CHAPTER 1

INTRODUCTION

1.1HISTORY

This project helps the entrepreneurs to set up their startup firm helping them to choose the location and guide them in designing the revenue model and also assist them to analyze different strategies like the competitive firms or startup which are already present in the particular location .Growth analyzer is the most important module that uses data analytics by power business intelligence tool which displays the outcome in various types such as statistical analysis, bar chart ,pie charts, etc by which the entrepreneurs get a clear idea about their goal in setting up their firm they also realize all the aspects in setting their firm.

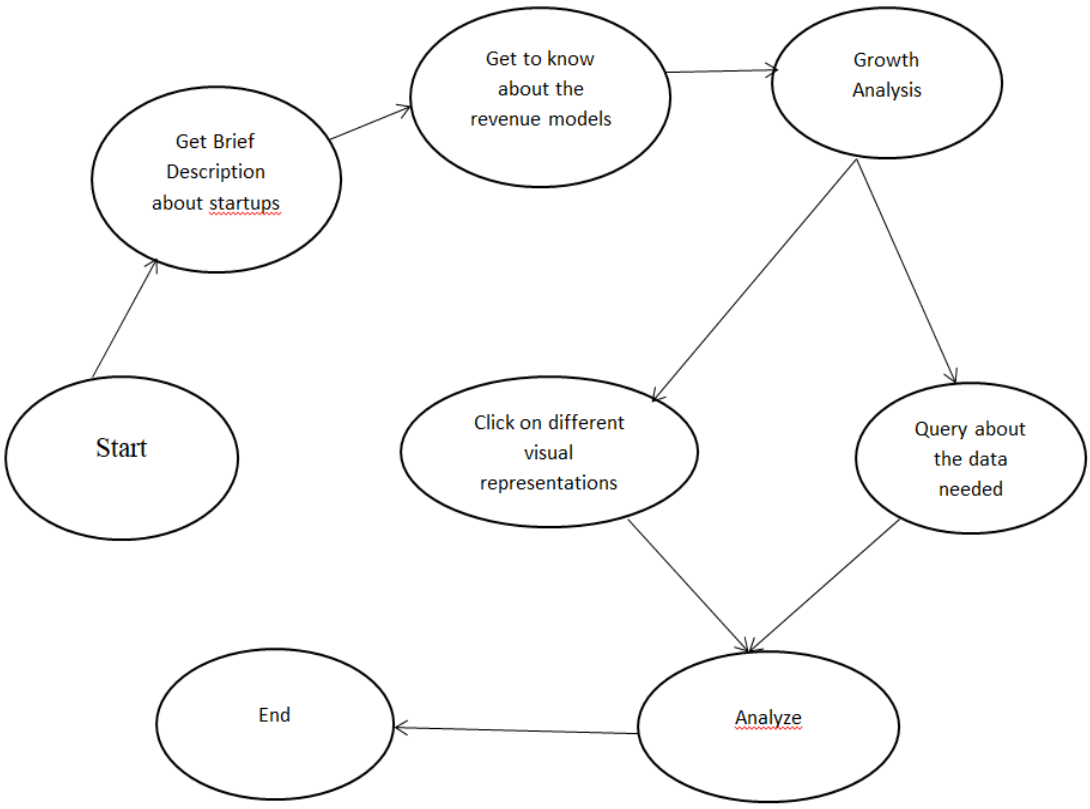


Figure 1.1 Architecture diagram

The M- language model is employed which follows the regular expression of the pattern matching that returns the output for the client based query by matching of keywords like popular startups will display the list of all startups by which it guides them in understanding all the information about the startup firm. The Revenue model is where the entrepreneur can design the model of his startup firm. Hence, this Application will enthrall each and every optimistic entrepreneur to pursue a start-up and become a business tycoon.

The above figure1.1 shows the architecture diagram. An architecture diagram is a graphical representation of a set of concepts that are part of architecture, including their principles, elements and components. The elements involved are the startup guide, revenue model and the growth analyzer which helps the entrepreneurs to develop their firm.

1.2 CHARACTERISTICS

- Revenue model is developed.
- Information catching will become easy and secure.
- Growth Analyzer exhibits different business arenas.
- Client based queries are answered.

1.3 APPLICATIONS

- Multinational Corporations
- Small business Organizations
- Startups

1.4 MAJOR ISSUES AND CHALLENGES

- Designing the Revenue model.
- Analysis of business growth.

1.5 PROBLEM STATEMENT

The website depicts the growth analysis of different start-up domains across different arenas using data analytics and analyses their trends and popularity over the years, considering different factors like location based setup, popular firms, economic issues which will help the entrepreneur to start a firm based on the output data and become a Business Tycoon.

1.6 PROJECT SCOPE

- It provides guidelines on choosing a Revenue Model for the designing of startup firm.
- It incorporates Growth Analyzer, which is used to visually analyze the statistical growth of startups in different arenas.
- Our website has a feature that allows user to interact with powerBI, by customized queries, which is designed using pattern matching.

1.7 DATA ANALYTICS

Big data analytics enables organizations to analyze a mix of structured, semi-structured and unstructured data in search of valuable business information and insights. The analytical findings can lead to more effective marketing, new revenue opportunities, better customer service, improved operational efficiency, competitive advantages over rival organizations and other business benefits. With so many emerging trends around big data and analytics, IT organizations need to create conditions that will allow analysts and data scientists to experiment. The business persons need a way to evaluate, prototype and eventually integrate some of these technologies into the business.

The below figure 1.2 depicts the overview of Data Science, functions of data Science and algorithms involved in data analytics.

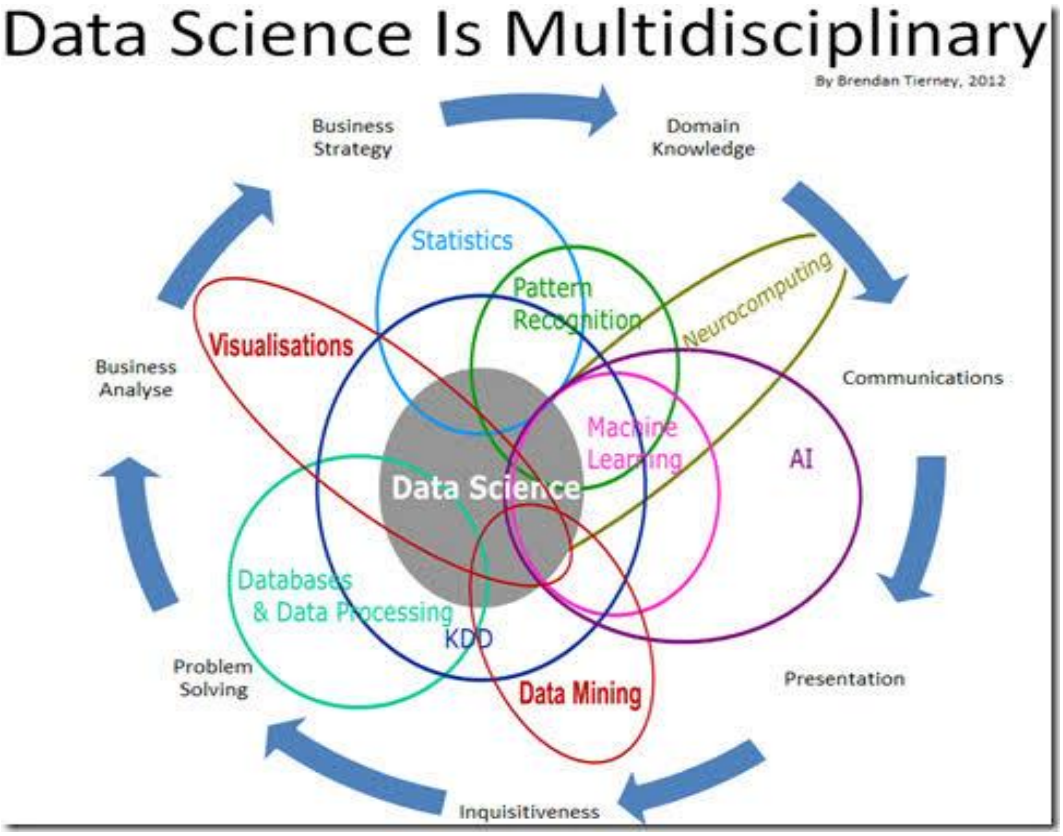


Figure 1.2 Data Analytics

1.8 EXECUTION

This application gives guidance on how to design a revenue model ranging from a small start-ups to big MNC's. This application guides each individual ranging from how to choose a location for a start-up based on different factors till designing the revenue model for the start-up.

This application thrives each and every aspiring entrepreneur to get overall analysis of different start-ups and business arenas dynamically through Data Analytics using power Business Intelligence technology.

CHAPTER 2
LITERATURE SURVEY

2.1 INTRODUCTION

A literature review is a description of the literature relevant to a particular field or topic. It gives an overview of what has been said, who the key writes are, what the prevailing theories are and hypotheses, and what methods and methodologies are appropriate and useful . It demonstrates our understanding of the relevant proposal of others and our ability for summarizing information gained from others works. Below is a literature review on business intelligence and big data analytics.

2.2 BIG DATA ANALYTICS AND BUSINESS INTELLIGENCE

Big Data Analytics (BDA) and Business Intelligence(BI) [1] are applied, observed and proposed for the characteristic of BI in observing the voluminous picture of organizational strategic performance management [2] diagnostics framework. This study is interested in handling BDA and BI as a dynamic research that had enabled organizations to invade and generate greater knowledge of formation and decision-making [5]. The Research goal is to advance a real world understanding of emerging knowledge derived from organizing Big data scenarios and BI framework development. In order, to overcome the ambiguity scenarios of BDA [1], were proposed as a framework that involve the present BDA and BI stages with their analytic features in designing the organizational strategic performance management [3] framework. The outcome will be a design of a typical strategic performance management application – the organizational strategic diagnostic dashboard [2].

2.3 BUSINESS INTELLIGENCE IN MINITRACK

New developments and the ongoing evolution of data and technologies in business intelligence (BI), data analytics (DA) and big data create exciting

opportunities for innovation and progress as well as brand new challenges for individuals, organizations and society. This minitrack, now in its 28th year, continues its tradition as the longest running HICSS minitrack related to BI and BA and more recently big data.

While BI/BA technologies [6] and applications are rapidly changing, the minitrack remains focused on the organizational issues of BI/BA implementations that are now more challenging than ever. This particular focus, as well as its long history of research embedded in Decision Support Systems and other research predecessors of contemporary BI/BA, creates a minitrack with a rich comprehensive view of the current and emerging organizational issues. It describes a data literacy maturity model that was developed in the context of non-governmental organizations. The main contribution of this action design research [6] is in the proposed data literacy maturity grid, accompanied by a self-assessment tool.

The authors identify and discuss ten challenges of the Self Service Business Intelligence approach, including the six challenges related to "Access and use of data" and further four challenges related to "Self-reliant users". This research [6] is expected to help practitioners avoid common pitfalls when implementing self-service BI as well as guide future research in this area.

2.4 BUSINESS INTELLIGENCE MODEL

Business Intelligence (BI) and analytics [1] play a critical role in modern businesses by assisting them to gain insights about internal operations and the external environment and to make timely data-driven decisions. Actions resulting from these insights often require changes to various parts of the enterprise. A significant challenge in these contexts is to systematically connect and coordinate the BI-driven insights with consequent enterprise decisions and actions. It proposes a methodology for closing the gap between

what an enterprise senses from BI-driven insights and its response actions and changes.

This methodology adopts and synthesizes existing modeling frameworks, the Business Intelligence Model[10], to provide a coherent step-by-step way of connecting the sensed signals of the enterprise to subsequent responses, and hence to make BI and analytics more actionable and understandable. Applicability of the proposed methodology is illustrated in a case scenario.

2.5 BUSINESS PROCESS MANAGEMENT

This research [8] focuses on the effects of different business process management components in combination with information technology on recruiting process performance. The results of a study of Germany's largest 1,000 business enterprises (response rate 13.1 %) reveal that business process analysis, business process improvement and the usage of applicant tracking systems [10] reduce recruiting process costs. Specifically, the cycle time of the recruiting process can be shortened significantly through business process controlling [7] and process analysis, and by using an applicant tracking system that supports the design and evaluation of key performance indicators.

Business process standardization combined with applicant tracking systems [8] and business process documentation as well these systems used together with business process controlling have a significant positive impact on stakeholder satisfaction with the recruiting process. The general quality [9] of the process can be improved through business process controlling as well as through a combination of applicant tracking systems and business process controlling. Our results reveal that several components of the business process management in conjunction with a supporting applicant tracking system have differing impacts on recruiting process performance [3]. This paper discusses

these diverse effects of business process management on process performance [3] and draws implications for information systems success research.

2.6 BUSINESS INTELLIGENCE IN INFORMATION SYSTEM

Information System [4] is a strive to exploit Business Intelligence (BI) in an organization. In the Malaysian Halal Food Manufacturing, a league of Information Technology professional and decision makers is the architect of the perspective in Information Technology. There are numerous research studies on utilizing and investigating strategic effects of environmental factors augmentation on the organizations, but compact information is acknowledged prevailing how the subjective conception for the strategic source of decisions is transformed into the objective principle. Hence, general interpretation of the Information Technology professional and the decision makers is crucial for a comprehensive and collaborative decision-making process. Therefore, prosper stimulate assimilation of the environmental factors that persuade the knowledge integration between Information Technology professionals and decision makers is compulsory.

BI and Big Data help organizations derive enhance decision-making process and knowledge creation. The objective of this research study is to emerge knowledge from organizing Big Data and to utilize BI together with perceiving MIT 90s framework and environmental factors for the analysis of decision-making process of halal food manufacturers in Malaysia. The results [4] indicate that halal market demand played important role in predicting business performance of halal manufactures. This study [4] provides some insights into decision making perspectives of business performance management among halal food manufacturers in Malaysia.

CHAPTER 3

SYSTEM REQUIREMENTS

3.1 INTRODUCTION

The requirements specification is a technical specification of requirements for the software products. It is the first step in the requirements analysis process .It lists the requirements of a particular software system including functional, performance and security requirements. The requirements also provide usage scenarios from a user, an operational and an administrative perspective. The purpose of software requirements specification is to provide a detailed overview of the software project, its parameters and goals. This describes the project target audience and its user interface, hardware and software requirements. It defines how the client, team and audience see the project and its functionality.

3.2 SPECIFICATION

3.2.1 Software requirements

- Connectivity : php
- Front end : HTML,CSS
- Back end : My SQL

Technology used

- POWER BUSINESS INTELLIGENCE

3.4 DEVELOPMENT TOOLS

3.4.1 Html

Hypertext Markup Language (**HTML**) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by *tags*, written using angle brackets. Tags such as <img /> and <input /> directly introduce content into the page. Other tags such as <p> surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), maintainer of both the HTML and the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

“Hypertext” refers to links that connect web pages to one another, either within a single website or between websites. Links are a fundamental aspect of the Web. By uploading content to the Internet and linking it to pages created by other people, the user become an active participant in the World Wide Web.

HTML uses “markup” to annotate text, images, and other content for display in a Web browser. HTML markup includes special “elements” such as <head>, <title>, <body>, <header>, <footer>, <article>, <section>, <p>, <di v>, , <img>, <aside>, <audio>, <canvas>, <datalist>, <details>, <embed >, <nav>, <output>, <progress>, <video>and many others.

An HTML element is set off from other text in a document by “tags”, which consist of the element name surrounded by “<” and “>”. The name of an element inside a tag is case insensitive. That is, it can be written in uppercase, lowercase, or a mixture.

CSS**:** Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.CSS handles the look and feel part of a web page. Using CSS, user can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs, variations in display for different devices and screen sizes as well as a variety of other effects.

CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML or XHT.

When laying out a document, the browser's rendering engine represents each element as a rectangular box according to the standard **CSS basic box model**. CSS determines the size, position, and properties (color, background, border size, etc.) of these boxes.

Every box is composed of four parts (or *areas*), defined by their respective edges: the content edge, padding edge, border edge, and margin edge.

The **content area**, bounded by the content edge, contains the "real" content of the element, such as text, an image, or a video player. Its dimensions are the content width (or content-box width) and the content height (or content-box height). It often has a background color or background image.

If the box-sizing property is set to content-box (default), the content area's size can be explicitly defined with the width, min-width, max-width, height, min-height, and max-height properties.

The **padding area**, bounded by the padding edge, extends the content area to include the element's padding. Its dimensions are the padding-box width and the padding-box height. The thickness of the padding is determined by the padding-top, padding-right, padding-bottom, shorthand padding properties.

The **border area**, bounded by the border edge, extends the padding area to include the element's borders. Its dimensions are the border-box width and the border-box height.

The thickness of the borders are determined by the border-width and shorthand border properties. If the box-sizing property is set to border-box, the border area's size can be explicitly defined with the width, min-width, max-width, height, min-height, and max-height properties. When there is a background (background-color or background-image) set on a box, it extends to the outer edge of the border (i.e. extends underneath the border in z-ordering). This default behavior can be altered with the background-clip css property.

The **margin area**, bounded by the margin edge, extends the border area to include an empty area used to separate the element from its neighbors. Its dimensions are the margin-box width and the margin-box height.

The size of the margin area is determined by the margin-top, margin-right, margin-bottom, margin-left, and the shorthand margin properties. When margin collapsing occurs, the margin area is not clearly defined since margins are shared between boxes.

JavaScript: JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. JavaScript was first known as LiveScript, but Netscape changed its name to JavaScript, possibly because of the excitement being generated by Java. JavaScript made its first appearance in Netscape 2.0 in 1995 with the name LiveScript. The general-purpose core of the language has been embedded in Netscape, Internet Explorer, and other web browsers. The ECMA-262 Specification defined a standard version of the core JavaScript language.

- JavaScript is a lightweight, interpreted programming
- language.
- Designed for creating network-centric applications.
- Complementary to and integrated with Java.
- Complementary to and integrated with HTML.
- Open and cross-platform.

Client-Side JavaScript is the most common form of the language. The script should be included in or referenced by an HTML document for the code to be interpreted by the browser. It means that a web page need not be a static HTML, but can include programs that interact with the user, control the browser, and dynamically create HTML content.

The JavaScript client-side mechanism provides many advantages over traditional CGI server-side scripts. For example, the developer might use

JavaScript to check if the user has entered a valid e-mail address in a form field.

The JavaScript code is executed when the user submits the form, and only if all the entries are valid, they would be submitted to the Web Server. JavaScript can be used to trap user-initiated events such as button clicks, link navigation, and other actions that the user initiates explicitly or implicitly. Every web page resides inside a browser window which can be considered as an object. A Document object represents the HTML document that is displayed in that window. The Document object has various properties that refer to other objects which allow access to and modification of document content. The way a document content is accessed and modified is called the **Document Object Model**, or **DOM**. The Objects are organized in a hierarchy. This hierarchical structure applies to the organization of objects in a Web document.

Window object − Top of the hierarchy. It is the outmost element of the object hierarchy.

Document object − Each HTML document that gets loaded into a window becomes a document object. The document contains the contents of the page.

Form object − Everything enclosed in the <form>...</form> tags sets the form object.

Form control elements − The form object contains all the elements defined for that object such as text fields, buttons, radio buttons, and checkboxes.

JavaScript also uses Cookies. Cookies are a plain text data record of 5 variable-length fields −

- **Expires** − The date the cookie will expire. If this is blank, the cookie will expire when the visitor quits the browser.
- **Domain** − The domain name of the site.

- **Path** − The path to the directory or web page that set the cookie. This may be blank
- **Secure** − If this field contains the word "secure", then the cookie may only be retrieved with a secure server. If this field is blank, no such restriction exists.
- **Name=Value** − Cookies are set and retrieved in the form of key-value pairs

Cookies were originally designed for CGI programming. The data contained in a cookie is automatically transmitted between the web browser and the web server, so CGI scripts on the server can read and write cookie values that are stored on the client. JavaScript can also manipulate cookies using the **cookie** property of the **Document** object. JavaScript can read, create, modify, and delete the cookies that apply to the current web page.

3.4.2 MYSQL

MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company. MySQL is becoming so popular because of many good reasons. MySQL is released under an open-source license. So there is no need to pay to use it. MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages. It uses a standard form of the well-known SQL data language.

MySQL works on many operating systems and with many languages including PHP, PERL, C, C++, JAVA, etc. MySQL is very friendly to PHP, the most appreciated language for web development. It is customizable. The open-source GPL license allows programmers to modify the MySQL software to fit their own specific environments. MySQL supports large databases, up to 50

million rows or more in a table. The default file size limit for a table is 4GB, but one can increase this (if the operating system can handle it) to a theoretical limit of 8 million terabytes (TB)

3.4.3 Power Query

Power Query enhances self-service business intelligence (BI) for Excel with an intuitive and consistent experience for discovering, combining, and refining data across a wide variety of sources including relational, structured and semi-structured, OData, Web, Hadoop, and more. With Power Query, one can share and manage queries as well as search data within the organization. Users in the enterprise can find and use these shared queries (if it is shared with them) to use the underlying data in the queries for their data analysis and reporting.

With Power Query, one can Find and connect data across a wide variety of sources, merge and shape data sources to match their data analysis requirements or prepare it for further analysis and modeling by tools such as Power Pivot and Power View, create custom views over data, use the JSON parser to create data visualizations over Big Data and Azure HD Insight, perform data cleansing operations, import data from multiple log files., create a query from their Facebook likes that render an Excel chart, pull data into Power Pivot from new data sources, such as Facebook, and File Folders as refreshable connections. With Power Query 2.10 and later, one can share and manage queries as well as search data within the organization.

3.4.4 PowerBI

Power BI is a business analytics service by Microsoft. It aims to provide interactive visualizations and business intelligence capabilities with an interface simple enough for end users to create their own reports and dashboards. Power BI provides cloud-based BI services, known as "Power BI Services", along with

a desktop based interface, called "Power BI Desktop". It offers data warehouse capabilities including data preparation, data discovery and interactive dashboards. In March 2016, Microsoft released an additional service called Power BI Embedded on its Azure cloud platform. One main differentiator of the product is the ability to load custom visualizations.

Key components of the Power BI ecosystem comprises:

Power BI Desktop

The Windows-desktop-based application for PCs and desktops, primarily for designing and publishing reports to the Service.

Power BI Service

The SaaS (software as a service) based online service (formerly known as Power BI for Office 365, now referred to as PowerBI.com or simply Power BI).

Power BI Mobile Apps

The Power BI Mobile apps for Android and iOS devices, as well as for Windows phones and tablets.

Power BI Gateway

Gateways used to sync external data in and out of Power BI. In Enterprise mode, can also be used by Flows and Power Apps in Office 365.

Power BI Embedded

Power BI REST API can be used to build dashboards and reports into the custom applications that serves Power BI users, as well as non-Power BI users.

Power BI Report Server

An On-Premises Power BI Reporting solution for companies that won't or can't store data in the cloud-based Power BI Service.

Power BI Visuals Marketplace

A marketplace of custom visuals and R-powered visuals.

3.4.5 Php

PHP started out as a small open source project that evolved as more and more people found out how useful it was. Rasmus Lerdorf unleashed the first version of PHP way back in 1994.

PHP is a recursive acronym for "PHP: Hypertext Preprocessor".It is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites. It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server. PHP is pleasingly zippy in its execution, especially when compiled as an Apache module on the Unix side. The MySQL server, once started, executes even very complex queries with huge result sets in record-setting time. PHP supports a large number of major protocols such as POP3, IMAP, and LDAP. PHP4 added support for Java and distributed object architectures (COM and CORBA), making n-tier development a possibility for the first time.

Common uses of PHP

- PHP performs system functions, i.e. from files on a system it can create, open, read, write, and close them.
- PHP can handle forms, i.e. gather data from files, save data to a file, through email we can send data, return data to the user.
- We can add, delete, modify elements within the database through PHP.
- Access cookies variables and set cookies.
- Using PHP, we can restrict users to access some pages of the website.
- It can encrypt data.

PHP creates some useful environment variables that can be seen in the phpinfo.php page that was used to setup the PHP environment. One of the

environment variables set by PHP is HTTP_USER_AGENT which identifies the user's browser and operating system.

PHP provides a function getenv() to access the value of all the environment variables. The information contained in the HTTP_USER_AGENT environment variable can be used to create dynamic content appropriate to the browser.

Characteristics of PHP

Five important characteristics make PHP's practical nature possible −

- Simplicity
- Efficiency
- Security
- Flexibility
- Familiarity

PHP GET, POST METHODS:

There are two ways the browser client can send information to the web server.

- The GET Method
- The POST Method

Before the browser sends the information, it encodes it using a scheme called URL encoding. In this scheme, name/value pairs are joined with equal signs and different pairs are separated by the ampersand. The GET method sends the encoded user information appended to the page request. The page and the encoded information are separated by the ?character.

The GET method produces a long string that appears in the server logs, in the browser's Location: box.The GET method is restricted to send upto 1024 characters only.

Never use GET method if there is password or other sensitive information to be sent to the server. GET can't be used to send binary data, like images or word documents, to the server. The data sent by GET method can be accessed using QUERY_STRING environment variable. The PHP provides $_GET associative array to access all the sent information using GET method.

The POST method transfers information via HTTP headers. The information is encoded as described in case of GET method and put into a header called QUERY_STRING. The POST method does not have any restriction on data size to be sent. The POST method can be used to send ASCII as well as binary data. The data sent by POST method goes through HTTP header so security depends on HTTP protocol. By using Secure HTTP one can make sure that their information is secure. The PHP provides $_POST associative array to access all the sent information using POST method.

PHP SESSION

An alternative way to make data accessible across the various pages of an entire website is to use a PHP Session. A session creates a file in a temporary directory on the server where registered session variables and their values are stored. This data will be available to all pages on the site during that visit.

The location of the temporary file is determined by a setting in the php.ini file called session.save_path. Before using any session variable make sure that the path has been setup. When a session is started following things happen − PHP first creates a unique identifier for that particular session which is a random string of 32 hexadecimal numbers such as 3c7foj34c3jj973hjkop2fc937e3443. A cookie called PHPSESSID is

automatically sent to the user's computer to store unique session identification string.

A file is automatically created on the server in the designated temporary directory and bears the name of the unique identifier prefixed by sess_ ie sess_3c7foj34c3jj973hjkop2fc937e3443. When a PHP script wants to retrieve the value from a session variable, PHP automatically gets the unique session identifier string from the PHPSESSID cookie and then looks in its temporary directory for the file bearing that name and a validation can be done by comparing both values.

A session ends when the user loses the browser or after leaving the site, the server will terminate the session after a predetermined period of time, commonly 30 minutes duration.

Starting a PHP Session

A PHP session is easily started by making a call to the session_start() function.This function first checks if a session is already started and if none is started then it starts one. It is recommended to put the call to session_start() at the beginning of the page. Session variables are stored in associative array called $_SESSION[]. These variables can be accessed during lifetime of a session.

PHP Cookies

Cookies are text files stored on the client computer and they are kept of use tracking purpose. PHP transparently supports HTTP cookies. There are three steps involved in identifying returning users −

- Server script sends a set of cookies to the browser. For example name, age, or identification number etc.
- Browser stores this information on local machine for future use.

- When next time browser sends any request to web server then it sends those cookies information to the server and server uses that information to identify the user.

PHP MVC DESIGN PATTERN

The MVC pattern is a way of breaking an application, or even just a piece of an application's interface, into three parts:

- The Model,
- The View, and
- The Controller

MVC was originally developed to map the traditional input, processing, output roles into the GUI realm.

Model

- A model is an object representing data or even activity, e.g. a database table or even some plant-floor production-machine process.
- The model manages the behavior and data of the application domain, responds to requests for information about its state and responds to instructions to change state.
- The model represents enterprise data and the business rules that govern access to and updates of this data. Often the model serves as a software approximation to a real-world process, so simple real-world modeling techniques apply when defining the model.
- The model is the piece that represents the state and low-level behavior of the component. It manages the state and conducts all transformations on that state. The model has no specific knowledge of either its controllers or

its views. The view is the piece that manages the visual display of the state represented by the model. A model can have more than one view.

Note that the model may not necessarily have a persistent data store (database), but if it does it may access it through a separate Data Access Object(DAO)

View

- A view is some form of visualisation of the state of the model.
- The view manages the graphical and/or textual output to the portion of the bitmapped display that is allocated to its application.
- The view renders the contents of a model. It accesses enterprise data through the model and specifies how that data should be presented.
- The view is responsible for mapping graphics onto a device. A view typically has a one to one correspondence with a display surface and knows how to render to it. A view attaches to a model and renders its contents to the display surface.

Controller

- A controller offers facilities to change the state of the model. The controller interprets the mouse and keyboard inputs from the user, commanding the model and/or the view to change as appropriate.
- A controller is the means by which the user interacts with the application. A controller accepts input from the user and instructs the model and view to perform actions based on that input. In effect, the controller is responsible for mapping end-user action to application response.
- The controller translates interactions with the view into actions to be performed by the model. In a stand-alone GUI client, user interactions could be button clicks or menu selections, whereas in a Web application they appear as HTTP GET and POST requests. The actions performed by

the model include activating business processes or changing the state of the model. Based on the user interactions and the outcome of the model actions, the controller responds by selecting an appropriate view.

- The controller is the piece that manages user interaction with the model. It provides the mechanism by which changes are made to the state of the model.

In Java language, the MVC Design Pattern is described as having the following components:

- An application model with its data representation and business logic.
- Views that provide data presentation and user input.
- A controller to dispatch requests and control flow.

CHAPTER 4

SYSTEM ANALYSIS

4.1 FEASIBILITY ANALYSIS.

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

Three key considerations involved in the feasibility analysis are

- Economical feasibility
- Technical feasibility
- Social feasibility

4.1.1 Economical feasibility

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

4.1.2 Technical feasibility

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high

demands on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system.

4.1.3 Social feasibility

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity. The level of acceptance by the users solely depends on the methods that are employed to educate the user about the system and to make him familiar with it. His level of confidence must be raised so that he is also able to make some constructive criticism, which is welcomed, as he is the final user of the system.

4.2 INPUT DESIGN

The inputs in the system are of three types:

- External : which are prime inputs for the system
- Internal : which are user communication with the system
- Interactive : which are inputs entered during a dialog with the computer

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data in to a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The input is designed in such a way so that it

provides security, as shown in Table 1.1 and ease of use with retaining the privacy. Input Design considered the following things:

- What data should be given as input?
- How the data should be arranged or coded?
- The dialog to guide the operating personnel in providing input.
- Methods for preparing input validations and steps to follow when error occur.

ID	USERNAME	PASSWORD
1	Bala123	16557981
2	Goutham98	99665578
3	Dinesh97	d9700145
4	Arjun1998	aj457985
5	Prasanth9978	psth7846
6	Sandyss97	sdys7915

Table 1.1 User Account

OBJECTIVES

- Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system.
- It is achieved by creating user-friendly screens for the data entry to handle large volume of data. The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulates can be performed. It also provides record viewing facilities

- When the data is entered it will check for its validity. Data can be entered with the help of screens. Appropriate messages are provided as when needed so that the user will not be in maize of instant. Thus the objective of input design is to create an input layout that is easy to follow.

4.3 OUTPUT DESIGN

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system results of processing are communicated to the users and to other system through outputs. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making.

- Designing computer output should proceed in an organized, well thought out manner; the right output must be developed while ensuring that each output element is designed so that people will find the system can use easily and effectively. When analysis design computer output, they should Identify. The specific output that is needed to meet the requirements.
- Select methods for presenting information.
- Create document, report, or other formats that contain information produced by the system.

The output form of an information system should accomplish one or more of the following objectives.

- Convey information about past activities, current status or projections of the
- Future.
- Signal important events, opportunities, problems, or warnings.

- Trigger an action.
- Confirm an action.

4.4 EXISTING SYSTEM:

Existing System describes only about the startups and its description that provides insufficient details for setting up the startup firm which does not include many strategies like Growth Analyzer, startup guide,Revenue model designs.

Hence , designing the startup was tedious task and many entrepreneurs was unambiguous about setting up the firm .Startup includes many different models like pharmacy , malls, supermarket etc., by which entrepreneurs have no idea and guidance in constructing the startup firm.

DRAWBACKS:

- **Not User Friendly**: The existing system is not user friendly because the retrieval of data is very slow and data is not maintained efficiently.
- **Difficulty in constructing the startup:** In Existing System, it describes only about the startups and its description that provides insufficient details for setting up the startup firm which does not include many strategies like Growth Analyzer, startup guide, Revenue model designs.
- **Time consuming**: Every work is done manually and entrepreneurs feel unambiguous in setting the firm considering many strategies like location,other startup firms, popularity etc.,

4.5 PROPOSED SYSTEM:

To overcome the drawbacks of the existing system, the proposed system has been evolved. This project aims to provide guidelines on choosing a Revenue Model.It incorporates Growth Analyzer, which is used to visually analyze the statistical growth of startups in different arenas .The website has a feature that allows user to interact with powerBI, by customized queries, which is designed using pattern matching.

ADVANTAGES

User Friendly:

The proposed system is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover the graphical user interface is provided in the proposed system, which provides user todeal with the system very easily.

Revenue models:

The Proposed system discusses about famous revenue models of the business processes that must be chosen before beginning the design.

Growth Analyzer:

In this system, All the data is feted into the computer immediately . It involves analysis of different start-ups and business arenas dynamically through Data Analytics using power Business Intelligence Technology and this

application(Bot) answers clients queries based on the data Interpreted from the warehouse.

Computer operator control:

Computer operator control will be there so no chance of errors. Moreover storing and retrieving of information is easy. So work can be done speedily and in time

CHAPTER 5

DESIGN AND IMPLEMENTATION

The system should be designed in such a way that it is user friendly for the users and the implementation is performed at ease. This Application helps the entrepreneurs to get a clear vision of their goal in setting up their firm by providing startup guide, Revenue model, Growth Analyzer.

The M- language model is employed which follows the regular expression of the pattern matching that returns the output for the client based query by matching of keywords like popular startups will display the list of all startups by which it guides them in understanding all the information about the startup firm. The Revenue model is where the entrepreneur can design the model of his startup firm. Hence, this Application will enthrall each and every optimistic entrepreneur to pursue a start-up and become a business tycoon.

5.1 LIST OF MODULES

- STARTUP MODEL
- REVENUE MODEL
- GROWTH ANALYZER

5.2 MODULE DESCRIPTION

5.2.1 Startup model

The startup model is where the entrepreneur has been guided by all the sources of information in different strategies like location, popular firms by which the entrepreneur will have the detailed knowledge in setting their startup firm.

The M- language model is employed which follows the regular expression of the pattern matching that returns the output for the client based

query by matching of keywords like popular startups will display the list of all startups by which it guides them in understanding all the information about the startup firm.

5.2.2 Revenue model

The Revenue model is where we the entrepreneur can design the model of his startup firm based on the various strategies like location, resources, economic estimation, popularity etc., which guides the entrepreneurs in designing their own startup model.

5.2.3 Growth analyzer

Growth Analyzer is the most important module that uses data analytics using power business intelligence tool which displays the analysis of different startup domains, in various types such as statistical analysis, bar chart ,pie diagrams etc by which the entrepreneurs get a clear idea about their goal in setting up their firm they also realize all the aspects in setting their firm. Also, this module has a querying feature, that allows user to view this analysis by querying the powerBI tool.

CHAPTER 6

SYSTEM DESIGN

6.1 ARCHITECTURE DIAGRAM

An architecture diagram as shown in figure 6.1 is a graphical representation of a set of concepts that are part of architecture, including their principles, elements and components.

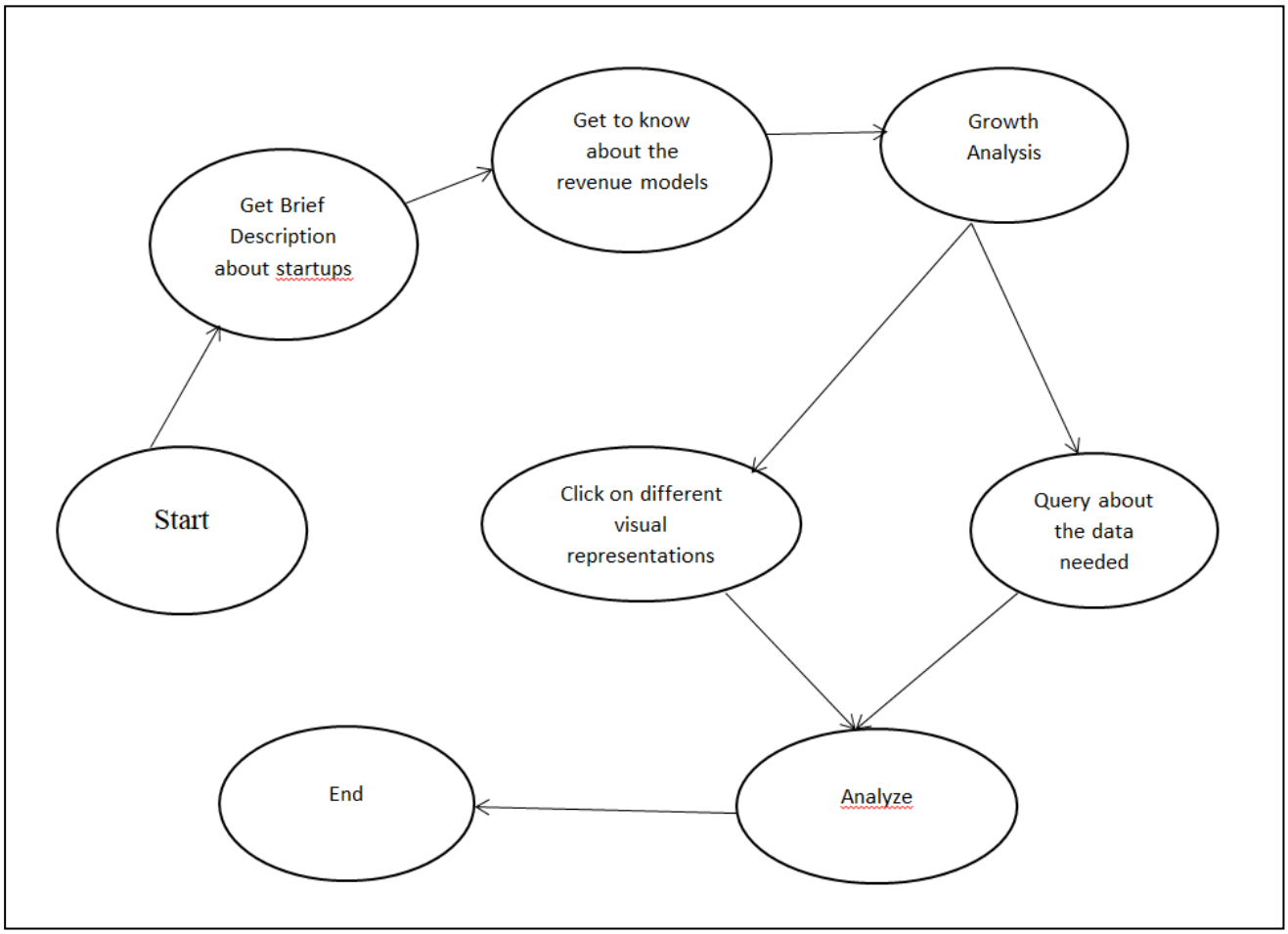


Figure 6.1 Architecture diagram

The elements involved are the startup guide, revenue model and the growth analyzer which helps the entrepreneurs to develop their firm

6.2 CLASS DIAGRAM:

In software engineering, a class diagram as shown in figure 6.2 in the Unified Modeling Language is a type of static structure diagram that describes the structure of a system by showing the system's classes, operations (or methods), and the relationships among objects.

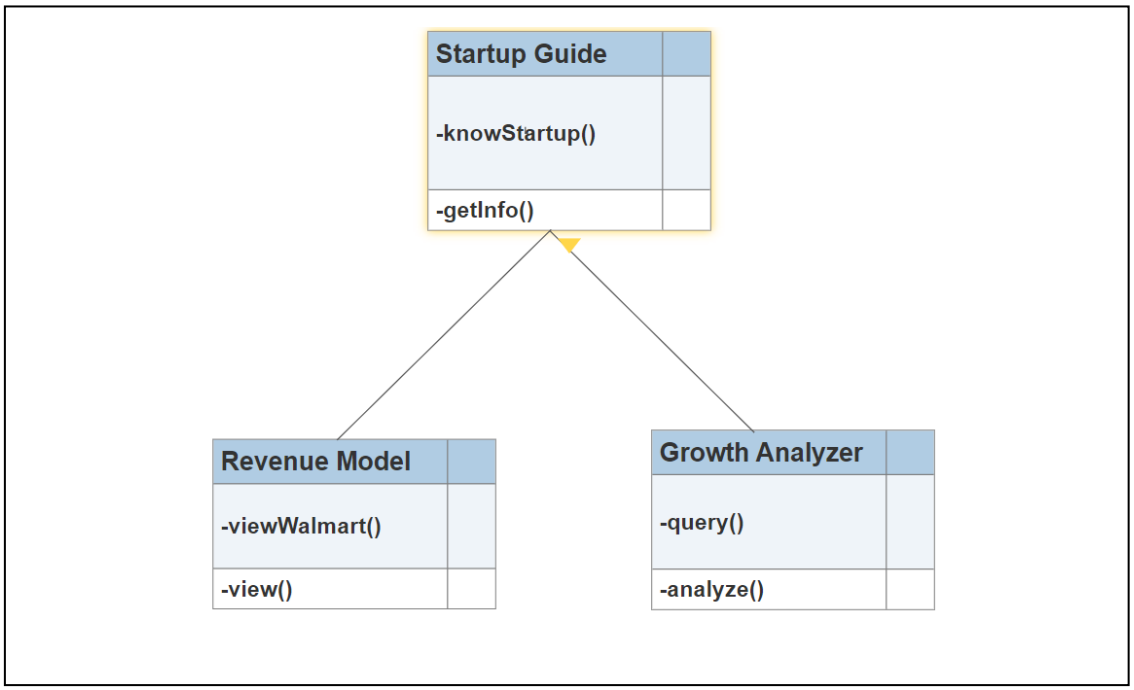


Figure 6.2 class diagram

The Structure involves the startup guide that provides information, the revenue model details about the walmart model of design to startups, and growth analyzer makes different analysis and strategies.

6.3 Use Case Diagram:

A use case diagram as shown in figure 6.3 is a dynamic or behavior diagram in UML. Use case Diagrams model the functionality of a system using actors and use cases. Use cases are a set of actions, services, and functions that the system needs to perform.

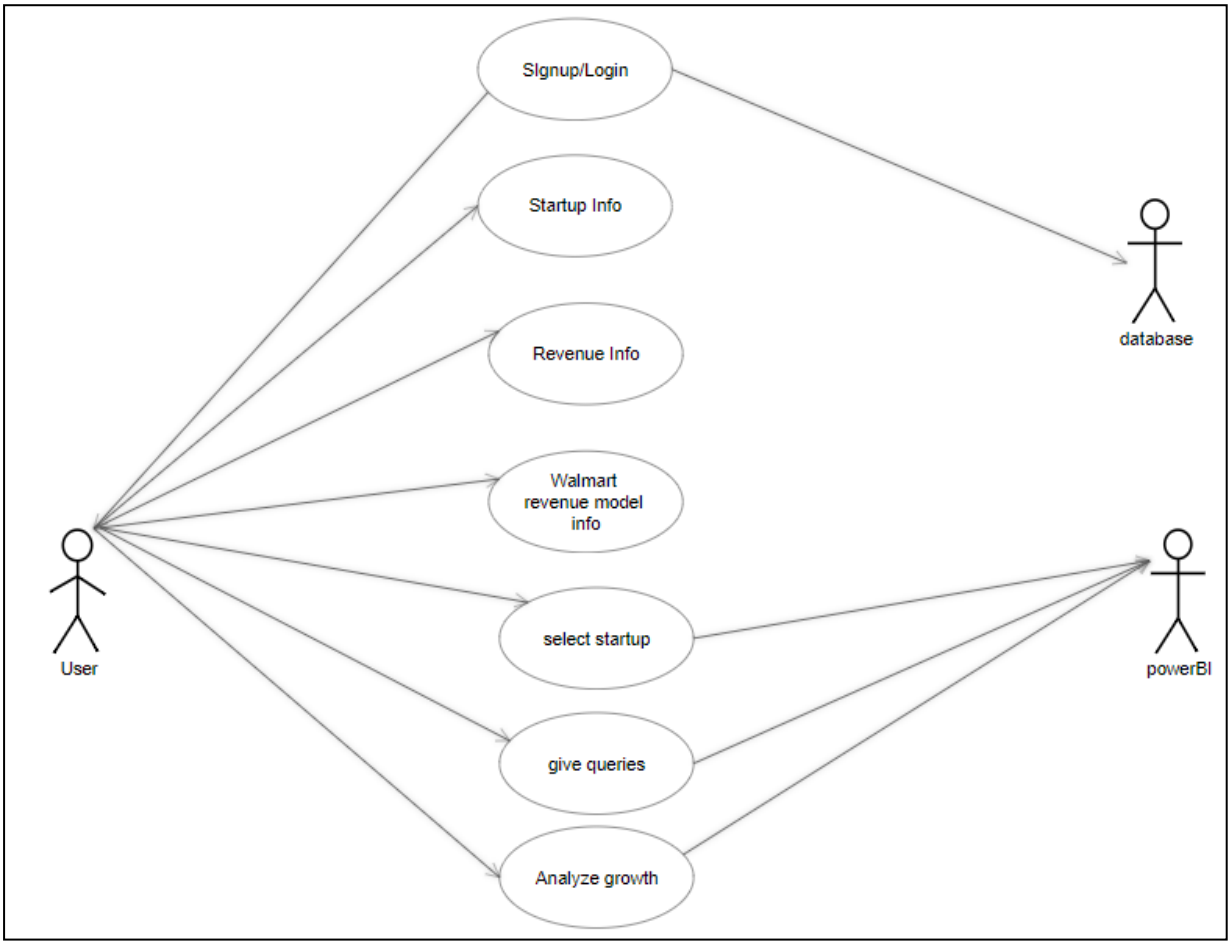


Figure 6.3 Use case diagram

The Actors involved are user who develops the startup firm by using the startup guide, revenue model and growth analyzer where database stores user information and powerBI tool answers for users query and analyze growth.

6.4 SEQUENCE DIAGRAM:

A sequence diagram as shown in figure 6.4 simply depicts interaction between objects in a sequential order i.e. the order in which these interactions take place. One can also use the terms event diagrams or event scenarios to refer to a sequence diagram. Sequence diagrams describe how and in what order the objects in a system function.

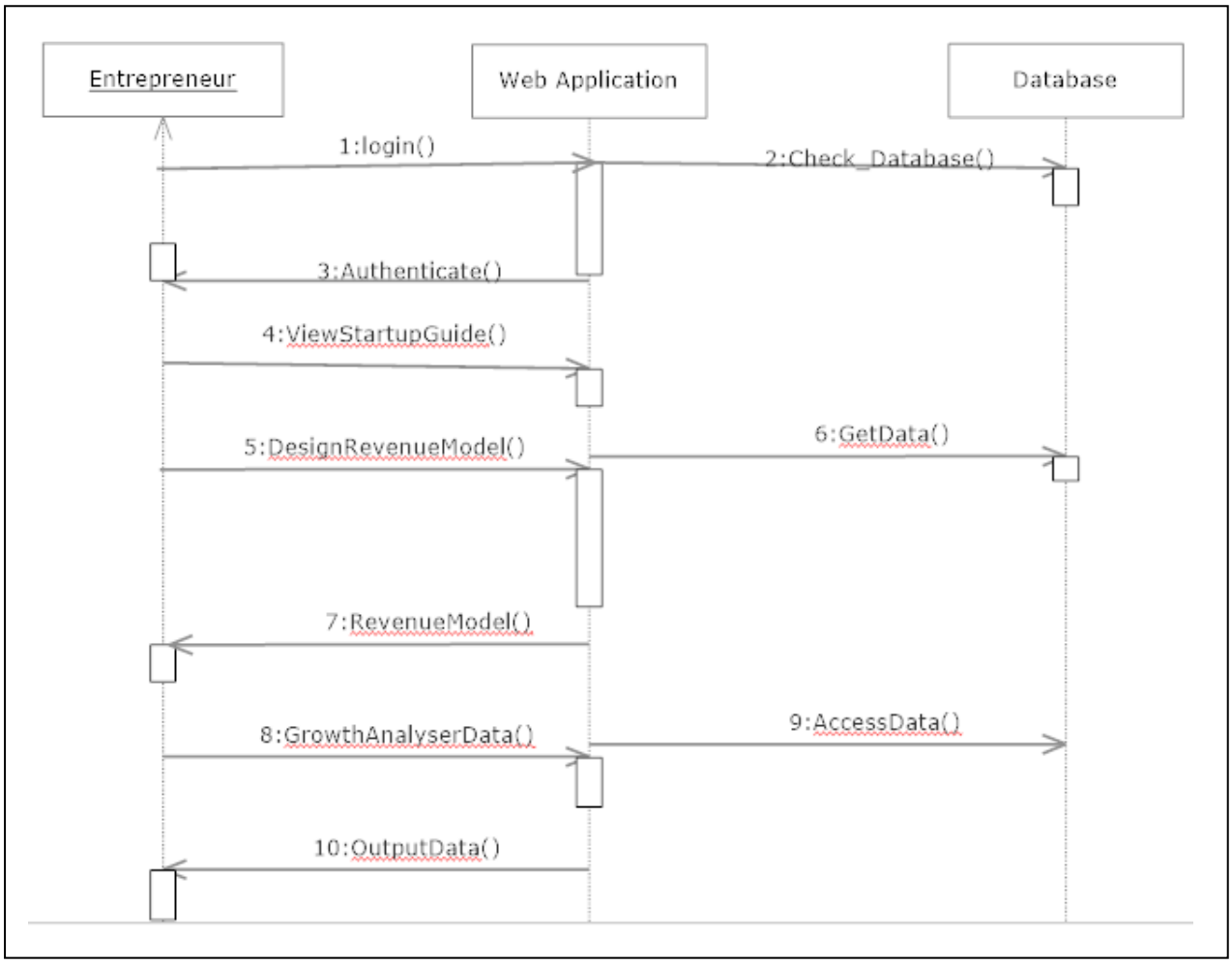


Figure 6.4 Sequence diagram

The interaction takes place between the entrepreneur, web application and database where login ,startup guide, design, revenue model, growth analyzer data is involved.

6.5 DEPLOYMENT DIAGRAM

Deployment diagram as shown in figure 6.5 is used to visualize the topology of the physical components of a system, where the software components are deployed. Deployment diagrams are used to describe the static deployment view of a system. Deployment diagrams consist of nodes and their relationships.

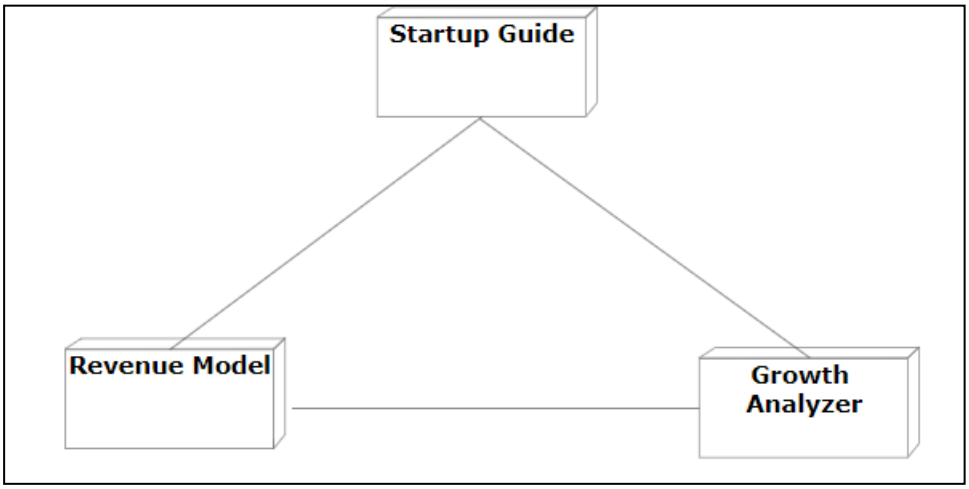


Figure 6.5 Deployment diagram

The topology of the physical components include for startup guide revenue model and growth analyzer and the software components are deployed.

CHAPTER 7

CONCLUSION AND FUTUREWORK

7.1 CONCLUSION:

The project has been implemented for 15 different startup domains that could be analyzed in 19 different locations within Chennai. The application also includes analysis of both 24 hour pharmacies and pharmacies with limited working time.

The results show improved performance over the existing systems which only provides the startup and their information whereas this project guides the entrepreneurs in achieving success by guiding them in various aspects and strategies for setting up the firm considering the location, popularity etc., and also designing the revenue model for the startups .growth analyzer is also applied by data analytics employing power business intelligence tool that leads to construction of startup.

7.2 **FUTURE WORK:**

The project has a very vast scope in future. The project can be implemented on various startup models like pharmacy, malls, supermarkets etc., where the entrepreneurs will get the clear vision in setting up their start firms. The modules like startup guide provides various sources of information in different strategies like location, economic issues, popularity etc., The revenue model helps in designing the startup firm. The growth analyzer plays vital role in analysis of startup for the enhancement purpose of the firm that leads the entrepreneurs to become business tycoon.

APPENDICES

A. SOURCE CODE

```
#li1
{
width:60px;
text-align:center;
font-weight:bold:
}
#div2
{
height:100px;
width:70px;
background:blue;
margin-top:50px;
}
 #growth2
{
margin-top:50px;
height:300px;
width:100%;
background-image:url(growth.jpg);
background;green;
}
```

```
#home
{
background-image:url(secure.jpg);margin-top:25px;
}
#revenue2{
float:left;
position:inherit;
}
<body>
<ul class="nav nav-tabs nav-justified">
<li class="active"><a data-toggle="tab" href="#home">Home</a></li>
<li><a data-toggle="tab" href="#startup" disabled>Startup</a></li>
<li><a data-toggle="tab" href="#revenue" disabled>Revenue</a></li>
<li><a data-toggle="tab" href="#growth" disabled>Growth Analyzer</a></li>
</ul>
<div id="home" class="tab-pane fade in active" style="background-
image:url(img/secure.jpg)">
<a href="https://app.powerbi.com/groups/me/dashboards/af27dc5e-bb51-428d-
8a11-d3e1e4ff99f3" target="_self"><button type="button" class="btn btn-
success" id="btn1">Lets Analyze?</button></a></div></div>
<h1 style="color:red;text-align:center">Startup</h1>
<div id="revenue" class="tab-pane fade in">
<div class="jumbotron" style="margin-top:30px;padding-
top:10px;color:white;background-image:url(revenue3.jpg)">
<a href="revenue2.php" target="_self" class="btn btn-info"
style="float:right;height:40px;width:80px;border-radius:25px;">Next</a>
```

QUERIES:

```
//Creating overview table
let
   Source = #table(
   {"Industry", "origin", "popularity","Countries"},
   {
    })
in
    Source

//Creating SuperMarket table
let
    Source = #table(
    {"place of super markets", "number of supermarkets"},
      {
      })
in
    Source

//Creating Pharmacy table
 let
    Source = #table(
    {"place", "number", "24 hour pharmacies"},
      {
      })
```

```
in
    Source

//Inserting and Retrieving data
  //overview table
let
    Source = #table(
    type table [Industry = text, origin= number, popularity = text,Countries=
text],
   {
     {"Pharmacy",1651,"93%",9},
     {"Textile Startup",1640,"53.60%",17},
     {"Travel Agency",1970,"72.40%",12},
     { "Animation StartupCompany",1956,"80%",7},
     {"Super Market",1930,"78.60%",9},
     {"E-Store",1999,"70%",10},
     {"Media Startup",1940,"67%",18},
     {"E-courses",2000,"68%",11},
     {"Restaurants",1992,"92.60%",10},
     {"Software Product Company",1878,"76%",25},
     {"Service Company",1888,"39%",14},
     {"Automobile Manufacturing",1767,"81%",10},
     {"Educational Institution",1889,"87%",21},
     {"Construction,Domain",1789,"36%",11},
     {"Gaming Market",1983,"80%",12},
    }
    )
in
    Source
```

```
 //supermarket table
       Source = #table(
        type table [place of supermarkets=text,number of supermarkets=number],
        {
           {"Perambur",23},
           {"Anna Nagar",51},
           {"Kodambakkam",26},
           {"Numbakkam",33},
           {"Adyar",42},
           {"Mylapore",29},
           {"Ambattur",21},
           {"T Nagar",43},
           {"KK Nagar",22},
           {"Koyambedu",11},
           {"Egmore",12},
           {"Vadapalani",23},
           {"Tambaram",19},
           {"Perungalathur",9},
           {"Vandalur",11},
           {"Chetpet",20},
           {"Saidapet",17},
           {"Avadi",15},
           {"Purasaivakkam",38}
        }
    )
in
    Source
```

```
//Pharmacy table
    Source = #table(
    type table [place=text,number=number,24 hour pharmacies=number],
        {

            {"Perambur",80,10},
            {"Anna Nagar",60,40},
            {"Kodambakkam",74,20},
            {"Numbakkam",53,30},
            {"Adyar",90,45},
            {"Mylapore",110,60},
            {"Ambattur",80,46},
            {"T Nagar",130,22}
            {"KK Nagar",50,16},
            {"Koyambedu",20,8},
            {"Egmore",30,18},
            {"Vadapalani",70,33},
            {"Perungalathur",10,4},
            {"Vandalur",9,2},
            {"Chetpet",20,8},
            {"Saidapet",70,45},
            {"Avadi",50,34},
            {"Purasaivakkam",60,27}
        }
    )
in
    Source
```

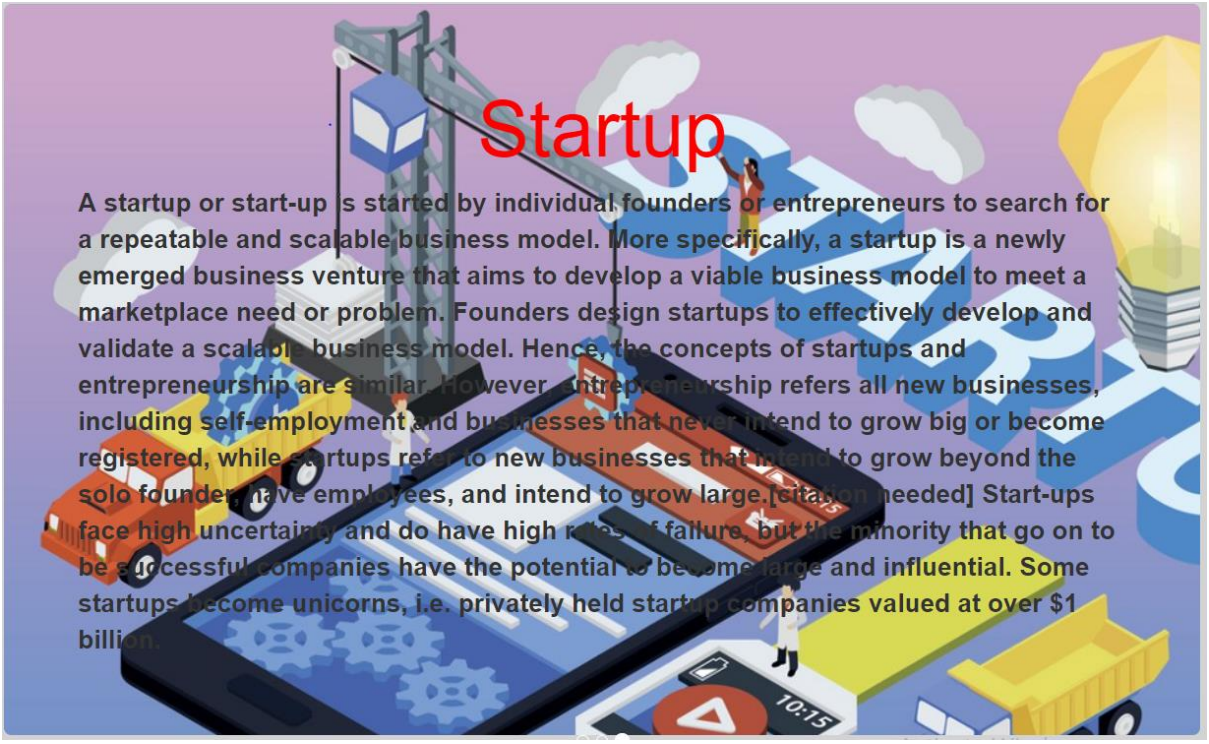
```
    //Retrieving data from external data set
     //Overview
let
     Source =
     Excel.Workbook(File.Contents("C:\Users\User\Downloads\overview.xlsx"),
     null, true),
     Sheet1_Sheet = Source{[Item="Sheet1",Kind="Sheet"]}[Data],
     #"Promoted Headers" = Table.PromoteHeaders(Sheet1_Sheet,
     [PromoteAllScalars=true]),
     #"Changed Type" =Table.TransformColumnTypes(#"Promoted
    Headers",{{"Industry", type text}, {"Origin", Int64.Type},{"popularity",type
    number},{"Countries",type number}})
in
    #"Changed Type"


     //SuperMarket
let
   Source =
Excel. Workbook(File.Contents("C:\Users\User\Downloads\supermarket.xlsx"),
null, true),
Sheet1_Sheet = Source{[Item="Sheet1",Kind="Sheet"]}[Data],
#"Promoted Headers" = Table.PromoteHeaders(Sheet1_Sheet,
[PromoteAllScalars=true]),
#"Changed Type" = Table.TransformColumnTypes(#"Promoted
Headers",{{"place of supermarket", type text}, {"number of super markets",
Int64.Type}})
   in
#"Changed Type"
    //Pharmacy
```

```
let
  Source
Excel.Workbook(File.Contents("C:\Users\User\Downloads\pharmacy.xlsx"),
null, true),
Sheet1_Sheet = Source{[Item="Sheet1",Kind="Sheet"]}[Data],
#"Promoted Headers" = Table.PromoteHeaders(Sheet1_Sheet,
[PromoteAllScalars=true]),
#"Changed Type" = Table.TransformColumnTypes(#"Promoted
Headers",{{"place", type text}, {"number", Int64.Type}, {"24 hour
Pharmacies", Int64.Type}}),
#"Filtered Rows" = Table.SelectRows(#"Changed Type", each ([24 hour
Pharmacies] <> 17))
in
#"Filtered Rows"
```

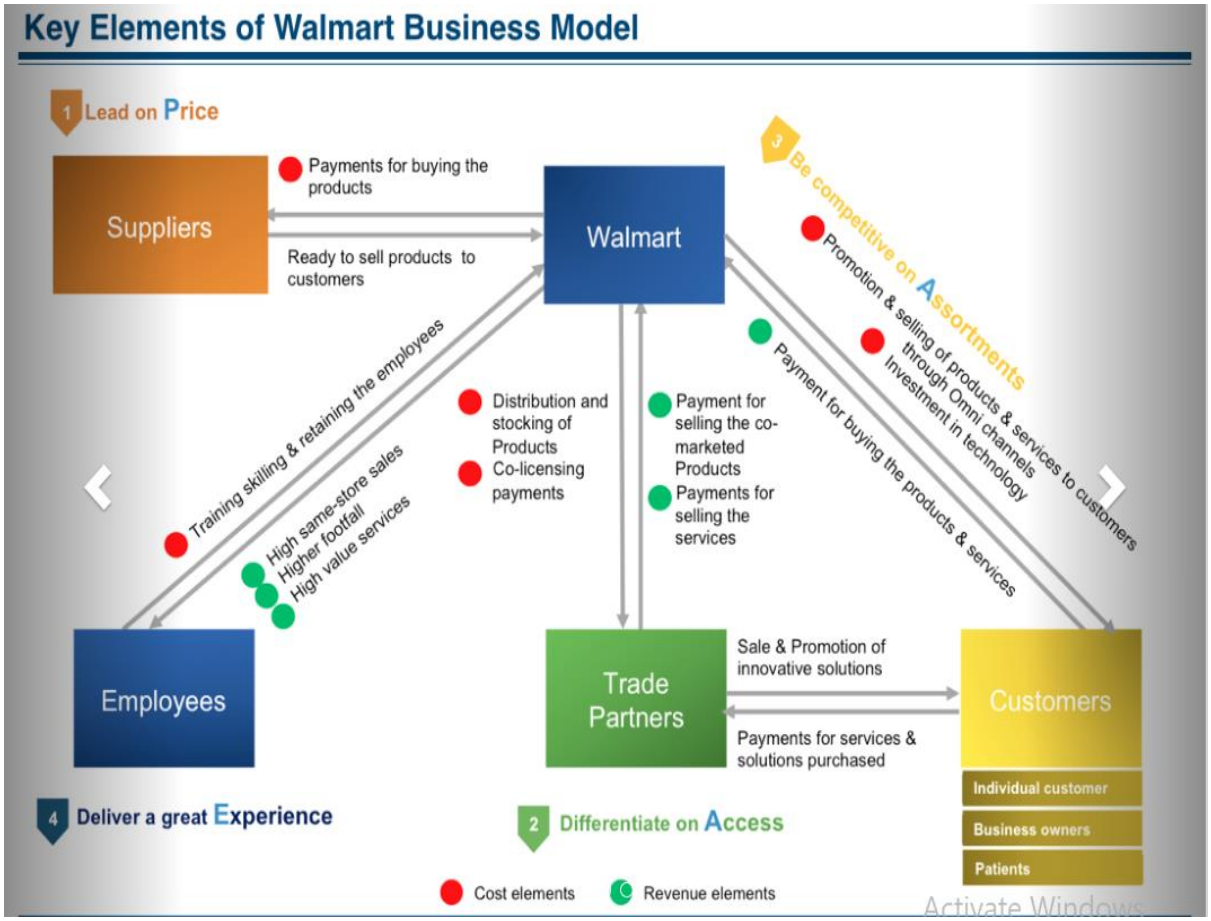
B. SNAPSHOTS

Startup Model

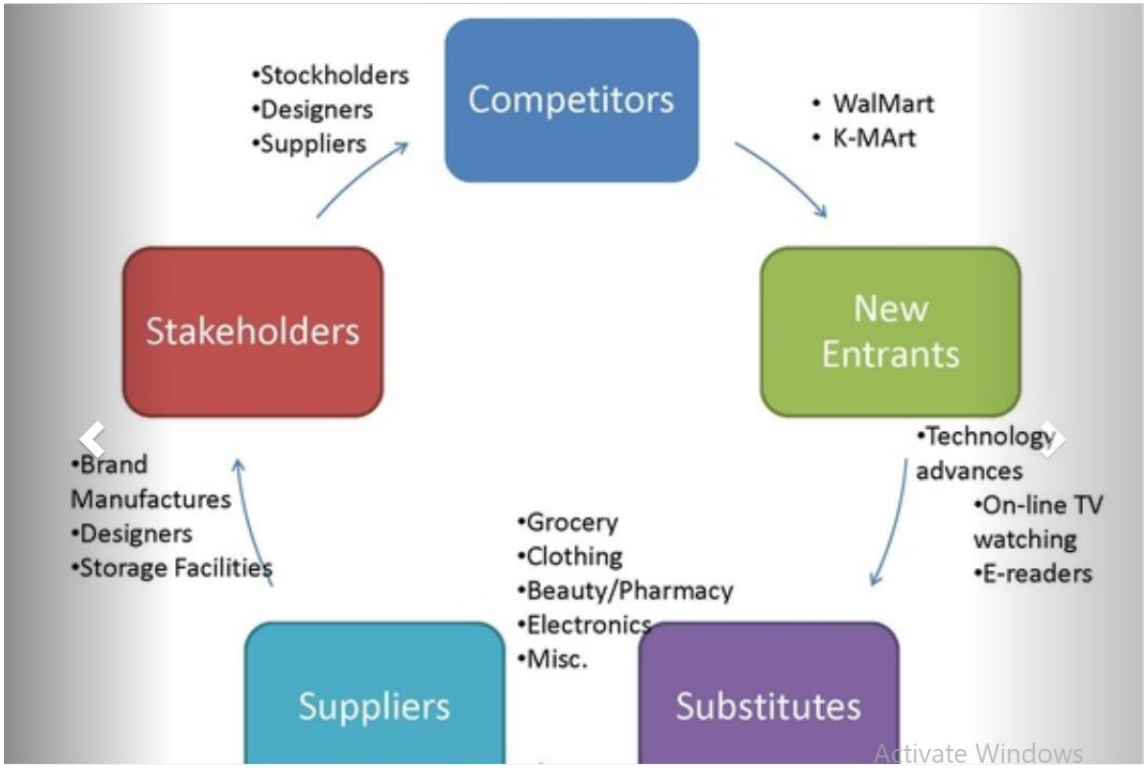


Revenue Model

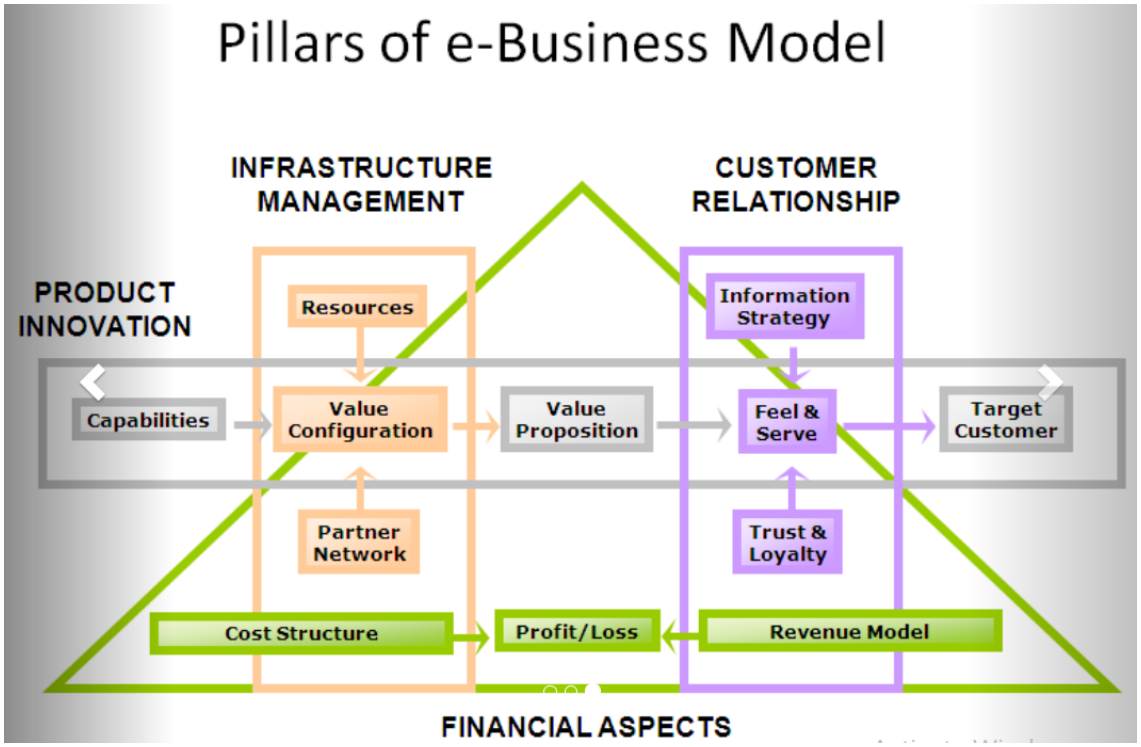
Walmart Revenue Model



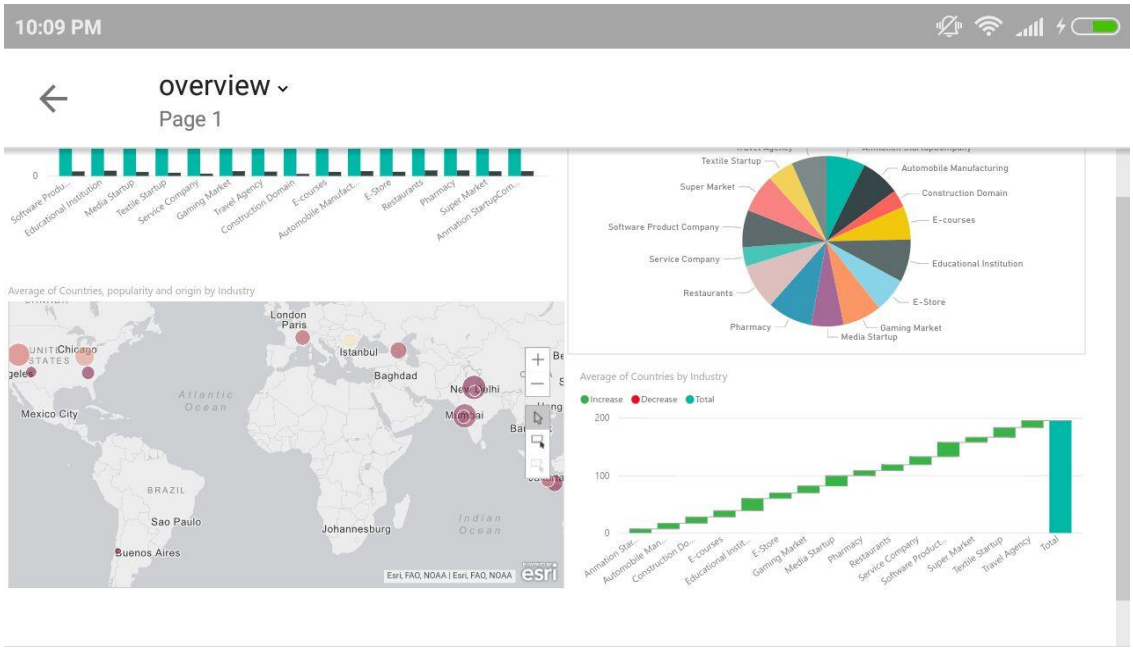
Revenue Model Design



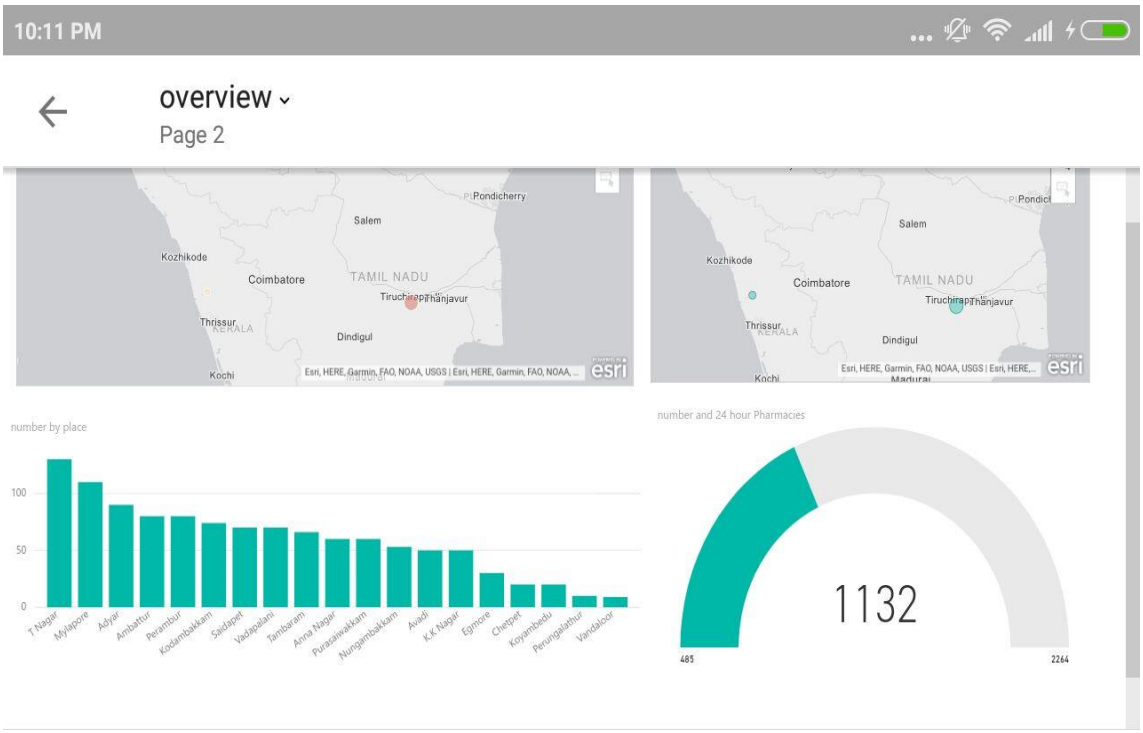
Business Model



Growth Analyzer



Growth Analysis of Pharmacies



Growth Analysis of Super Markets

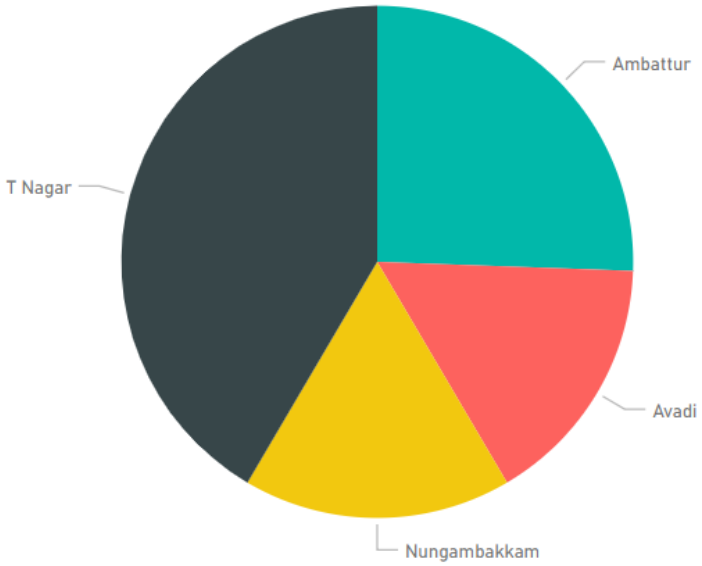
Comparison of supermarkets in different regions

Exit Q&A

number of supermarkets in ambattur, T nagar, Avadi, Nungambakkam as pie

pie (Visualization Type)

number by place

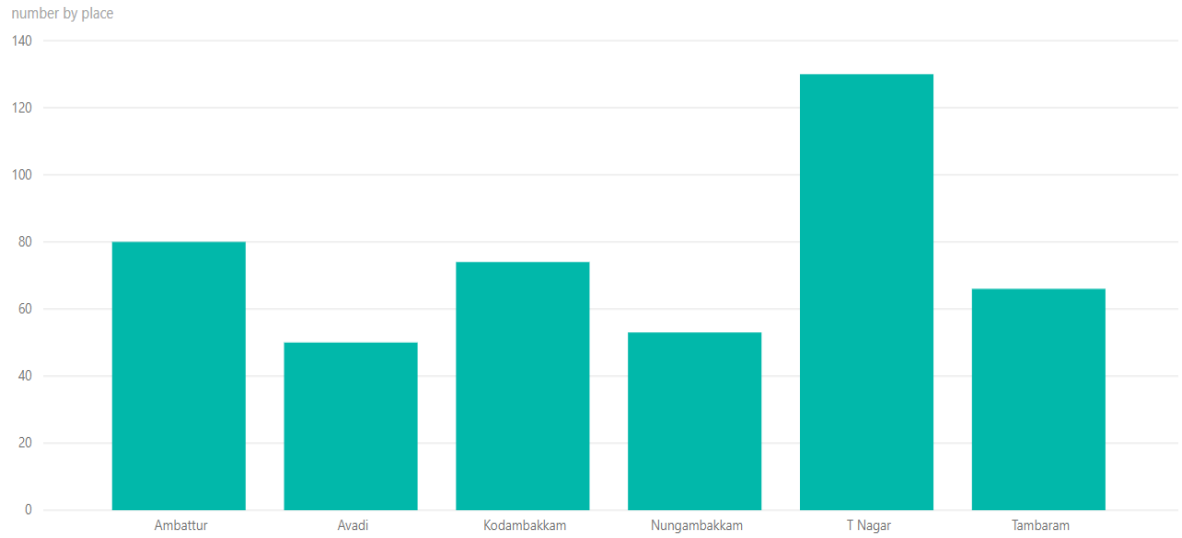


Showing number and place that sheet 1s are in, where place is Ambattur, T Nagar, Avadi, or Nungambakkam as pie chart
Source: overview

Comparison of supermarkets as Column chart

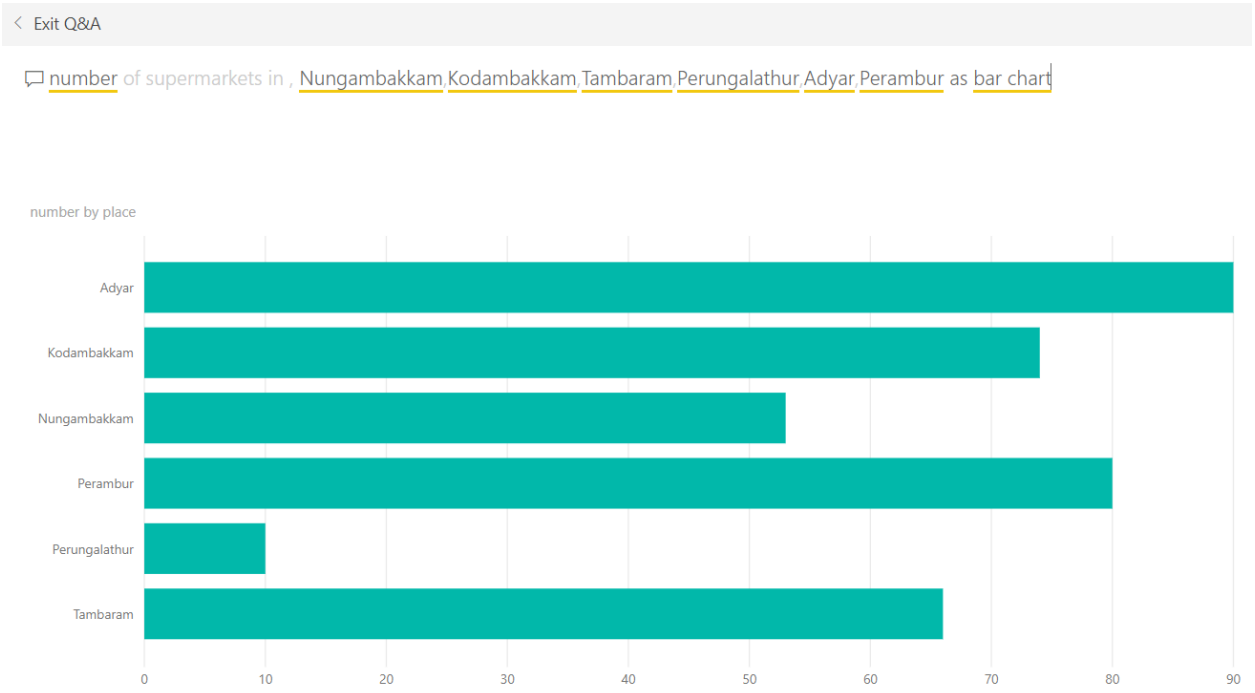
Exit Q&A

number of supermarkets in ambattur, T nagar, Avadi, Nungambakkam Kodambakkam Tambaram as column chart



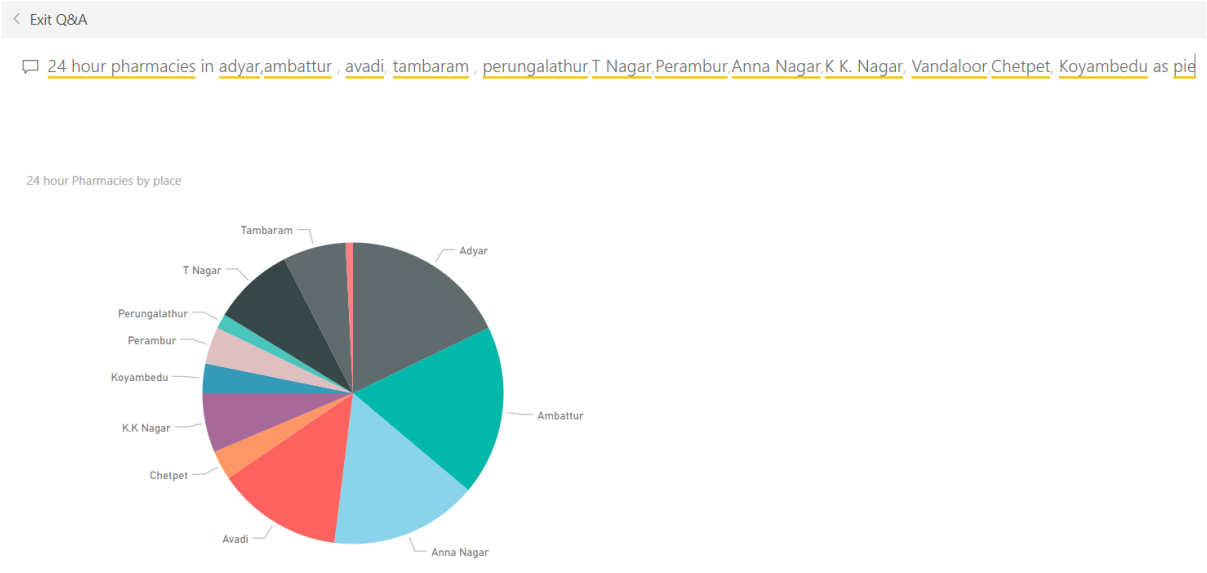
Showing number and place that sheet 1s are in, where place is Ambattur, T Nagar, Avadi, Nungambakkam, Kodambakkam, or Tambaram as clustered column chart

Comparison as bar chart



Showing number and place that sheet 1s are in, where place is Nungambakkam, Kodambakkam, Tambaram, Perungalathur, Adyar, or Perambur as clustered bar chart

Comparison of 24 hour pharmacies across different regions as pie chart



Showing 24 hour pharmacy and place that sheet 1s are in, where place is Adyar, Ambattur, Avadi, Tambaram, Perungalathur, T Nagar, Perambur, Anna Nagar, "K.K Nagar", Vandaloor, Chetpet, or Koyambedu as pie chart

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MAPPING OF PROGRAM OUTCOMES

TECHNICAL PROJECT OUTCOME:

After successful completion of project work student will be able to:

TPO1: Analyze, Design and Implement projects with a comprehensive, systematic and ethical approach.

TPO2: Apply modern tools to execute and integrate modules in the project.

TPO3: Apply techniques for societal, health care, and real time sustainable research projects.

TPO4: Develop communication skills by the technical presentation activities.

TPO5: Contribute as a team and lead the team in managing technical projects.

Mapping of Technical Project outcomes with the Project

	TPO1	TPO2	TPO3	TPO4	TPO5
STARTUP GROWTH ANALYSIS USING POWER BUSINESS INTELLIGENCE					

(Indicate as 1-Less than 30%;2- 30.1-60% and 3-above 60.1%)