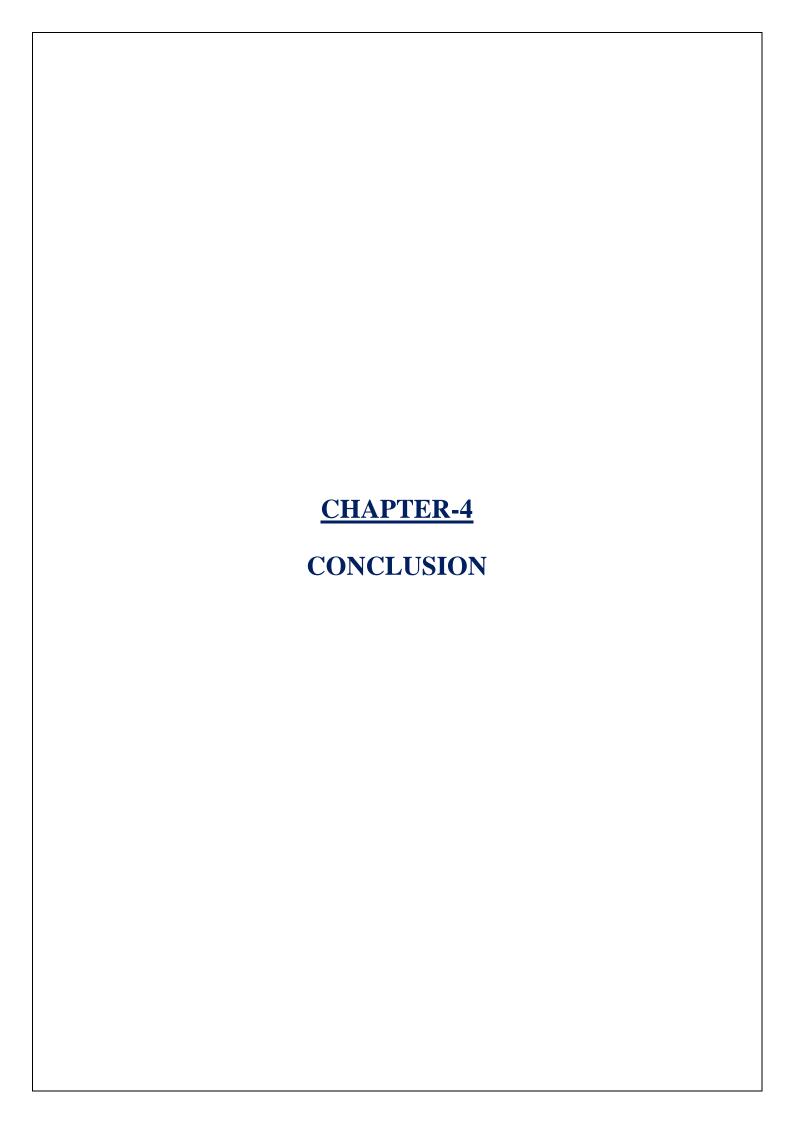
• Salaries and wages: INR 40,00,000

• Rent and utilities: INR 5,00,000

• Other expenses: INR 3,00,000

• Total funding required: INR 1,53,00,000

Total Funding required for 3 years: INR 3,39,50,000



In conclusion, Cardiopax.inc is poised to make a significant impact in the field of cardiac pain relief with its innovative, non-invasive, and drug-free device. By targeting the growing demand for non-invasive treatment options and addressing the rising healthcare costs associated with cardiac diseases, the company is well-positioned to capitalize on the expanding global market for cardiac pain relief devices.

The wearable gadget developed by Cardiopax.inc offers a discreet and user-friendly solution for patients suffering from chest pain caused by conditions like angina and myocardial infarction. With the ability to control the electromagnetic fields' frequency and intensity through a smartphone app, users can customize their pain relief experience according to their individual needs.

The target market for Cardiopax.inc includes cardiovascular patients who frequently experience chest pain, as well as the medical professionals responsible for their care. By offering direct sales to hospitals and clinics, as well as marketing the product online to individual consumers, the company aims to reach a wide customer base and establish a strong presence in the market.

Backed by a team with extensive experience in the medical device sector and a successful track record of launching ground breaking products, Cardiopax.inc is confident in the efficacy and potential of its cardiac pain relief device. With a pressing need for effective remedies and a commitment to providing a non-invasive alternative, the company eagerly anticipates releasing its product on the market and making a positive impact on the lives of cardiac patients worldwide.

Furthermore, Cardiopax.inc's commitment to research and development ensures that the device will undergo continuous improvement and enhancements based on user feedback and advancements in technology. This dedication to innovation will allow the company to stay at the forefront of the cardiac pain relief market, offering patients the most effective and up-to-date solution for managing their symptoms.

By addressing the limitations of conventional pain relief techniques, such as the use of medications with potential side effects, Cardiopax.inc's device provides a safe and non-addictive alternative for patients seeking relief from cardiac-related chest pain. This not only improves the quality of life for individuals suffering from cardiovascular conditions but also contributes to reducing the burden on healthcare systems.