

Czech University of Life Sciences Prague

Faculty of Economics and Management

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Diploma Thesis

Online Health Consultancy: A Case Study

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DIPLOMA THESIS ASSIGNMENT

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Business Administration

Thesis title

Online health consultancy: A Case Study

Objectives of thesis

The main objective of this thesis is to study the use of online health care consultation and to evaluate its importance. The aim of the thesis is to conduct the survey, to investigate and evaluate the result of the survey. It also focuses on creating the software for the internet base health care consultation. Moreover, it aims to evaluate the pros and cons of the online health care consultation. Furthermore, it also focuses on recommending the use of internet based method to the patients. As this subject is very wide, I have given attention to research in two cities of India. It focuses mainly on patients problems due to conventional method and their satisfaction level. It also evaluates the patients' satisfaction in internet based health care system.

Methodology

We carried out an analysis on the results of survey of the people in Surat and Ahmedabad city of Gujarat (India). The sample was randomly extracted and was considered as general representative of the whole population of the region. The sampling method was used to find the varieties of experience with different settings and management of health care system. The study involved convenient sampling to select respondents. The respondents were well briefed with the objective of the study and with their consent the questionnaires were filled. Convenience sampling is the method of sampling where the respondents are selected as per the convenience of the researcher. The convenience is such that the respondent selected will represent the population and form sample for the research.

We used statistical analysis method for analyzing and testing the data. We explored two multivariate logistic regression models for analyzing and evaluating the patients satisfaction and experience with conventional system of visiting the doctor and the health care system. It also included the usage of online internet based health care system and the opinions and behavior of the people after its usage.

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Keywords

Internet, e-health, consultation, Information and communication technology

Recommended information sources

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Declaration

I declare that I have worked on my diploma thesis titled "Online Health Consultancy: A Case Study" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on **29 November 2019** _____

Acknowledgement

I declare that this thesis “Online Health Consultancy: A Case Study” is developed independently under the guidance of my supervisor, Ing. Petr Prochazka, Ph.D, MSc. for which I am thankful to him and other persons for their advice and support given during my research. I also declare that the use of literature and other information sources that are cited in the work are listed in the references at the end of work. As the author of the referred thesis, I further declare that I didn't infringe the copyright of any third parties in the context of its creation.

Online zdravotní poradenství: Případová studie

Souhrn

Tato studie se provádí za účelem vyhodnocení online zdravotního poradenství v Indii. Nabízí celkovou vizi zapojenou do pracovního procesu online zdravotního poradenství. Tato studie rovněž poskytuje přehled o pracovním mechanismu systému elektronického zdravotnictví a také naznačuje, že v online zdravotním systému je dosaženo hmatatelného pokroku. Také ukazuje přesnost systému elektronického zdravotnictví a kvalitu nabízených služeb, které ovlivňují spokojenost pacienta.

V důsledku šíření internetu došlo k obrovské změně životního stylu a životní úrovně lidí. V dnešní době je internet velmi užitečný. Internet je úložiště informací. Je přístupný odkudkoli za zlomek sekundy. Elektronický obchod je jednou z důležitých aplikací internetu. Online konzultace zajistila oporu na trhu a jednotlivci se otevírají pravděpodobnosti, že návštěvu fyzického zařízení nahradí možností online. Konzultace s lékařem je v našem každodenním životě zcela samozřejmostí, ale dostupnost lékaře v době, kdy je náš požadavek, je nepředvídatelná. Za účelem překonání tohoto problému je předložen návrh online zdravotního poradenství. Tato online zdravotní poradenská aplikace umožňuje uživatelům získat okamžitou službu bez ohledu na vzdálenost a čas. Poskytuje také okamžitou zprávu o zdravotních problémech pomocí inteligentní aplikace pro zdravotní péči. To umožňuje uživateli mluvit s lékařem online ohlásit své příznaky a pak poskytuje konzultace. Má mnoho výhod, jako je pohodlí, hospodárnost, soukromí, důvěrnost a úspora času.

Klíčová slova: Internet, elektronické zdravotnictví, konzultace, informační a komunikační technologie

Online Health Consultancy: A Case Study

Summary

This study is conducted to evaluate the Online Health Consultancy in India. It offers an overall vision involved in the working process of the online health consultancy. This study also provides an overview of the working mechanism of the e-health system and also indicate the tangible progress is being made in the online health system. It also shows the accuracy of the e-health system and the quality of service offered which affects the satisfaction of the patient.

There has been tremendous change in the life style and living standards of the people due to proliferation of the internet. Nowadays internet is very useful in our day to day life. The internet is the store of information. It can be accessed from anywhere within a fraction of second. E-commerce is one of the important applications of the internet. An online consultation has secured a foothold in the market and individuals are opening up to the likelihood of substituting a visit to a physical facility with an online option. Consulting a doctor is a quite obvious thing in our day to day life, but the availability of the doctor during the time of our requirement is unpredictable. In order to overcome this issue, a proposal of online health consultancy is made. This online health consultancy application enables the users to get instant service irrespective of distance and time. It also provides instant report on the health issues through an intelligent health care application. It enables the user to talk with the doctor online to report their symptoms and then provides consultation. It has manifold benefits like conveniency, cost-effective, privacy, confidentiality and time saving.

Keywords: Internet, e-health, consultation, Information and communication technology

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1 Introduction

1.1 Background of the Research

Health care has become one of the most dynamic and largest sectors with impressive achievement in quality of health. Internet has largest interactive channel in the last few years. It has widely supported a self service and long distance interaction. Being highly interactive and offering worldwide services it allows having real time answer as per consumer request.

The introduction of internet in healthcare sectors is one of the remarkable achievements. The provision of the medical services at the rural, urban and global level through the use of information and communication technologies has led to the appearance and exposure of the industry of online health consultancy. It has wide range of applications such as teleconsultation, telemonitoring, e-health, and remote diagnostics related to patients' management and training healthcare professionals.

Now days in most developed countries e-health system offer many services such as medical consultation, health cards etc. Internet based health care system are also in charge of registering complaints and suggestions so as to improve their services. Different applications and technologies such as web camera, mobile devices, tablet, computer with interactivity features helps patients to be more informed and stay close to physicians with the medium of internet. Here it involves both physical distance as well as in touch with the new technology which offers solution to improve management and customer services. Information and communication technology plays an important role in health care sector which improves quality of service as well as patients satisfaction. It also focuses on the use of the modern healthcare system to patients as well as healthcare professional (Rodrigues, Compte, & Diez, 2016).

E-health not only provides comprehensive care that includes health promotion and preventive care but also facilitates access to information and offers quality assurances and privacy. More and more patients are seeking information through online platform from

health related issue and in order to find out possible treatment and reach out to specialists. Internet has to perform diagnosis and therapeutics significances reduces the time and cost involved in terms of saving time and money. Patients can not only access their medical records anytime and anywhere allow but also request a second evaluation outside usual consultations hours. Internet and health is a link which together aims to improve the health of the people.

Nowadays both patients and consultants i.e. doctors are dissatisfied with the current consultation and appointment process. Excessive waiting times are also reported to access the specialist services. Not being informed of the appointment, not knowing if the referral had been received and a lack of information regarding follow-up treatments are the prominent issues with primary health care providers and patients. There are also instances of uncoordinated care such as tests being duplicated and unavailability of results on time. Problems regarding insufficient patient information, lack of relevant laboratory results causes communication barriers and can result in inappropriate treatment and potential harm to the patient.

Various methods such as telemedicine, telephone consultation, e-mail consultation have been developed to improve consultation process, but there are certain limitations. Finding a common time available for multiple physicians is difficult in telephone consultation. There are privacy issues while sharing information over e-mail. Telemedicine similarly has issues with physician synchronicity and has the added complication of requiring specialized equipment.

A recent trend in e-health is to deliver health care services online. E-consultation seems to be particularly attractive and its popularity is increasing in the recent days. Online health consultation service is to simplify and accelerate access to the expertise of medical specialists and improving delivery of care to the patients. It is very useful for the patients especially in the rural areas who cannot travel long distance immediately in case of emergency. It reduces both waiting and travelling time. It is a valuable option in terms of providing patients with more efficient diagnoses. Moreover, patients who have limited or even no medical resources have equal access to medical experts online, leading to better

and more efficient use of nationwide medical resources. It reduces the cost and improves the operational efficiency, effectiveness and enhances customer satisfaction. E-consultation is also used by some offline medical institutions to provide online services (Umefjord, Internet Consultation in medicine, 2006).

The newly emerging field of e-healthcare has created a lot of buzz lately (Mukherjee & McGinnis, 2007). The assurance of the delivery of quality service of health information via the internet to improve the health while simultaneously controlling travel distance and cost is exciting the customers. Nowadays, insurance companies are also interested in such format. In broader sense, online health consultancy signifies the commitment by online organizations to provide healthcare locally, regionally and globally by using the latest and powerful information and communication technology (Rodrigues, Compte, & Diez, 2016).

2 Objectives and Methodology

2.1 Research Question

The aim of the survey is to find out whether people use the internet for the health care issues. It also focuses to investigate on the fact that whether the internet usage is affected by the relationship and experience with the doctor or health care system. It also aims to find whether people share their e- health consultation information with the doctor. Moreover, it focuses on the feasibility of the online health care consultancy business. It aims to study the feasible plan of the business.

2.2 Objectives

The main objective of this thesis is to study the use of online health care consultation and to evaluate its importance. The aim of the thesis is to conduct the survey and to investigate and evaluate the result of the survey. It also focuses on creating the software for the internet base health care consultation. Moreover, it aims to evaluate the pros and cons of the online health care consultation. Furthermore, it also focuses on recommending the use of internet based method to the patients. As this subject is very wide, I have given attention to research in two cities of India. It focuses mainly on patients problems due to conventional method and their satisfaction level. It also evaluates the patients' satisfaction in internet based health care system.

2.3 Methodology

The study involved convenient sampling to select respondents. The respondents were well briefed with the objective of the study and with their consent the questionnaires were filled. Convenience sampling is the method of sampling where the respondents are selected as per the convenience of the researcher. The convenience is such that the respondent selected will represent the population and form sample for the research. The

lists of questions were prepared and the survey was done at public places like hospitals, colleges, universities, parks etc. The logit regression method was used to analyze the data. All analyses were carried out by using SAS software.

Logit Regression: Logistic regression analysis studies the association between a categorical dependent variable and a set of independent (explanatory) variables. The name logistic regression is used when the dependent variable has only two values, such as 0 and 1 or Yes and No. The name multinomial logistic regression is usually reserved for the case when the dependent variable has three or more unique values (Park, 2013).

Logistic regression expresses the relationship between a binary response variable and one or more independent variables called *covariates*. This procedure calculates sample size for the case when there is only one, binary covariate (X) in the logistic regression model and a Wald statistic is used to calculate a confidence interval for the odds ratio of Y to X. Often, Y is called the *response* variable and X is referred to as the *exposure* variable. For example, Y might refer to the presence or absence of cancer and X might indicate whether the subject smoked or not.

Using the *logistic model*, the probability of a binary event is

$$\Pr(Y = 1|X) = \frac{\exp(\beta_0 + \beta_1 X)}{1 + \exp(\beta_0 + \beta_1 X)} = \frac{1}{1 + \exp(-\beta_0 - \beta_1 X)}$$

This formula can be rearranged so that it is linear in X as follows

$$\log\left(\frac{\Pr(Y = 1|X)}{1 - \Pr(Y = 1|X)}\right) = \beta_0 + \beta_1 X$$

Note that the left side is the logarithm of the odds of a response event (Y = 1) versus a response non-event (Y = 0). This is sometimes called the *logit* transformation of the probability. In the logistic regression model, the magnitude of the association of X and Y is represented by the slope β_1 . Since X is binary, only two cases need be considered: X = 0 and X = 1.

Context of the survey

The context of the survey is Surat and Ahmedabad region, in Gujarat (India). India has a general public healthcare system which provides universal health care services. The medical health care system is managed at a local level and regional level. The health care services are monitored and operated from district level. The health care districts are responsible for providing primary health care services in their area. General practitioners are usually the primary contact between patients and specialist care.

The overall internet usage in India is 64.5% which includes 72% in urban area and 57% in rural area. As per Gujarat it is 65.5% (65% in Surat and 77% in Ahmedabad). The population of Surat is 6.77472 million and the total inhabitants in Ahmedabad are 8.6444 million. In our survey Surat and Ahmedabad cities shows their views about online health care consultation, its performance in terms of satisfaction and quality of service.

Study design

We carried out an analysis on the results of survey of the people in Surat and Ahmedabad city of Gujarat (India). The sample was randomly extracted and was considered as general representative of the whole population of the region. The sampling method was used to find the varieties of experience with different settings and management of health care system. The sampling had a statistical significance level of 95% and precision level of 7%. The survey was composed mainly on four criteria:

- Experience and Satisfaction with Doctor
- Experience and Satisfaction with health care system
- Medical information and communication behavior
- Other social economic criteria

In the preparation of this thesis, the data collected from different sources are analyzed. The sources of data are as follows:

Primary Sources: The Primary Data are those, which are collected for the first time and are fresh and are original in character. However, there are many methods to collect the primary data. Many data are very sensitive and cannot be shared, so all the data are not included in this thesis. The data collected for the thesis are from the following sources:

- Informal Interviews
- Questionnaires
- Observation
- General Discussions

Secondary Sources: The Secondary Data are those, which have already been collected by someone else and passed through Statistical process. These data was collected through various textbooks, journals, internet and articles.

Survey Questions:

- 1) What is your name?
- 2) What is your age?
- 3) What is your education level?
- 4) What about your health status?
- 5) Do you have any disease?
- 6) How often do you visit hospital?
- 7) Do you have internet connection at home?
- 8) Do you use the internet for health care consultation?
- 9) Do you contact the doctor about the online result after using internet based health care system?
- 10) What is your satisfaction level with the explanation of the doctor?
- 11) What is your satisfaction level with the participation in the decision with doctor?
- 12) What is your satisfaction level with the time duration spent with the doctor or GP?
- 13) What is the satisfaction level with the doctor?
- 14) How many times do you visit the doctor every year?

- 15) Do doctors or GP give suggestion regarding life style?
- 16) What is your satisfaction level with the health care system?
- 17) What about the knowledge about the health care system?
- 18) Do you return back to the health care office due to inefficiency or malpractice?

3 Theoretical Part

3.1 What is consultancy?

Consultancy is a professional practice that gives expert advice within a particular field. In other words, it means offering an expert opinion in a particular field. Consultancy firms and consultants are the common terms used in regards to professionals who provide wide knowledge on a particular subject. A company or an individual does not have to actually hire the firm but have to pay the consultancy firm for the advice they offer. A consulting or consultancy firm is a business of one or more experts i.e. consultants who provides expert or professional advice to an individual or organization. They target company chairperson and executives and provide them with specific specialists or subject related experts usually trained in management or business for professional feedback and advice (Backer, et al., 1992).

Consultation is often used when an organization needs an expert opinion on a business decision from outside. This is called outsourcing. For instance, a company seeking to sell its products in another country may look for a consultant familiar with the business practices of the abroad country. Consultants will suggest the best practices to be followed, customer expectations and foreign regulations. Consulting firms range in size from sole proprietorships consisting of a single consultant, small businesses consisting of a small number of consultants, to mid- to large consulting firms, which in some cases are multinational corporations. This type of consultant generally engages with multiple and changing clients, which are typically companies, non-profit organizations, or governments (Backer, et al., 1992).

3.2 What is consultant?

A consultant is a person who provides expert or professional advice in a particular field of science or business such as education, law, accountancy, human resources, marketing,

finance, engineering, security, health care or any of many other specialized fields to an individual or a company. In simple words, a consultant is usually an expert or an experienced professional in a specific field and has a wide knowledge of the subject matter. Consultants can work at a consultancy firm, operate as independent consultant (freelance), or else work as consultant within the company they work for ('internal consultant'). There are three basic characteristics that distinguish a consultant from other professions. Firstly, a consultant provides expertise that a client lacks. In return they charge fees for their professional advice. Secondly, a consultant operates independently from the client. There should be no conflict of interests between the services and the issues of the clients. Thirdly, consultants operate in a professional manner, which ranges from having the right qualifications to ensuring good and high quality service (Nickols, 2006).

3.3 Reasons for hiring consultants

One of the main reasons for hiring a consultant is the knowledge advantage that they possess. By hiring a consultant, clients have access to deeper levels of expertise than would be financially feasible for them than to retain in-house on a long-term basis. Moreover, clients can control their expenditures on consulting services by only purchasing as much services from the outside consultant as desired. In the majority of cases, an individual hires a consultancy to provide expert opinion that leads to the resolution of an issue within the organization or company. Other reasons for hiring them are:

- Hiring consultant is economical than retaining the specialist or expertise in-house.
- Consultants are independent and provide practical and objective view on issues along with solutions.
- They are less susceptible to internal politics and sensitive situation of a company.
- They can easily take the decisions which no one wants to make internally.
- Consultants can backfill when firms find themselves short in capacity for projects.

The role of consultant outside medical field fall under one of two general categories:

- **Internal Consultant** - He is a person who works within a company or organization and is also available to be consulted on areas of their expertise by other departments or clients.
- **External Consultant** – He is a person who is working for a consulting firm whose expertise is provided externally to an organization on a temporary basis for a fee.

Consultation is provided to their clients by consultants in a variety of forms. Presentations and reports are usually used for this purpose. However, in some specialized fields, consultant may develop customized software or other products for the client. The advice from the consultant can be made public depending on the nature of the wishes of the client and the consulting services by placing the report or presentation online. It can also be kept confidential and only given to the senior executives or chairperson of the organization (Tordoir, 1995).

3.4 What is online health care consultancy?

It is rightly quoted “Health is wealth”. With the proliferation of the internet there is a recent trend in e-healthcare or online health consultancy. People can know about their health sitting at home without visiting the doctors. Online medical consultations are becoming a norm in today.

The concept of online health consultancy emerged in the beginning of the twenty first century. It has brought the use of electronic information and communication technology in the field of health and medical sector irrespective of the geographic sites of the patient. It has improved the health of people on local as well as global level. The term e-healthcare also relates to electronic exchange of health related information that has been collected or analyzed through an electronic medium like scanners, digital cameras, videoconferencing etc. for improving the quality and efficiency of the service (Mukherjee & McGinnis, 2007).

The use of internet for medical consultation is a very recent and emerging trend in India. This concept has already been developed and improved in some developed nations. The rapid rate at which technology advancement is taking place, the capability for information and data mining using the internet has been simplified. For example, today e-commerce is used for online shopping, booking tickets, making reservations and many more. With such a development in each and every field, a healthcare industry is also bound to follow the footprints.

According to (Mukherjee & McGinnis, 2007), e-healthcare consists of four main activities which can be accessed via internet. It can also be restricted by logins and passwords.

- **E-business:** It is a bridge between healthcare providers and patients. It helps people to connect with the medical experts sitting at home. It is also helpful in online electronic processing claims and eligibility authorization from insurance companies. Health insurance can be purchased with its help. It also involves online buying of prescribed drugs.
- **Customer marketing:** In online healthcare marketing can be done by using the websites to display information about an organization to attract the new patients and it also provides general disease related information as well as information about maintain good health.
- **Company management:** It involves display of name along with photos of head, doctors, physicians and specialists and the other employees. It also includes job announcement list, online educational programs, conference, health benefit events and many more.
- **Clinical service:** It encompasses patient access to the medical information via electronic health records to monitor their own health. It also includes doctor patient interaction.

Online medical consultation is gaining wide recognition these days. The process to access it is very simple. There are various websites where people can seek healthcare advice. People have to visit the websites and consult the doctor via electronic medium like

digital camera, e-mail video conferencing etc. Doctors listen and then respond based on the nature of the disease. People can also attach medical reports which can assist doctor. Doctors get paid for their consultation by the patients. The online consultation helps in maintaining friendly relations between doctor and patients. It is cost effective. It is comfortable as it saves travelling time and waiting time. It can be accessed any time. It is very helpful in case of emergency. It also provides assurance of security of the patient information.

3.5 Literature Review

Overview of Online Health Care Consultation

E-health is synonym of online health in other words electronic health or network health (Rodrigues, Compte, & Diez, 2016). It is an application of information and communication technology across an entire function that influences health and health services also incorporate tools and solution including product, system and services that are common internet application. The tools are mainly use for medical administration, medical equipment, and all types medical professional as well as public and personalized medical information system for patients.

Telemedicine is a healthcare delivery system in which patients are examine by physicians through the use of telecommunication technology on the other hand E- health is the application of information and communication technology in healthcare fields (Sood, et al., 2007).

In 1997 world health organization consider that e-health provides healthcare services, where distance is critical factor by professional that appeal to ICT with the aim of exchange data for diagnosis to improve people health and communities in which they live.

A significant number of studies have suggested that, the absence of clinical information of the patients affects both the cost and quality of healthcare. Information

technology has acted as an essential tool in solving the problem. IT applications in healthcare such as electronic health records, e-prescription, electronic management of chronic diseases, bar coding of medicines etc have solved the problems of cost and related medical errors. For instance, putting medical records of the patient on the electronic medium solves the problem of error in medication. Meanwhile, electronic prescription also provides improved compliance in treatment of patients.

Internet has become a powerful source for healthcare information. The rate at which new technologies, software applications and treatments are emerging has also affected the clinical providers to rely on the use of internet.

There are many advantages of e-health compare to simple consultation. Some of them are below (Rodrigues, Compte, & Diez, 2016):

- Telesonography
- Tele radiology
- Surgery
- Thermal imaging diagnosis
- Patient safety increase due to reliable and effective system
- Disease prognosis, prevention and monitoring

There are several requirements to provide e-health services such as availability of information technology and telecommunication system to receive and send accurate information and ensure all procedure follow established medical ethics regarding about the security and privacy. Finally it is necessary to certify and register of medical staff is to authorize to request and send information. In early 2005, the world health organization launched study of e-health. This aimed to strengthen the health system of member countries.

Consultancy is the professional practice which gives expert advice in Particular field and Consultant is a person who provides expert advices. A consultant is usually an experienced professional in a particular field. He has a wide knowledge of the subject matter.

Online health consultancy is a practice of providing advice regarding health and diseases on its platform. It can be provided by healthcare professionals (Doctors, Specialists like Surgeons, nutritionist, pathology, radiologist, Physiotherapist etc) our consultancy provides advice who has expertise in particular field of medical.

Various Services

The following are the various services which involve the use of information and communication Technology:

M-Health: Mobile health, or m-Health, is the provision of e-Health services on a mobile platform. India is home to the 3rd largest Smartphone market in the world, which makes m-Health a very lucrative option. The convenience of e-Health coupled with the mobility of m-Health opens the arena for a lot more players to actively take part in the revolution. Mobile technology enables health-care organizations to expand medical services by providing a suitable environment to achieve mobile health (M- Health) goals, making some health-care services accessible anywhere and anytime (Anshari & Almunawar, 2016).

E-Pharmacies: An interesting concept that is cropping up worldwide is online pharmacies or e-Pharmacies. An online pharmacy is an internet-based vendor that sells medicines. Online pharmacies allow pharmacists to cater to a larger group of patients as the inherent geographical restrictions on physical pharmacies are removed in the online model.

E-Learning in the healthcare sector: Continuous Medical Education (“CME”) being a mandatory requirement and necessary for doctors to keep in touch with the current trends and developments in the field of medicine, e-Learning is a more convenient platform for doctors to attend such programmes. E-Learning also saves on time and costs by being accessible from anywhere (Masic, 2008).

Self-Monitoring Healthcare devices: Monitors and sensors are now being integrated into wearable, which allow it to detect various physiological changes in the body. These smart devices are capable of tracking weight, sleep patterns, posture, diet and exercise. The raw data that is collected can be used to self-monitor by detecting various health symptoms and alert the user in case of potential issues (Lupton, 2017).

Electronic Health Records (“EHR”): An EHR is a digital version of a patient’s health records. An electronic health record gathers, creates, and stores the health record electronically. EHRs help eliminate the problems associated with physical records such as loss and lack of accessibility. EHRs can be stored centrally and accessed at any time, irrespective of where or when the information was collected. With EHRs, doctors are able to view their patient’s complete medical history even if they are treating the patient for the first time. This would help reduce duplication of tests and facilitate the secure exchange of information, which in turn helps the patient and the healthcare facilities manage costs (Seymour, Frantsvog, & Graeber, 2012).

Summary of E-health Consultancy Firms

The following are the summaries of the existing E-health Consultancy firms (Kimble, 2015):

Sky health (India): It was founded in 2008 as a health programs mainly focusing on women. It is operated by nongovernmental organization and run by female entrepreneurs. It is linked to panel of expert in Delhi who can provide consultation to patients. It also provides an income sources to the female entrepreneurs and also offers to female healthcare provides a training, which helps them to carry teleconsultation, diagnosis and process. This foundation program funded was by Bill and Melinda Gates foundation.

Apollo Telemedicine (India): It is the largest private healthcare organization in India. It started Apollo telemedicine with a goal of providing access to medical system irrespective of the distance and connects Apollo hospitals all over India. It also provides

teleconsultation and tele-education to other countries (53 countries). It allows accessing to specialists and knowledge a doctor available in hospitals in big cities.

Aravind tele-ophthalmology (India): It was founded in 1976 in Madurai India. It is largest eye care organization in the world. The organization has established in its centre in rural area which connects to the hospitals through video conferences. This provides direct access to ophthalmologist. It provides free services to low income patients who would otherwise have no access to the doctor. It's a nonprofit organization.

Tactive telemedicine (Netherland): Develop by Dutch company name Tactus Addiction. It provides treatment to alcohol addicted person provides interaction between a client and consumer to help to overcome the addiction this serves has its own websites and client has to pay the fees.

Arizona telemedicine Program (USA): It was established in 1996 by the Arizon state legislature. It provides consulting and training services. The communication network is leased from the utility companies clients are charged for the services they receive.

Myca Nutrition (Canada): Its online platform created to connect nutritionals with their clients. It carries out consultation via video conferences, emails, website or telephone. This system provides nutritionists away to reach their targeted clients and attract them and also convenient for the patients to get the dietary advice. It also provides online billing and Payment.

3.6 General Business Plan

A business plan should be designed before starting any new business and same is the case for starting online health consultancy business. Starting your own health coaching business can feel like a juggling act. There are so many different aspects to running a business, from writing your business plan to building a website. A business plan can be simple or complex depending on its maker. A business plan is a way that helps people to

achieve the goals and take the business on the peak of the success. It should include goals, executive summary, market survey and analysis, funding, legal requirements, marketing plan and strategies.

The capacity of the business to generate profit is not in its technology but in its design or plan to manage customers along with technology. The priorities and expectations of customers are likely to change with time and if business plan fails to match with it then losses begin to occur. The online health consultancy business cannot be done without any prior or deep knowledge about it. It is a complex task and requires deep and tedious research. This also involves studying existing online healthcare consulting firm which is well established.

4 Practical Part

4.1 Online Health Care Consultancy Business Plan

According to (Appleby, 2018) and (Starting a Healthcare Consulting Firm – Sample Business Plan Template, 2009 - 2019) the following are the steps for creating a business plan:

- Vision or description of the business
- Market survey and analysis
- Getting qualification
- Understanding legal responsibilities
- Raising funds
- Trademark business name
- Get resources
- Get insurance
- Growing business brand
- Advertisement

Vision or description of the business: It is also called as business plan. It contains information regarding the objectives and goals to start the business. It contains the overall general information. It will comprise of short and long term goals, marketing strategies, sales targets, expense budgets, yearly milestones and revenue projections. A business plan helps the owner to be on track. It also helps to identify potential obstacles. A business plan is must if you are considering a loan of funding from the bank. It also involves general market research to know the competitors (Appleby, 2018).

Vision: Our vision is to offer high quality and standard services to the customer. We intend to earn profit and become topmost online health consultancy business.

Mission: Our mission is to promote health and wellness of the community by providing high quality medical consultation. We are committed to provide standard services to the

patients that will exceed their expectations which will result in successful and profitable business.

Market survey and analysis: Firstly, it is necessary to conduct good market survey. Healthcare consulting business cannot be started without adequate knowledge. (Starting a Healthcare Consulting Firm – Sample Business Plan Template, 2009 - 2019). Adequate research is to be done meticulously about the following:

Survey of targeted customers: Effective marketing strategy consists of taking leads and attracting new clients. Internet and books are very useful to get the surveying information. A more targeted marketing strategy brings more clients. Though online health care consultancy is for anyone and everyone but the main targeted clients are the working people and the old aged people. Working people hardly find enough time to concentrate on their health. They can use this consultancy which can save their time to travel and can consult any time irrespective of time constraints. Similarly, our other ideal clients are young people who are well aware of technology and cannot travel long distance because of their deteriorated health.

Identify the uniqueness: While planning the market analysis it is also necessary to identify the things which make you different from other health and wellness services. Uniqueness becomes a selling point and helps to stand out to the ideal client.

Working as a lab technician I have seen that old aged and disabled people find it difficult to travel for giving blood sample and other reports. This project will also focus on collecting samples and delivering the results. If necessary, prescribed drugs will also be delivered. At the starting point, first two consultancies will be free of cost as a demonstration.

Getting qualification: I have a qualification in the medical laboratory science field as well as working experience in renowned hospitals in India. I also have a background of some other business. Few of my friends who are doctors, dentist, physicians and specialist are also on board.

Understanding legal responsibilities: Legal requirements and responsibilities is the most important aspect of running the online health consultancy business (Appleby, 2018).

Identify the scope: The scope of practice in online health consultancy business is as a health coach along with medial drug retailing.

Get a lawyer: Investing in a lawyer while the online health consultancy business is at its starting point is a very smart idea. Lawyer is helpful in making contracts, terms and conditions and other legal procedures within local jurisdiction (Appleby, 2018).

Lawyer is helpful in the following task:

- ✓ Registering business or company name
- ✓ Opening bank account
- ✓ Obtaining an Employer Identification Number
- ✓ Registering with state labor agencies
- ✓ VAT registration
- ✓ Obtaining sales tax permit
- ✓ Payment gateway
- ✓ Obtaining occupational licenses or industry-specific permits
- ✓ Legal documents
- ✓ Brush up on online business regulations
- ✓ Adherence to cyber crime laws
- ✓ Compliance to other laws
- ✓ Getting required licenses and permits

Raise Funds: Raising money for the online health consultancy business is an important step. The funds are required for developing website, software application, licenses, office and obtaining the legal documents and other resources. The investment will be made by me and my father.

Trademark business name: It is necessary to protect the business name and copyrighting it. Business name should be catchy and should be unique (Appleby, 2018). Our business will be named as “Elite E-Health Consultation”.

Get Resources: As it is online healthcare consultancy, the first and the foremost requirement is the website and the software application for consulting, human resource such as physicist, dentist, dietician, general surgeon etc.

- ✓ IT platform/ environment (Internet)

- ✓ Website

- ✓ Software Application

- Features- Video calling

- Messaging

- Email service

- Live chat

- Phone call

- Group calls

- File transfer

- Screenshots

- File transfer

- Health records maintenance

- Electronic signature

- Payment system

- Multilingual

- ✓ Human resource

- Includes- Doctors

- Specialist in different fields

- Health workers

- Lab technicians

- Pharmacists

- Lawyer

- General counselor

- ✓ Finance
- ✓ Legal authorization
- ✓ Office space

Get Insurance: It is necessary to have professional liability insurance or business insurance to protect in case of the unfortunate event (Appleby, 2018). Here are the five insurers to consider:

- ✓ Shriram General Insurance Company Ltd
- ✓ Royal Sundaram General Insurance Co. Ltd
- ✓ Raheja QBE General Insurance Company Ltd
- ✓ The Oriental Insurance
- ✓ United India Insurance

Growing business brand: After defining the objectives and discovering the uniqueness and ideal clients, it is necessary to develop the business brand. It will connect to the very core idea of the business which will reflect what the business is about. Sharing the personal story is an effective way to convey business brand. Personal story will be the basis of business brand and it will reflect the qualities and services which will attract the clients. Writing blogs is also helpful in developing brand name (Appleby, 2018).

Advertisement: Advertisement is one of the most important steps in marketing strategy. It has twofold benefits. It advertises the business and also spreads the awareness. It is an effective medium for mass marketing. It attracts the clients and also brings reputation and enhances the goodwill of the business. It helps in building brand name (Starting a Healthcare Consulting Firm – Sample Business Plan Template, 2009 - 2019).

Conventional way: Having a business card, brochures is very helpful in advertisement. Writing blogs in newspaper, flyers, door to door marketing is very helpful. Hoardings, advertisement in newspaper, speaking at events, radio advertisement also plays a key role in advertising the business.

Social media: Social media can be used effectively to spread the word. It can be used exponentially for business exposure. Having a page on social media or email campaign and sending daily health tips is also useful. Social media platforms include the following:

- ✓ Facebook
- ✓ Twitter
- ✓ Blog
- ✓ LinkedIn
- ✓ Website
- ✓ Instagram
- ✓ Snapchat
- ✓ Youtube channel

4.2 Legal Requirements

Online business in India has been witnessing tremendous growth backed by the proliferation of smart phones and internet. The e-commerce, m-commerce and service industries are set to record even higher growth with further increase in internet service providers and the launch of 3G and 4G service at affordable prices.

Legal requirements for online business vary as per different business models. For example, electronic trading of medical drugs and health consultancy requires strict and firm e-commerce and legal compliance as compared to other online business activities. Digital communication health consultancy, medical drugs and health care products in India are scrutinized more precisely and firmly than other e-commerce activities.

Nowadays it is easier than ever to launch an online business. Various software development services can help people to set up a website and payment gateway. On the other hand various other online market services like Amazon, Flipkart and many more can make our products in front of the people.

Entrepreneurs interested in online business are mainly confused about government rules and regulations along with licensing requirements. An online business is no different

than a “brick and mortar” stores because it requires as many of the same government permits and licenses (Green, 2017).

Legal requirements for starting an online health consultancy business

According to (Green, 2017) and (Lawyered, 2017) the following are the legal requirements for the business:

- Registering business or company name.
- Bank account
- Obtain an Employer Identification Number
- Register with state labor agencies.
- VAT registration
- Obtain a sales tax permit.
- Payment Gateway
- Obtain any relevant occupational licenses or industry-specific permits.
- Legal Documents
- Brush up on online business regulations.
- Adherence to cyber crime laws
- Compliance to other laws
- Get further information about licenses and permits

Registering business or company name: This is the first step to start a business. It is good to have a private company or Limited Liability Protection (LLP) while starting an online health consultancy venture for improving the ease of doing business. Furthermore, opening of bank accounts or obtaining a Service tax registration/VAT are fast and becomes easier by having a company name or LLP. Many online marketplaces allow proprietorships and partnership firms on their websites. However there would be no LLP

incase of legal dispute and proceedings. So, it is best to start with Private Limited Company or LLP (Lawyered, 2017) .

To incorporate private online health consultancy company it is necessary to approve its name, registered office address, atleast two directors with director identification number (DIN), digital signature certificates, memorandum of association (MOA), articles of association (AOA) and minimum capital of Rs. 2450000. A certificate of incorporation is sent by post to the registered office of the newly registered company after meeting these conditions and requirements.

The online private limited company also requires complying with income tax related compliances. It includes obtaining Tax identification number (TIN), Value added tax (VAT) registration, obtaining Permanent account number (PAN), Tax deduction account number (TAN), service tax and professional tax if applicable.

In case of proprietary online health consultancy business, it is best to start with a company with equity funding for successful startup venture. It is very easy to start as it only requires opening a current bank account, filing personal income tax returns and getting intellectual property rights protection.

Bank Account: A bank account can be easily opened in the name of the business by contacting a bank once the company or LLP is incorporated. To list on an e-commerce marketplace or obtaining a payment gateway it is essential to open a bank account. VAT registration must first be obtained to open a bank account in the case of proprietorship firm.

Obtain an Employer Identification Number: It is necessary to have an Employer Identification Number (EIN). It is a federal identification number which is issued by the Internal Revenue Service in order to identify a business entity. If the business is operated as a sole proprietorship and have no employees, you can use your social security number in place of an EIN on governmental documents and other official forms (Green, 2017) .

Register with state labor agencies: It is required to register with the state workers compensation and employment departments if online health consultancy business has employees. In some states, it is necessary to register even if you are the only employee of the company. In some states, your application for a state tax identification number may also register you with these agencies (Green, 2017).

VAT Registration: If online health consultancy business in India involves selling of medical drugs and health care products then it is compulsory to have a VAT registration. A VAT registration is a must if starting a proprietary transaction based online website. It is obtained from the State's Sales Tax Department (Lawyered, 2017).

Obtain a sales tax permit: If online health consultancy business also involves selling of medical drugs and health care products and if the state has a sales tax then it is necessary to obtain a sales tax permit. There is no requirement of sales tax if the business does not have an actual physical presence. Physical presence includes having an office, warehouse or storing inventory and its definition also varies from state to state (Green, 2017).

Payment Gateway: A payment gateway is required to process online payments of the customers. Payment gateway providers allows the website to accept credit card, debit card, net banking and internet banking payments from multiple banks and credit card companies, Hence, one payment gateway is sufficient to accept various forms of online payments. Once a Payment is received from the customer, it is sent to the bank account of the business company by the payment gateway providers in one or two days (Lawyered, 2017).

Obtain any relevant occupational licenses or industry-specific permits: Online health consultancy business requires a state-issued business license. Obtaining such a license generally requires the applicants to demonstrate and illustrate certain skills or training. States usually requires license for those who are related to personal services including medical health care, law, real estate etc. If business is involved in operations directly controlled by federal agencies then it must obtain respective permits or licenses from those agencies (Green, 2017).

Legal Documents: In online business, it is necessary and important to protect the business and the promoters of the business through proper contracts and legal documentation. The disclaimer, privacy policy, terms and conditions is needed to be drafted properly and precisely. If selling of health care products is included through online marketplaces, then the seller's agreements or the legal document is provided by the marketplace and the seller must abide by the agreement. The seller's agreement must be read carefully before confirming to the agreement (Lawyered, 2017).

Brush up on online business regulations: Before starting the online health consultancy business it is necessary to know the rules and regulations of doing online business. The laws related to digital privacy, copyright, security and taxation must be properly researched and studied. Many of the laws covering digital rights and online advertising are applicable to this business and owner has to be concerned of it (Green, 2017).

Adherence to cyber crime laws: Each and every online business company is needed to ensure cyber law due diligence in India. This is because the cyber law due diligence for companies in India has become very strict and stringent and foreign companies and websites are frequently prosecuted in India for non-exercise of cyber laws. Moreover, online business in India must also adhere to data security, cyber security, privacy protection, maintenance of confidentiality, data protection etc. Payment gateways also need to adhere to such laws and it must be noticed and monitored (Lawyered, 2017).

Compliance with other laws: An online health consultancy business in India also involves compliance with laws like Indian Penal code, contract law etc. Furthermore online payment in India also involves compliance with the financial and banking norms applicable in India. For example, let us consider PayPal in this regard. If it has to allow online payments receipt then it has to take a license from Reserve Bank of India (RBI). Furthermore, cyber due diligence for PayPal and other online payment transferors in India is also required to be monitored. Involvement of employees is required to adhere to labor laws. The Shops and Establishment Act are responsible for laying down mutual statutory obligation and rights of employers and employees. It is recommended that all online business entrepreneurs and owners must do a proper and precise techno legal due diligence

before opening any website. The Information Technology Intermediary Guidelines Rules 2011 prescribes stringent liabilities for e-commerce business in India. The Internet Intermediary Liability in India may be invoked frequently against e-commerce websites (Lawyered, 2017).

4.3 Financial Requirements

Online medical health care consultancy service business has been started to offer online medical services to the patients in ever changing health care environment. The conventional medical industry including doctors, patients and hospitals have been aware of the potential in patients population and their problems. It is been formed to provide services to the patients as well as opportunities to the doctors and other medical technicians. It is a unique market opportunity which is currently presenting itself to skilled individuals who have awareness of it. It can also be a profitable segment of many private and government programs (Medical Services Management Business Plan Sample- Executive Summary/ Bplans, 1996-2019).

A financial plan is a master budget which includes financial source, cash flow forecast, balance sheet, profit and loss statement, sales forecast and target. It is the most important aspect of the plan. It should be accurate and realistic. The plan is to complete the entire development within second year of operation.

The online health consultancy business start-up development costs will fund an initial period of 1 year. At this point, profit is expected to reach as below:

Figure 4.3.1: Profit of initial years

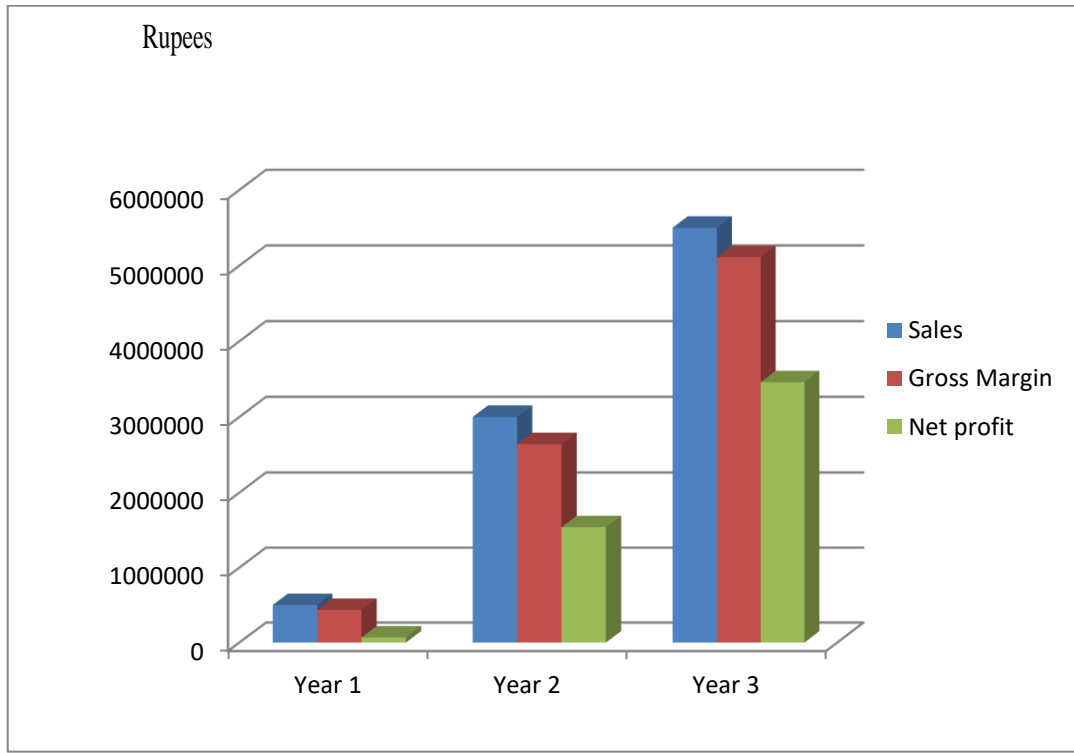


Table 4.3.1: Sources of Finance and Budget

Start Up Requirements	
Start-up Expenses on	Rupees
Legal	Rs. 150000
Stationery	Rs. 50000
Sales Materials	Rs. 150000
Consultants	Rs. 200000
Insurance	Rs. 50000
Rent	Rs. 50000
Equipment Expense	Rs. 400000
Other	Rs. 100000
Total Start-Up Expenses	Rs. 1150000

Start-Up Assets	
Cash Required	Rs. 1200000
Other Current Assets	Rs. 100000
Long Term Assets	Rs. 0
Total Assets	Rs. 1300000
Total Requirements	Rs. 2450000
Start-Up Funding	
Start-Up Expenses to Fund	Rs. 1150000
Start-Up Assets to Fund	Rs. 1300000
Total Funding Required	Rs. 24500000
Assets	
Non-Cash Assets from Start-Up	Rs. 100000
Cash Requirements from Start-Up	Rs. 1200000
Additional Cash Raised	Rs. 0
Cash Balance on Starting Date	Rs. 1200000
Total Assets	Rs. 1300000
Liabilities and Capital	
Liabilities	
Current Borrowing	Rs. 0
Long-term Liabilities	Rs.0
Accounts Payable (Outstanding Bills)	Rs. 0
Other Current Liabilities (interest-free)	Rs. 0
Total Liabilities	Rs. 0
Capital	
Planned Investment	
Mitul Patel	Rs. 1550000
Jitendra Patel	Rs. 900000
Other	Rs. 0
Additional Investment Requirement	Rs. 0

Total Planned Investment	Rs. 2450000
Loss at Start-Up (Start-Up Expenses)	(Rs. 1150000)
Total Capital	Rs. 1300000
Total Capital and Liabilities	Rs. 1300000
Total Funding	Rs. 2450000

Source of Table: (Medical Services Management Business Plan Sample- Executive Summary/ Bplans, 1996-2019)

Mission: The mission of online health care business is to provide a scenario that will allow the patients to access to the health care sector irrespective of time and distance constraints.

Strategy and Alliances: The market strategy is to build alliance and to develop professional as well as personal relations with healthcare industry which includes doctors, physicians, surgeons, lab technicians, pharmacists etc. It requires building strategic alliance with medical centers. These alliances are useful as they can provide valuable contacts, infrastructure as well as medical services.

Sales Forecast: Internet is the growing factor in the selling and purchasing of variety of products. It provides relatively easy way irrespective of time and distance constraints. This advantage of internet is very useful in medical healthcare business. Through websites, patients can also read the reviews and comments, in terms of both services and price.

Figure 4.3.2: Assumed number of patients monthly

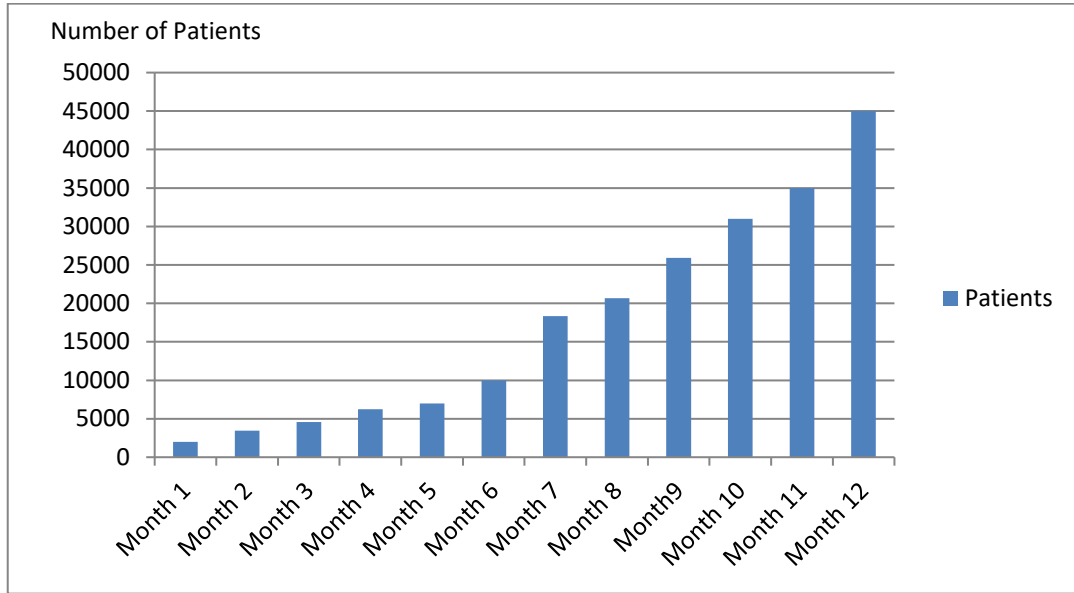


Figure 4.3.3: Assumed number of patients yearly

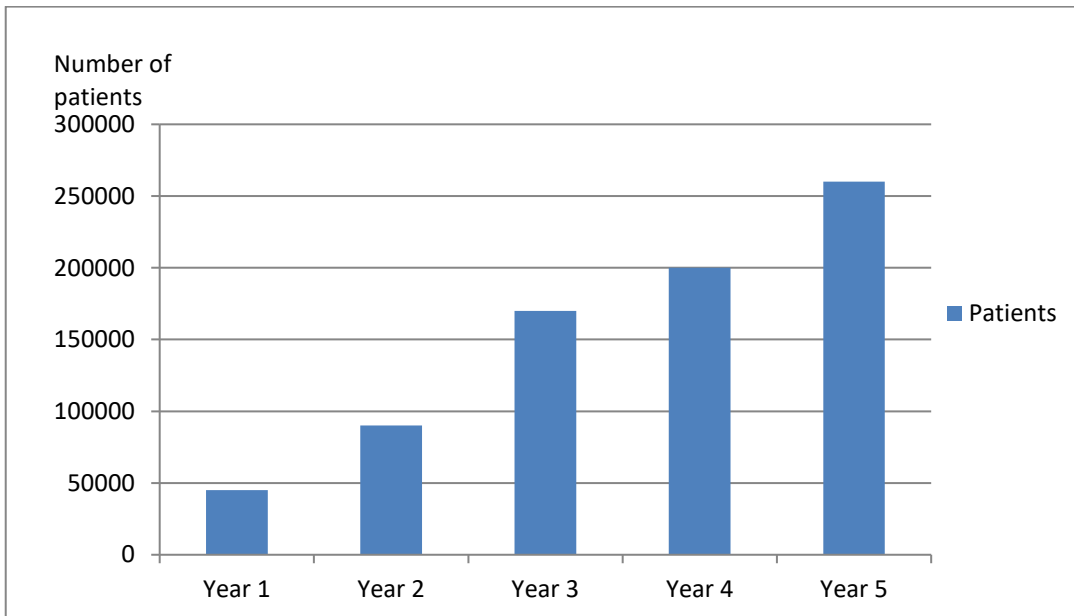


Figure 4.3.4: Assumed monthly income

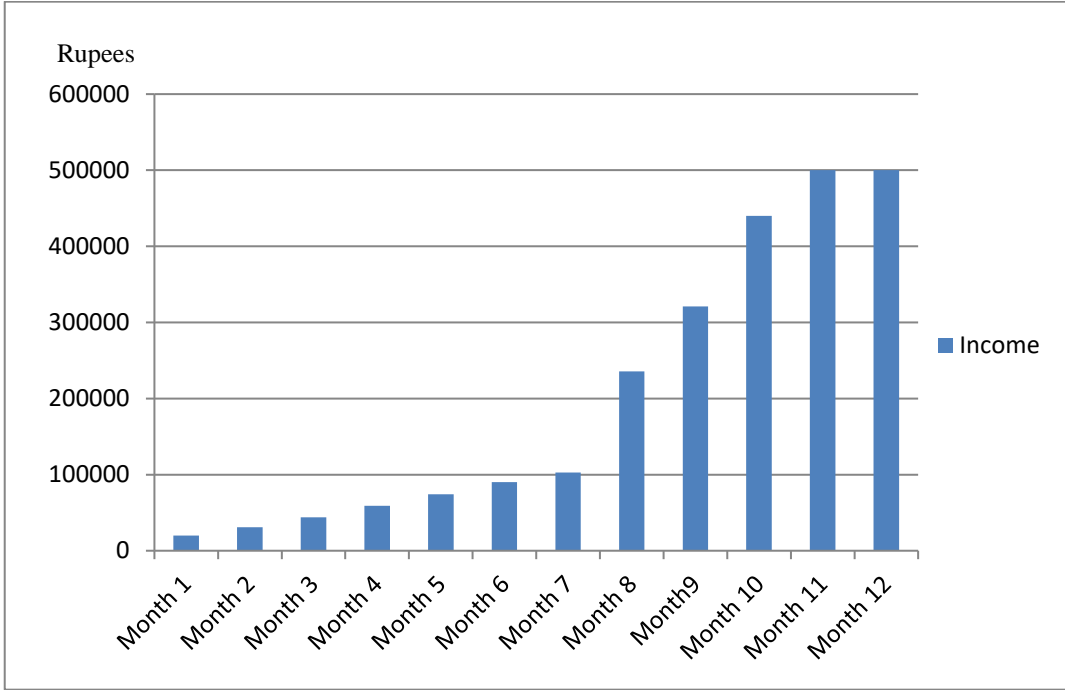
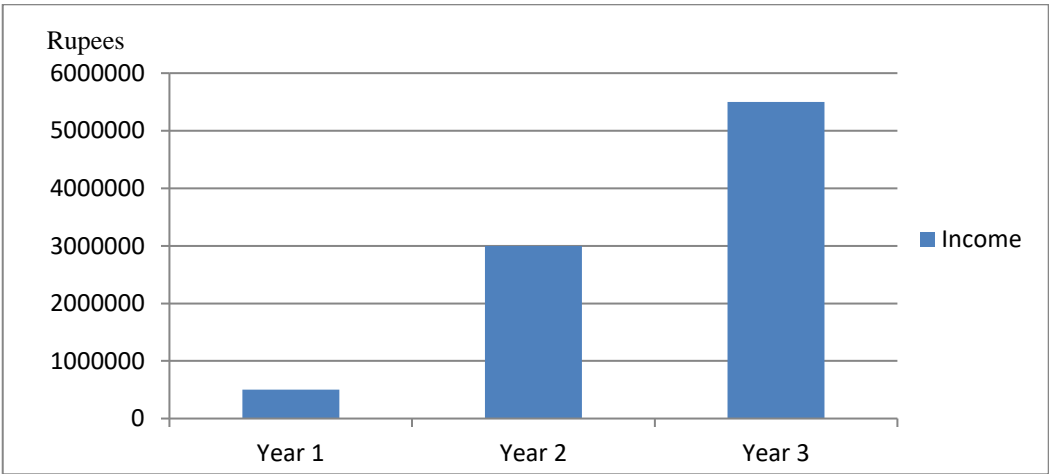


Figure 4.3.5: Assumed yearly income



Employee management Plan: The management plan will be based on responsibility and mutual respect and understanding. It will maintain peaceful environment that will encourage productivity and respect among fellow colleagues.

Table 4.3.2: Employee Management Plan

Personnel Plan			
Years			
	Year 1	Year 2	Year 3
Staff Payment	Rs. 500000	Rs. 1150000	Rs. 2130000
Other	Rs. 0	Rs. 0	Rs. 0
Total People	9	15	25
Total Payroll	Rs. 500000	Rs. 1150000	Rs. 2130000

Source of Table: (Medical Services Management Business Plan Sample- Executive Summary/ Bplans, 1996-2019)

Important Assumptions: The following table presents some assumptions that are necessary for the success of online health consultancy business:

Table 4.3.3: General Assumptions

General Assumptions			
Years			
	Year 1	Year 2	Year 3
Plan Month	1	2	2
Current Interest Rate	10.00%	10.00%	10.00%
Long-term Interest Rate	10.00%	10.00%	10.00%

Tax Rate	25.42%	25.00%	25.42%
Other	0	0	0

Source of Table: **(Medical Services Management Business Plan Sample- Executive Summary/ Bplans, 1996-2019)**

Projected Profit and Loss: The Company is in the early stage of development, thus initial projections have only been made on accounts that are believed to most drive the income statement.

Figure 4.3.6: Gross Margin Monthly

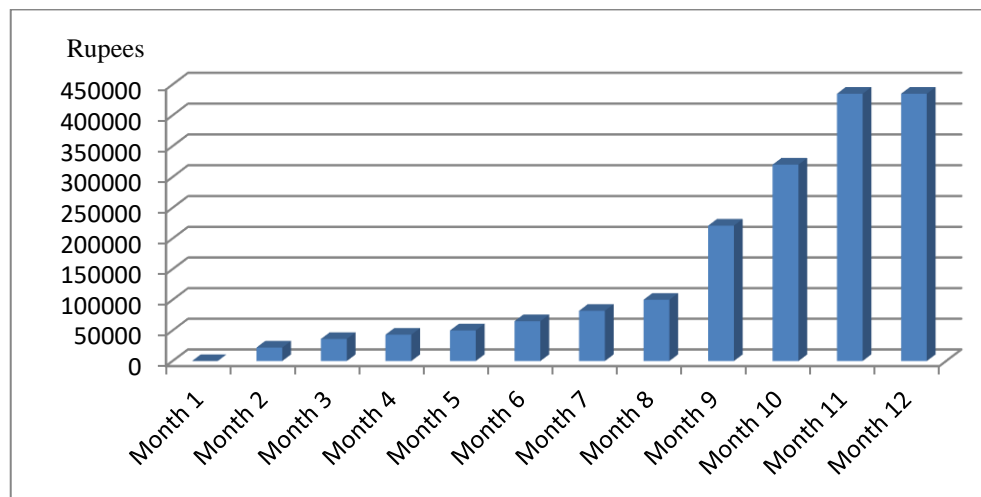


Figure 4.3.7: Gross margin yearly

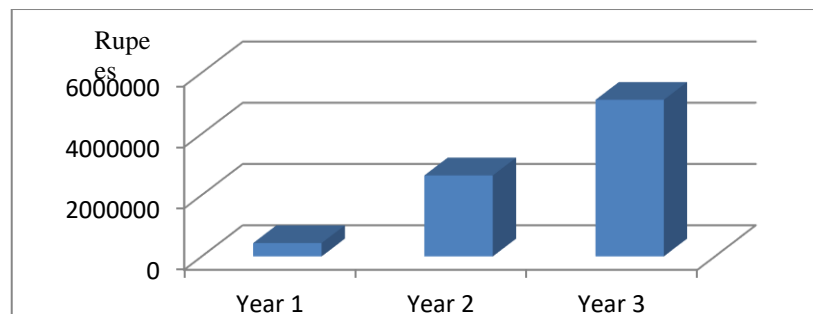


Figure 4.3.8: Profit Monthly

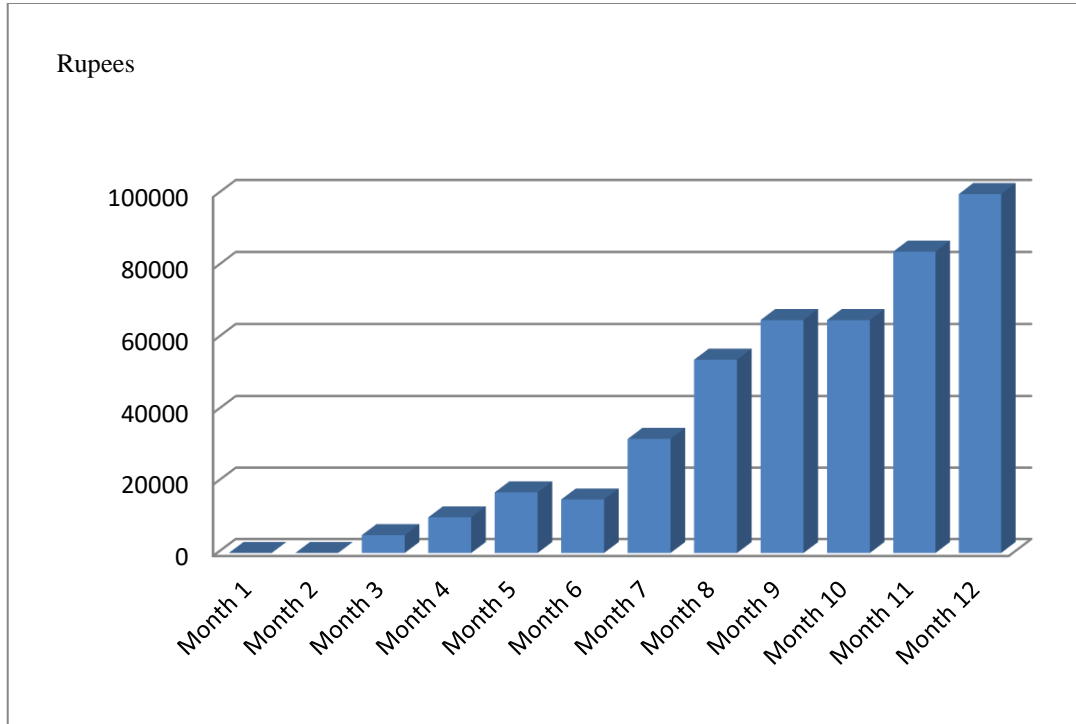


Figure 4.3.9: Profit Yearly

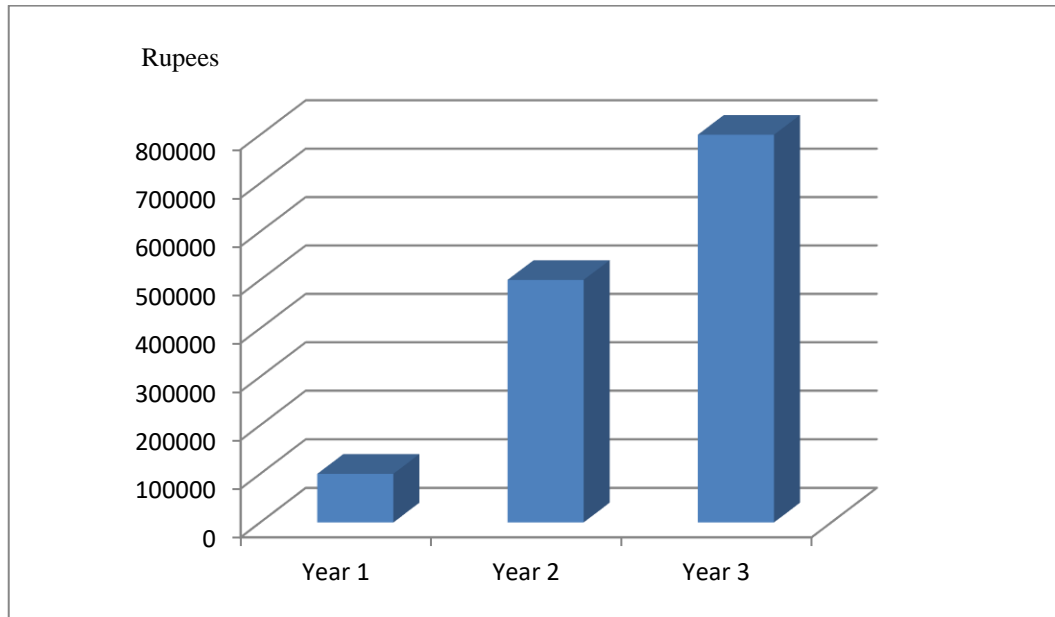


Table 4.3.4: Projected Profit and Loss

Pro Forma Profit and Loss			
Years			
	Year 1	Year 2	Year 3
Sales	Rs. 500000	Rs. 3000000	Rs. 5500000
Direct Cost of Sales	Rs. 200000	Rs. 500000	Rs. 750000
Other	Rs. 90000	Rs. 150000	Rs. 200000
Total Cost of Sales	Rs. 290000	Rs. 650000	Rs. 950000
Gross Margin	Rs. 4350000	Rs. 2640000	Rs. 5110000
Gross Margin %	87%	88%	92.90%
Expenses			
Payroll	Rs. 500000	Rs. 1150000	Rs. 2130000
Sales and Marketing and Other Expenses	Rs. 650000	Rs. 830000	Rs. 885000
Continued education	Rs. 85000	Rs. 276000	Rs. 350000
Utilities	Rs. 30000	Rs. 60000	Rs. 75000
Insurance	Rs. 500000	Rs. 650000	Rs. 700000
Rent	Rs. 600000	Rs. 650000	Rs. 650000
Payroll Taxes	Rs. 55000	Rs. 96000	Rs. 285000
Other	Rs. 0	Rs. 0	Rs. 0
Total Operating Expenses	Rs. 2420000	Rs. 3712000	Rs. 5075000
Profit Before Interest and Taxes	Rs. 124500	Rs. 1639000	Rs. 3747850
Taxes Incurred	Rs. 57000	Rs. 100000	Rs. 290000
Net Profit	Rs. 67500	Rs. 1539000	Rs. 3457850
Net Profit/Sales	13.05%	51.30%	62.87%

Source of Table: (Medical Services Management Business Plan Sample- Executive Summary/ Bplans, 1996-2019)

Projected Cash Flow: The cash flow projections are presented below

Figure 4.3.10: Cash flow projections

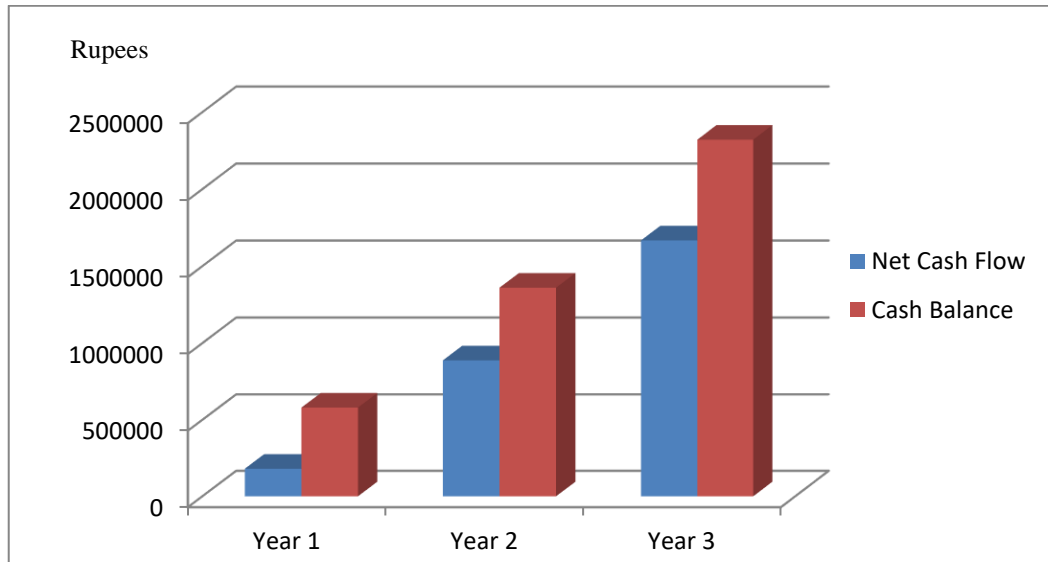


Table 4.3.5: Projected Cash Flow

Pro Forma Cash Flow			
Year			
	Year 1	Year 2	Year 3
Cash Received			
Cash from Operations			
Cash Sales	Rs. 0	Rs. 0	Rs. 0
Cash from Receivables	Rs. 470000	Rs. 2750000	Rs. 5060000
Sub Total Cash from Operations	Rs. 470000	Rs. 2750000	Rs. 5060000
Additional Cash Received			
Sales Tax, VAT, HST/GST Received	Rs. 0	Rs. 0	Rs. 0
New Current	Rs. 0	Rs. 0	Rs. 0

Borrowing			
New Other Liabilities (interest-free)	Rs. 0	Rs. 0	Rs. 0
New Long-term Liabilities	Rs. 0	Rs. 0	Rs. 0
Sales of Other Current Assets	Rs. 0	Rs. 0	Rs. 0
Sales of Long-term Assets	Rs. 0	Rs. 0	Rs. 0
Sub Total Cash Received	Rs. 470000	Rs. 2750000	Rs. 5060000
Expenditures			
Expenditures from Operations			
Cash Spending	Rs. 300000	Rs. 1000000	Rs. 1861500
Bill Payments	Rs. 150000	Rs. 362000	Rs. 531600
Sub Total Spent on Operations	Rs. 450000	Rs. 1362000	Rs. 2393100
Additional Cash Spent			
Sales Tax, VAT, HST/GST Paid Out	Rs. 0	Rs. 0	Rs. 0
Principal Repayment of Current Borrowing	Rs. 0	Rs. 0	Rs. 0
Other Liabilities Principal Repayment	Rs. 0	Rs. 0	Rs. 0

Long-term Liabilities Principal Repayment	Rs. 0	Rs. 0	Rs. 0
Purchase Other Current Assets	Rs. 0	Rs. 0	Rs. 0
Purchase Long-term Assets	Rs. 200000	Rs. 400000	Rs. 1000000
Dividends	Rs. 0	Rs. 0	Rs. 0
Sub Total Cash Spent	Rs. 650000	Rs. 1862000	Rs. 3393100
Net Cash Flow	(Rs. 180000)	Rs. 888000	Rs. 1666900
Cash Balance	Rs. 580000	Rs. 1360000	Rs. 2321000

Source of Table: (Medical Services Management Business Plan Sample- Executive Summary/ Bplans, 1996-2019)

Projected Balance Sheet:

Table 4.3.6: Projected Balance Sheet

Pro Forma Balance Sheet			
Years			
	Year 1	Year 2	Year 3
Assets			
Current Assets			
Cash	Rs. 580000	Rs. 1360000	Rs. 2321000
Accounts Receivable	Rs. 560500	Rs. 1281560	Rs. 1470890
Other Current Assets	Rs. 100000	Rs. 100000	Rs. 100000
Total Current	Rs. 1240500	Rs. 2741560	Rs. 3891890

Assets			
Long-term Assets			
Long-term Assets	Rs. 200000	Rs. 450000	Rs. 1200000
Accumulated Depreciation	Rs. 50000	Rs. 50000	
Total Long Term Assets	Rs. 150000	Rs. 400000	Rs. 1150000
Total Assets	Rs. 1390500	Rs. 3141560	Rs. 5041890
Liabilities and Capital			
Current Liabilities			
Accounts Payable	Rs. 450700	Rs. 640670	Rs. 990500
Current Borrowing	Rs. 0	Rs. 0	Rs. 0
Other Current Liabilities	Rs. 0	Rs. 0	Rs. 0
Sub Total Current Liabilities	Rs. 450700	Rs. 640670	Rs.990500
Long-term Liabilities	Rs. 0	Rs. 0	Rs. 0
Total Liabilities	Rs. 450700	Rs. 640670	Rs.990500
Paid-in Capital	Rs. 950000	Rs. 950000	Rs. 950000
Retained Earnings	(Rs. 31000)	Rs.95000	Rs.1368500
Earnings	Rs. 67500	Rs. 1539000	Rs. 3457850
Total Capital	Rs. 1048500	Rs. 2584000	Rs. 5776350
Total Liabilities and Capital	Rs. 1499200	Rs. 3224670	Rs. 6766850
Net Worth	Rs. 1048500	Rs. 2584000	Rs. 5776350

Source of Table: (Medical Services Management Business Plan Sample- Executive Summary/
Bplans, 1996-2019)

4.4 Financial Scenarios

Financial scenario analysis is a process of examining and analyzing the possible future occurrences by considering or assuming the feasible outcomes. It is mainly used to estimate the cash flow changes in case of favorable and unfavorable occurrences that can affect the business. It helps in decision making process during best and worst case scenario. Online health consultation business also requires the proper analysis of different financial scenarios which might occur in coming years. Let us consider three scenarios i.e. normal case, best case and worst case.

Normal case scenario: In normal case scenario, cash flow is normal and there is little profit and no loss. In order to increase the sale, we will focus on advertising and improving the services. In order to increase the services we can also start other side by business on the same website.

Table 4.4.1: Normal case scenario

Scenario 1	Year 1	Year 2	Year 3
Revenue growth rate	10%	15%	17%
Profit rate	20%	20.5%	22%
Loss	0%	0%	0%
Sales	37%	40.5%	46%
Payroll	10%	11%	11.5%
Rent, maintenance and other	11%	12%	12.3%
Depreciation	35%	35%	35%

Source of Table: (Scenario Analysis- How to Build Scenarios in Financial Modeling, 2015-2019)

Best case scenario: In this scenario, there is very large number of customers utilizing our service. There will be increase in sales and revenue rate. Profit will be high and customers will be very satisfies. There will be increase in cash flow. In this case, we can purchase the

long term assets like shares, property, fixed deposits etc. This will be very useful in times of need.

Table 4.4.2: Best case scenario

Scenario 1	Year 1	Year 2	Year 3
Revenue growth rate	35%	40.5%	40.5%
Profit rate	40%	53.5%	60.7%
Loss	0%	0%	0%
Sales	50.5%	65.6%	70.5%
Payroll	10%	11%	11.5%
Rent, maintenance and other	11%	12%	12.3%
Depreciation	35%	35%	35%

Source of Table: (Scenario Analysis- How to Build Scenarios in Financial Modeling, 2015-2019)

Worst case scenario: In this scenario, there will be small number of customers utilizing our service. There will be decrease in sales and revenue rate. We will be in loss. There will be decrease in cash flow. In this case we will attract the customers by giving discounts. In order to generate the income will form strategic alliance with other companies so that we can advertise their product on our website to generate income. We will also focus on improving the service. In this case, long term assets will be very useful. It can be converted to cash.

Table 4.4.3: Worst case scenario

Scenario 1	Year 1	Year 2	Year 3
Revenue growth rate	5%	4.5%	3%
Profit rate	0%	0%	0%
Loss	10%	10%	10.5%
Sales	37%	35.5%	35%

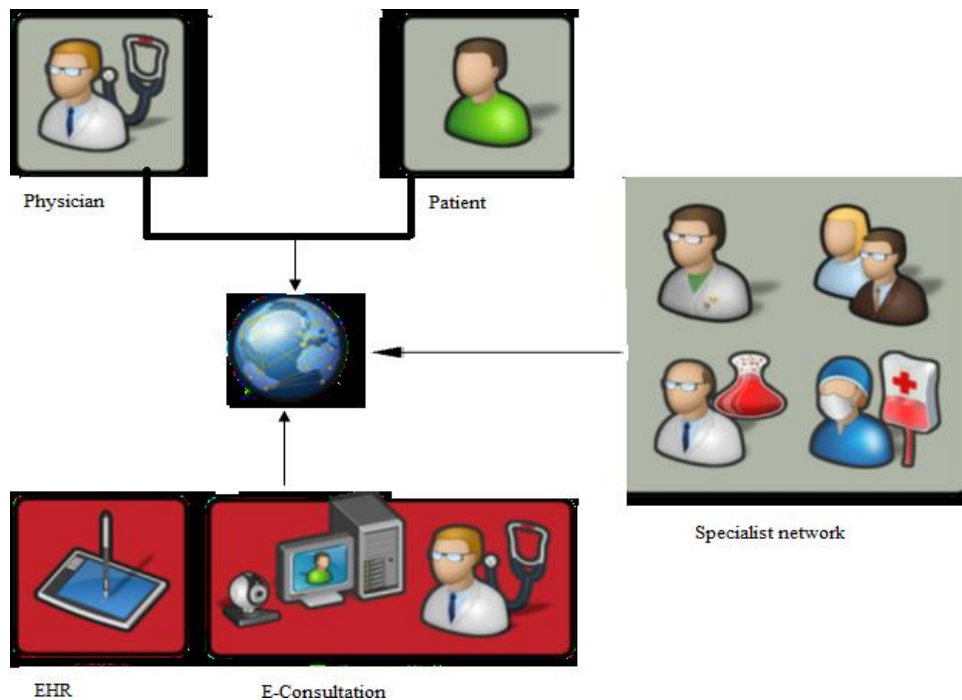
Payroll	10%	11%	11.5%
Rent, maintenance and other	11%	12%	12.3%
Depreciation	40%	40%	40%

Source of Table: (Scenario Analysis- How to Build Scenarios in Financial Modeling, 2015-2019)

4.5 Software Application

Internet has become the most important tool in day to day life. It has a great impact in each and every field. Rapid advances in information technology and communication system are also affecting the health care sector. The impact is being felt due to use of many technologies. The advancement in technology can be used to provide good health care services irrespective of distance and time. The proposed software application for online healthcare consultation is cloud based. (Gamasu, 2015)

Figure 4.5.1: Overview of Online Health care Consultation

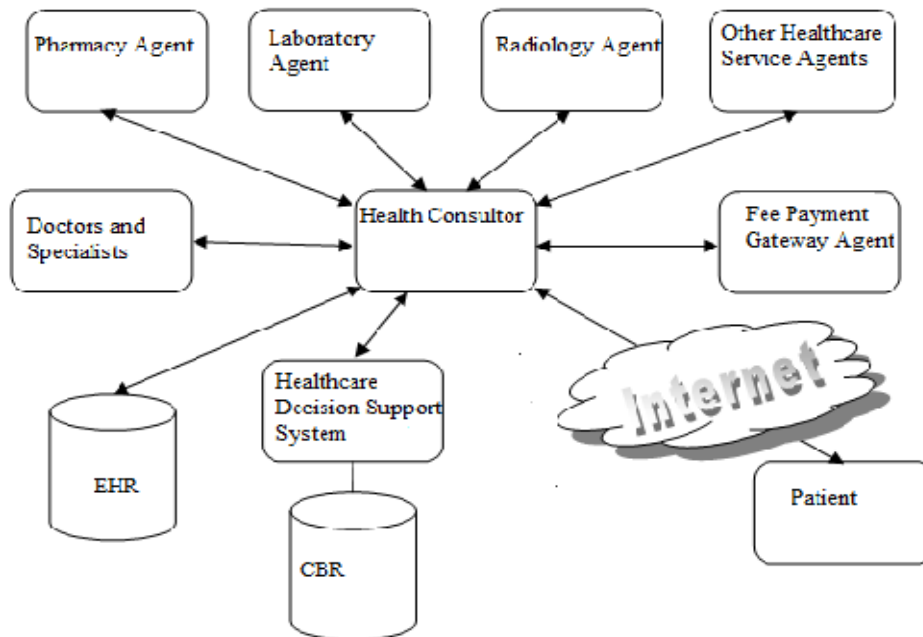


Source of Figure: (Gamasu, 2015)

Proposed Architecture:

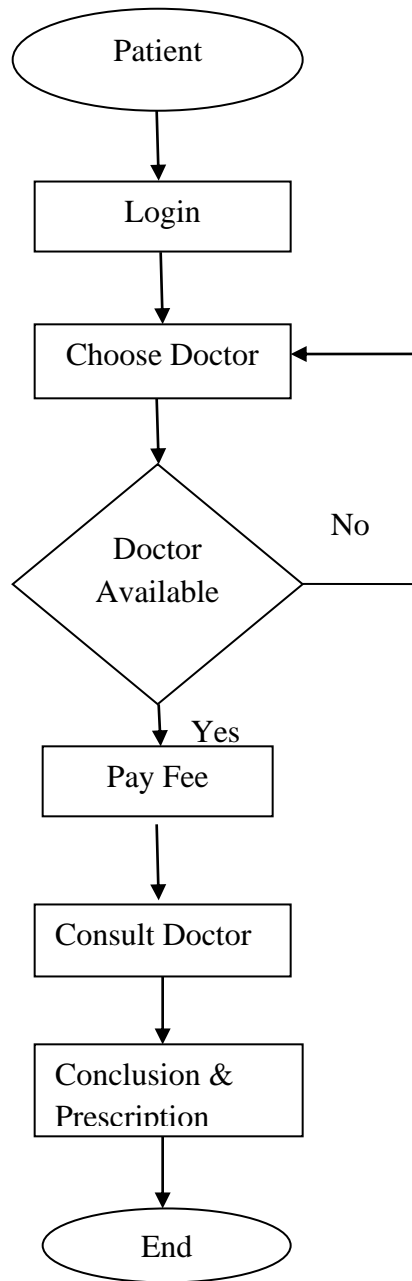
A hybrid approach of multi-agent technology and case based reasoning can be used. It is a cooperative system which allows the various healthcare sectors to share information. Case based reasoning (CBR) is a technique in which knowledge is derived directly from historical cases. It is a well established technique for the healthcare system. In CBR, the concepts of the diseases can be naturally represented as cases. Case can be obtained from diagnosing a particular patient with a particular disease. Reasoning with cases is similar to the decision making process of physicians. CBR is used to generate solutions to a certain e-healthcare problem by analyzing solutions of previously solved problems. The agent technology is also an important technique for developing e-healthcare information system. Agent may operate as a part of a Community of cooperatively distributed system environments and ensure interoperability between different systems that are to be integrated into an operational heterogeneous e-health system. (Al-Sakran, 2015)

Figure 4.5.2: System Architecture



Source of Figure: (Al-Sakran, 2015)

Figure 4.5.3: Flowchart of working process



Source of Figure: (Lu, Strazdins, & Ranjan)

The following different modules are used in the proposed architecture system:

Patient Module: In this module patient can connect to the application via internet and can access the healthcare service. Patient needs to register themselves and enter login details in order to access the service. The following is the flow chart of the patient module.

Doctors and Specialists: The patient can consult the required doctor or specialist based on his need. Patients can query the doctor and talk about the symptoms. Doctor then prescribes the medicine. If needs he can suggest the test and can receive test results via laboratory agents.

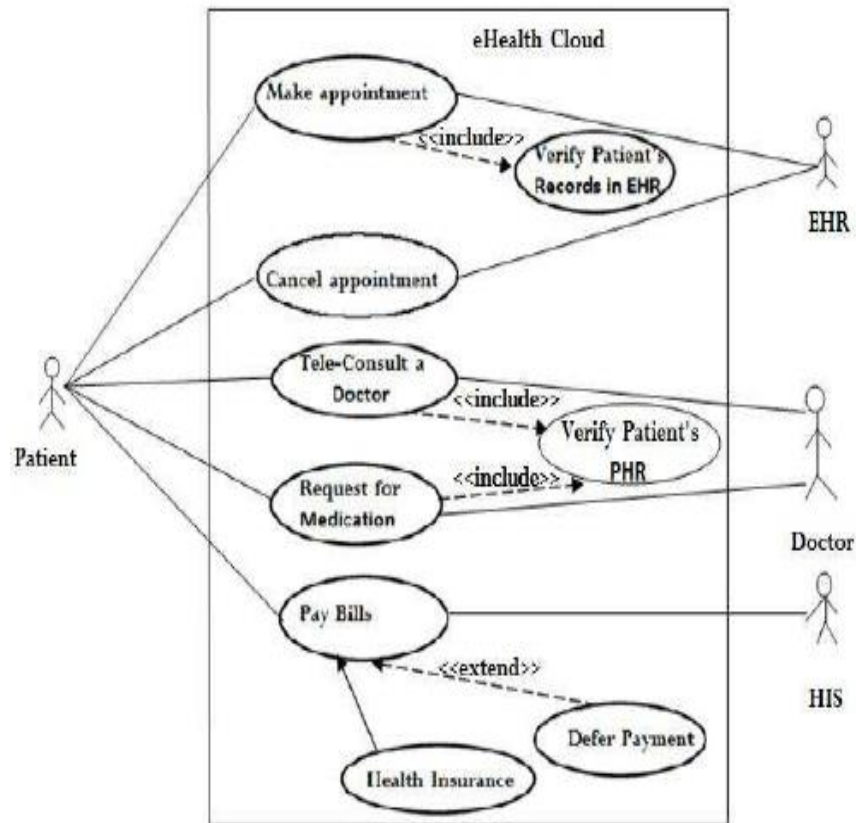
Laboratory Agent: It provides real time delivery of test examination reports of patients from laboratories to the doctors

Radiology Agent: They are responsible for sending the results of test performed by radiology machines.

Pharmacy Agent: They suggest the medicines and are also responsible for delivering the medicines if required

Electronic Health Record (EHR): It maintains the records of the patients for future use.

Figure 4.5.4: User case diagram of working process



Source of Figure: (Patrick & Laar, 2012)

4.6 Statistical Analysis

We used statistical analysis method for analyzing and testing the data. We explored two multivariate logistic regression models for analyzing and evaluating the patients satisfaction and experience with conventional system of visiting the doctor and the health care system. It also included the usage of online internet based health care system and the opinions and behavior of the people after its usage.

Dependent Variables: Considering the goals and aims of the research, people were asked: “Do you use the internet for health care consultation?” It was categorized into two answers: yes/no. Respondents were categorized as e-health users if they answered affirmatively i.e. yes. Affirmative respondents were asked: “Do you contact the doctor about the online result after using internet based health care system?”. It was also categorized in two answers: yes/no. The answers or behaviors are represented as a binary value, which indicates 1 for yes and 0 for no.

Independent Variables: The independent variables included gender and chronic diseases. It was considered 1 for female and 0 for male. Patients with disease were considered as 1 and patients without disease were considered as 0. All other independent variables were interval based. Questions on experience and satisfaction were based on likert type scale with 3 or 5 intervals. Furthermore, we also examined the correlation matrix between all the variables to avoid the co linearity in the models. We considered strong correlation with $r \geq 0.7$.

The following table shows the List of independent variables selected for the use of online health care consultation and sharing the online found information with the doctor.

Table 4.6.1: List of independent variables

Main category	Types of factors	Level	Independent variables	Use of internet for health care consultation	Sharing the online found information with the doctor
Individual factors	(1) General factors	///	(1.a) Age	x	x
			(1.b) Gender	x	x
			(1.c) Education	x	x
	(2) Resource	///	(2.a)Internet	x	x

	factor		connection at home		
	(3) Health needs	///	(3.a) Health status	x	x
			(3.b) Presence of any disease	x	X
Relational Factors	(4) General factors: level of Satisfaction	Doctor Or General Practitioner	(4.a) Explanations given by the doctor or GP	x	X
			(4.b) Participation level in decision making process of treatment	x	X
			(4.c) Overall satisfaction with the doctor GP or	x	X
		Health care system	(4.d) Overall satisfaction with the health care system	x	X
			(4.e) Knowledge level of health care system	x	X
	(5) General factors: Experience	Doctor Or General Practitioner	(5.a) Number of visits to the Doctor in a year	x	X
(5.b) Time			x	x	

			duration spent with the doctor or GP		
			(5.c) Life style suggestions given by the doctor	x	X
		Health care system	(5.d) Return to the administrative health care offices due to inefficiency	x	X

4.7 Analysis Models

Relations between dependent and independent variables were investigated, according to the health related behaviors. We considered “general factors”, “resource factor” and “health needs” at individual level. We integrated several “relational factors” among the general factors as shown in the above table. Relational factors are related to the communications and interactions with the doctors and the health care system, in terms of experience and satisfaction. Patients behavior and delivery of primary services are both affected by the relational factors. The relational factors related to the doctors were added in the model, because of their positive and affirmative influence on the patients behaviors’ related to the usage of online health care consultation as well as their experience.

Table 4.7.1: Percentage distribution of the survey for each independent variable

Variables	Categories (Scale)	Total Sample (n= 2000)	Data in Percentage			
			Internet usage for health consultation		Sharing of online health consultation result with the general practitioner	
			Yes (n= 700)	No (n=1300)	Yes (n=581)	No (n=119)
Age group***	18-45 (1)	29.12	45.08	20.49	46.01	40.55
	46-60 (2)	46.09	46.17	46.11	45.19	50.04
	Over 60 (3)	24.79	8.75	33.40	8.80	9.41
Sex	Male (0)	30.76	31.23	30.51	29.62	38.71
	Female (1)	69.24	68.77	69.49	70.38	61.29
Education***	Basic (1)	43.99	22.89	55.32	22.12	27.40
	Intermediate (2)	41.32	54.81	34.01	54.78	53.70
	Advance (3)	14.69	22.30	10.67	23.10	18.90
Internet connection at home ***	No (0)	27.03	3.55	39.80	3.60	2.80
	Yes (1)	72.97	96.45	60.20	96.40	97.20
Health Status	Good (1)	5.89	4.80	6.48	5.55	0.96
	Better (2)	49.70	46.20	51.61	45	50.95
	Best (3)	44.41	49	41.91	49.45	48.09
Any disease*	No (0)	61.48	66.20	59	64.52	73.61
	Yes (1)	38.52	33.80	41	35.48	26.39
Explanations of doctor or GP recommendation	Unsatisfied (1)	2.52	3.21	2.13	2.90	4.69
	Partially satisfied (2)	13.20	13.68	12.88	13.01	17
	Fully Satisfied (3)	84.28	83.11	84.99	84.09	78.31
Participation in decision with GP^^	Unsatisfied(1)	6	7.15	5.41	5.35	16.01
	Partially satisfied (2)	16.20	16.79	15.89	17.62	12.30
	Fully Satisfied (3)	77.80	76.06	78.70	77.03	71.69

Time duration spent with GP^	Unsatisfied (1)	4.15	3.79	4.28	2.51	10.40
	Partially satisfied (2)	15.49	17.90	14.30	16.41	24.49
	Fully Satisfied (3)	80.36	78.31	81.42	81.08	65.11
Overall Satisfaction With GP^	Unsatisfied (1)	3.72	4.96	3.72	4.18	8.51
	Partially satisfied (2)	13.89	15.89	13.89	14.12	24.49
	Fully Satisfied(3)	82.39	79.15	82.39	81.70	67
Number of visits to GP Per year***	Never or once (1)	10.07	12.95	8.60	12.39	15.09
	2-3 times (2)	32	36.26	29.62	34	48.09
	More than 3 times (3)	57.93	50.79	61.78	53.61	36.82
Life style suggestions^	Never (1)	40.39	39.59	40.80	37.30	50.50
	Sometimes (2)	25.79	27.18	25.05	26.80	30.50
	Always (3)	33.82	33.23	34.15	35.90	19
Overall satisfaction with health care system	Not satisfied at all (1)	2.25	3.37	1.67	9.17	8.50
	Not very Satisfied (2)	13.48	14.30	13.04	35.28	36.80
	Quite satisfied (3)	31.59	34.52	30	49.25	45.24
	Very Satisfied (4)	48.38	45.40	50	5.13	9.36
	Fully Satisfied (5)	4.30	2.41	5.29	1.17	0.1
Knowledge about health care services	Not satisfied at all (1)	10.24	9.05	10.79	3.04	4.69
	Not very Satisfied (2)	37.41	35.70	38.40	14.71	12.30

	Quite satisfied (3)	46.38	48.60	45.22	33.38	39.59
	Very Satisfied (4)	4.89	5.70	4.50	46.17	41.49
	Fully Satisfied (5)	1.08	0.95	1.09	2.70	1.93
Return to the administrative system due to inefficiency	Always (1)	1.99	2.69	1.60	2.90	1.92
	Sometimes (2)	14.48	16.38	13.50	17.16	13.19
	Never (3)	83.53	80.93	84.90	79.94	84.89

*** p value < .0001 for e-health use.

**p value < .001 for e-health use.

*p value < .01 for e-health use.

^^p value < .001 for e-health information sharing.

^p value < .01 for e-health information sharing.

For exploring and inspecting the correlations between the two behaviours and the chosen variables, two multivariate logistic models were generated apart from each other using a stepwise procedure, whereby groups of variables were dropped progressively from the model, if not correlated with the dependent variable. As a result, the procedure leaves just the independent variables with statistical notable or significant correlations with the dependent variable.

For each and every independent variable, we calculated and reported odds ratios (OR) with 95% confidence intervals (CI) and p values. Statistical significance was considered or set at $p < 0.05$. By reporting the OR, we quantitatively described the connection between revelation or exposure represented by the independent variables, such as being any disease patient and result which was represented by the internet based health consultation behavior. All analyses were carried out by using SAS software.

4.8 Result

Sample analysis

A total of 2000 citizens answered all the questions and their answers were studied. Among 2000 citizens 700 people (35% of the total) said that they had used the internet for health care consultation. Above table shows the results of the analysis of each and every variable in connection with the two dichotomous behaviors of the interest.

The users of online health care consultation (i.e. profile of e-patient) between 18 to 45 years age group were, n= 316; 45.08% of the sub sample of the e-users of health care consultation and the users between 46 to 60 years of age group were, n=323; 46.09% (p< 0.0001), with at least high school and diploma education, n=544; 77.70% (p<0.0001). Clearly, having an internet connection is an important factor in usage of online health care consultation. 96.45% (n=675; p<0.0001) e-patients had an internet connection at their home. The users of online health care consultation were mostly healthy, with a health status reported as better and best was, n=666 (95.20%; p<0.001) and without chronic disease were; n=463 (66.20%; p<0.001). E-health care users appeared to be the large users of general practitioners services. Most of them visited the doctor more than three times a year, n=356 (50.79%; p<0.001). In contrast, people were less satisfied with the quality of the health care system in general terms. Less than half of them had a very good or excellent opinion of a internet based health care system with n= 334 (47.77%) and the number of people who though the services were very poor or worst were, n= 124 (17.67%; p<0.001).

Out of the total number of e- users of health care consultation, few number of people answered that they had never discussed their online health care experience with their doctor (n=119, 17%). The majority of the people (n=581; 83%) shared their experience with their doctor. The e-patients mostly sharing the information is between 18 to 45 years of age group with n=268 (46.01%; p<0.0001) and between 46 to 60 years of age group is n=263 (45.19%; p<0.0001). The people who shared information was with higher education level with n=452 (77.88%; p<0.001) and an internet connection at their home, n= 560

(96.40%; $p < 0.001$). The people with better and best health were $n = 549$ (94.45%; $p < 0.001$). People not affected by any disease were $n = 375$ (64.52%; $p < 0.001$). In contrast with results of the people who used internet for health care consultation, who decided to share their information and experience with their doctor were more satisfied with their doctor. In fact, the number of people, $n = 475$ (81.70%; $p < 0.01$) were fully satisfied in terms of overall satisfaction with the doctor. The number of people who were fully satisfied with the involvement by the doctor in decision making process were, $n = 448$ (77.03%; $p < 0.001$) and the people who were fully satisfied with the time spent were, $n = 471$ (81.08%; $p < 0.01$). In terms of significant experiences with the doctor reported by the interviewed e-patients who shared their information with the doctor had higher number of visits in a year. People who visited 2-3 times were, $n = 198$ (34%; $p < 0.01$) and more than 3 times were, $n = 311$ (53.61%; $p < 0.01$). Furthermore, these e-users of health care consultation also reported a significantly worst experience in terms of suggestions by general practioner or doctor about better life style. Number of people who was never advised were, $n = 217$ (37.30%; $p < 0.01$) and who was advised sometimes were, $n = 156$ (26.80%; $p < 0.01$).

Multivariate analysis

After collinear analysis to identify mutually correlated factors, the following variables were eliminated:

- Age
- Education
- Internet connection
- General satisfaction with GP
- Duration of visit with its components of experience and satisfaction with GP

Results of the multivariate logistic analysis is shown in the below tables

The following table shows the use of internet for health care, according to socio demographic features and variables of experience and satisfaction with GP and health care system: results of the multivariate logistic regression for $n = 700$.

Table 4.8.1: Result of the Multivariate Logistic Regression for n=700

Factor	Socio-demographic and health needs		Odd Ratio (OR)	95% CI		P-Value
				Lower Limit	Upper Limit	
Individual General Factors	Age group	Over 60	4.158	2.959	5.839	<0.0001
		46-60				
		18-45				
	Education	Basic	3.396	2.550	4.528	<0.0001
		Intermediate				
		Advance				
Factor	Satisfaction with the health care system		Odd Ratio (OR)	95% CI		P-Value
Relational general factors	Overall satisfaction	Not satisfied at all	0.423	0.206	0.876	0.024
		Not very Satisfied				
		Quite satisfied				
		Very Satisfied				
		Fully Satisfied				

The following table shows Sharing of information found online with the GP after the use of internet, according to socio demographic features and variables of experience and satisfaction with the GP: results of the multivariate logistic regression for n=581.

Table 4.8.2: Result of the Multivariate Logistic Regression for n=581

Factor	Satisfaction with the GP		Odd Ratio (OR)	95% CI		P-value
				Lower Limit	Upper Limit	
Relational general factor	Participation	Unsatisfied	3.311	1.343	5.231	0.003
		Partially Satisfied				
		Fully Satisfied				
Factor	Experience with the GP		Odd Ratio (OR)	95% CI		P-value
Relational general factor	Suggestions about life style	Never	1.711	0.954	2.168	0.3946
		Sometimes				
		Always				

E-health users

As shown in the above table by the statistics, people who use internet for health care consultation in Surat and Ahmedabad were mainly young ($p < 0.0001$) with intermediate or advance education level ($p < 0.001$). The variable connected to the overall satisfaction with the conventional health care system appeared to be significantly related with the use

of internet for health care. The tendency of using the internet for health care consultation was lower when there is satisfaction with the conventional health care system. The overall satisfaction ratio was $OR = 0.423$; $p = 0.024$. In general, those who were quite satisfied, very satisfied and fully satisfied used the internet less than those who were not at all satisfied. On the other side, the results suggests that variables related to experience and satisfaction with the GPs or doctors were not associated with the internet use and therefore they were excluded from the model by stepwise selection procedure.

E-health user's behavior

While performing logistic analysis for the users of internet regarding their online information sharing with the GP or doctor, a significant change was found in the types of the variables affecting the health related behavior. The socio demographic variables were significantly not found with the decision to share their online information or findings with the doctor or GP, and hence were excluded from the model by the stepwise selection procedure.

The analysis showed a remarkable and positive relation between the positive behavior i.e. sharing of information and the variables related to satisfaction and experience with the doctor or GP. E-health users talked to their doctor more frequently if they feel more satisfied with their involvement in the doctor's decision regarding their health ($OR = 3.311$; $p = 0.003$). The opinion of the doctors' interest in the general health status also affirmatively affects the behavior of the users of e-health. People who always received the suggestions of the GP regarding their life style shared their online health findings more.

Discussion

This study provides a good understanding about the patients. It includes using the internet for health care consultation and sharing the information obtained from the internet with their doctor. The result in this thesis states that there is a good division between the conventional and online method users. Old aged people and people with low level of education are less likely to use online health care consultation. The major finding in the research was that the internet based health care consultation is mainly based and

determined by the satisfaction with the health care system. It also confirmed that patients who are not satisfied with the conventional of offline health care system are more likely to use online based method. These findings suggest that the satisfaction of the patients with the local health care system have an impact on the online bases health care system. It also states that there is no link or connection between online health care consultation and satisfaction with the doctor. The role of doctor or GP is significantly important in the patients behavior after the use and experience of online consultation. The results also showed that the users of online consultation also involve their doctor by sharing information. The study also confirmed that doctors have a major role to play in the impact of the e- health.

4.9 Screen Shots

The following are the screen shots of the E-consultation software. It shows Practitioner, Consultant specialist, Patient information and Consultation request modules.

Figure 4.9.1: Admin and Doctor login Page



Figure 4.9.2: User Login Page

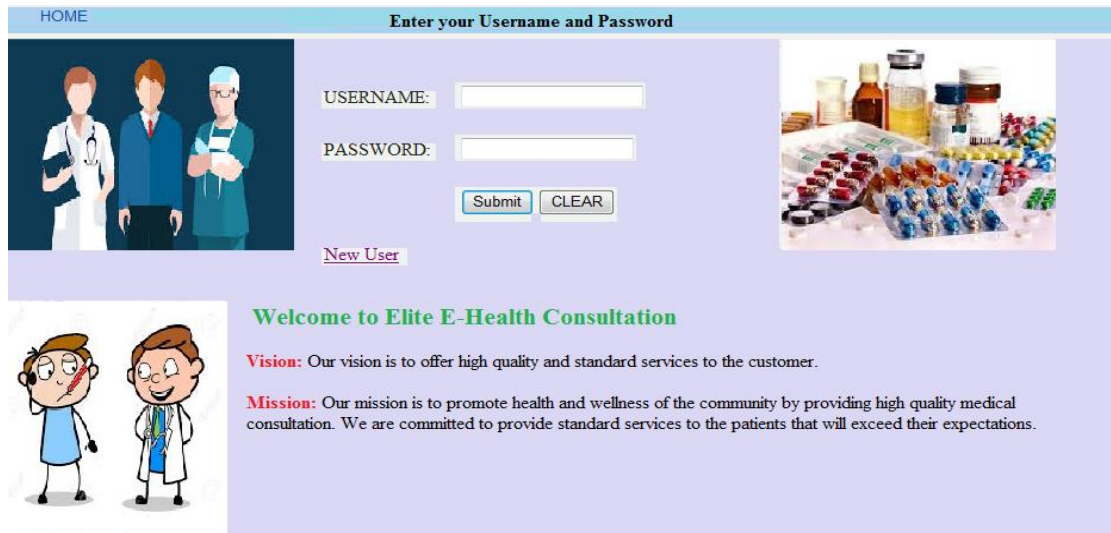


Figure 4.9.3: General User Homepage



Figure 4.9.4: Patient Welcome Homepage

The screenshot shows a patient's welcome page. At the top, a pink navigation bar contains the user's name 'Kajal Vaniya' and links for 'Home', 'Edit Profile', 'Settings', and 'Sign Out'. Below this, the page is divided into two main sections. On the left, under the heading 'Patient Medical History', there is a table with patient information and a table for medical visits. On the right, a vertical green sidebar contains a list of navigation options.

Patient Id	Patient Name	Email	Date of Birth
1	Kajal Vaniya	Kajal123@yahoo.com	null

Doctor	Visit Date	Symtoms	Prescription

Navigation menu (right sidebar):

- Medical History
- View Doctors
- Appointment
- Help
- Sign out

Figure 4.9.5: Doctor Welcome Homepage

The screenshot shows a doctor's welcome page. At the top, a pink navigation bar contains the user's name 'Dr. B. L. Bhatt' and links for 'Home', 'Edit Profile', 'Settings', and 'Sign Out'. Below this, the page is divided into two main sections. On the left, under the heading 'View Patient Medical History Here', there is a search form for patient ID and a table showing a recent medical visit. On the right, a vertical green sidebar contains a list of navigation options.

Search for Patient ID:

18

Doctor	Visit Date	Symtoms	Prescription
Dr. B. L. Bhatt	9/11/2019	Fever and Headache	Paracetamol and Disprin twice a day

Navigation menu (right sidebar):

- View Appointment
- Patient Med History
- View Hospital
- Patient Med Form
- Help

Figure 4.9.6: Admin Welcome Homepage

Manage Doctor

Search doctor:

Did	Doctor Name	Username	Password	Operation
1	Dr. Amit Patel	amit123@yahoo.com	amit123	delete/view
2	Dr. P.A. Shah	pshah19@yahoo.com	shahp12	delete/view
3	Dr. B. L. Bhatt	bhatt12@gmail.com	bhatt23	delete/view
4	Dr. Rahul Mishra	mishra@rediffmail.com	mishra45	delete/view
5	Dr. Jiya Vaniya	jiyavaniya@yahoo.com	vaniyajiya	delete/view
6	Dr. Meena Modi	modimeena@gmail.com	modimeena	delete/view
7	Dr. G. R. Reddy	reddygr12@yahoo.com	reddygr123	delete/view

Figure 4.9.7: Online Appointment Page

Nilesh Patel Home Edit Profile Settings Sign Out

To book an Appointment with a doctor fill in the form

null

Your Name:

Patient ID:

Doctor's Name:

Date:

Time:

Description:

Reason:

[Cancel](#)

Medical History
View Doctors
Appointment
Help
Sign out

4.10 Advantages of Online Health Care Consultation

- Patients can access physicians, doctors and specialists without waiting times at OPDs.
- Health problems can be discussed with the doctor in our own secure and private space.
- Patient can select appropriate doctor as per choice for consultation.
- People have the option to choose any consultant irrespective of the geographic location. They can also review the profile of doctor, their qualification, experience and affiliation of registration on the website.
- It provides higher level of flexibility to both patient and doctor assuring the quality of service.
- Doctors can also practice and can be consulted anytime and anywhere based on their convenience.
- Patient records can be stored on electronic medium for further monitoring.
- It is economical.
- It reduces both travelling cost and time.
- It operates 24 hours. It is very helpful in times of emergency.

4.11 Disadvantages of Online Health Care Consultation

- It is not useful in the case where physical assistance is required like accidents, burns, etc.
- It also gives rise to sale of prescribed drugs unethically.
- Online evaluation has its limitation and it thereby limits the quality of service.
- It does not work in absence of internet or low signals.
- It is not very helpful to people having zero knowledge of the technology.

5 Conclusion

Online health care consultation is an excellent business proposal with a wide scope in its operation and functionalities. Nowadays people are technically advanced and are using the internet for healthcare consultation. It is a modern approach to medical industry with series of advantages. It is very helpful in improving the conventional medical industry. It is user friendly and provides higher level of flexibility. Patients can access services of the doctors irrespective of time and distance consideration. It is very helpful in case of emergency. The idea of business itself is twofold approach. The business is related to social cause of treating patients and on the other side it is also profitable in case of money. The online healthcare consultation is suitable to youngsters as well as old aged people. The people are moving towards online consultation as they find it trustworthy. Nowadays, people are very keen on using internet in different ways and this idea of business will be successful attempt. Our findings demonstrate that the patients are positively using the internet for the health related issues. Moreover, it also shows that patients are satisfied after sharing the information found online with the doctor. Furthermore, with the technically advanced time the use of online healthcare consultation is likely to increase.

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7 Appendix

Structured Questionnaire

This Survey is to understand the level internet usage for the health care and the satisfaction of the patients.

NOTE:

Names in the survey will be kept completely anonymous and will not be displayed or shared with anyone. This Survey is completely for educational purpose.

Fill the form and tick the appropriate boxes.

Name of Person

Age Group

18-45	
46-60	
Over 60	

Gender

Male	
Female	

Education

Basic	
Intermediate	
Advance	

Internet Connection

Yes	
No	

Health Status

Good	
Better	
Best	

Any disease

Yes	
No	

Do you use the internet for the health care consultation?

Yes	
No	

Do you contact the doctor about the online result after using internet based health care system?

Yes	
No	

Satisfaction with GP

Parameters	Unsatisfied (1)	Partially satisfied (2)	Fully Satisfied (3)
Explanations of doctor or GP recommendation			
Participation in decision with GP			
Time duration spent with GP			
Overall Satisfaction With GP			

Number of visits to GP Per year

Never or once	
2-3 times	
More than 3 times	

Life style suggestions

Never	
Sometimes	
Always	

Satisfaction with the health care system

Parameters	Not satisfied at all (1)	Not very Satisfied (2)	Quite satisfied (3)	Very Satisfied (4)	Fully Satisfied (5)
Overall satisfaction with health care system					
Knowledge about health care services					

Return to the administrative system due to inefficiency

Always	
Sometimes	
Never	

Any comments / suggestions / opinions (Remember, your comments will be anonymous)

Thank You for your precious time to fill up this survey.