

A CASE STUDY OF QUICK-O-BOOK- AN ONLINE APPOINTMENT BOOKING SYSTEM FOR PATIENTS IN NORTH-EAST INDIA

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ABSTRACT

The rising numbers of missed appointments, needless and unwarranted waste of patient's appointment time have caused an impending problem for the healthcare institutions as well as the patients. Hence it is desirable to intercede the healthcare system so as to provide smooth, uninterrupted, and sustained care for the patients. The traditional appointment booking requires hard and tedious work to get a doctor's appointment. This paper is a case study of Quick-o-Book an online system of booking doctors' appointments in North-East India. It also discusses the products and services offered by Quick-o-Book. The system was developed by Biswajit Paul, an entrepreneur from Silchar. Quick-o-Book provides the platform to facilitate the booking and management of patients' appointment bookings. It also provides the healthcare workers an easy access and approaches towards managing patients' appointments and generating relevant reports.

This case is a good example of how entrepreneurs create new ventures in an attempt to find solutions to the existing social problems.

It gives the readers an idea of the entrepreneurial competencies and skills needed to overcome existing problems. It tells the readers how problems are resolved by investigating and observing the current phenomenon. In the area of medical appointment booking systems at health centres, the case delves into the various decisive factors to be considered while developing an appointment booking system

Keywords: Entrepreneurship, Innovation, Waiting time, E-health, ICT, System architecture, etc.

INTRODUCTION

There lived a small family of the Choudurys in Silchar, a small town in the Cachar district in Assam. Wrinkles were vivid in the forehead of Mrs. Choudhury. These were wrinkles of tension. There is ample reason for her to be tense. She knows that tension is something that she needs to avoid. But it keeps on coming in one way or the other. People think otherwise- but every mother with grown-up children staying away remains stressed thinking of them. Thousands of questions would pop into her mind like- How

are they doing? Are they safe? And so on. But, this time the reason was different.

Mrs. Choudhury stays with her husband Mr. Choudhury and son, Manzoor in the outskirts of Silchar town, in a wonderfully serene setting near the river far from the 'madding crowd' in the midst of peace and tranquillity. Two of her daughters - Nosheen and Nazneen stay away. Nosheen got married and stays in Musket with her husband. Younger daughter Nazneen, is a working lady who is an Assistant Professor at a college in Kurseong, a beautiful small hill station in the district of Darjeeling, West Bengal. Manzoor is the youngest of them all and is called for counseling in Delhi as he cleared the Bachelor of Engineering entrance exam of the Delhi Engineering College. Currently, Mr. Choudhury has accompanied his son to Delhi.

The life of Mrs. Choudhury is otherwise peaceful. The only issue that disturbs her peace is her blood sugar level. Mrs. Choudhury is a diabetic for 15 years. She has passed the initial stages of changing her lifestyle, consuming Ayurvedic and Unani medicine, allopathic oral medicine and lastly resorted to injecting insulin every time before food. Yet the issues keep on coming back and she has to be in constant touch with the best endocrinologist (a doctor who specializes in the treatment of diabetic patients) in town Dr. Sabdakar.

This was the month of March, and Mrs. Choudhury could understand that her blood sugar problems have this time taken a new dimension. Suddenly, she was finding difficulty with her eyesight. Things around her were turning black, accompanied by tremendous dizziness. Mrs. Choudhury has never experienced these symptoms. She has read about this in

newspaper articles on hypoglycemia. She could understand that sugar levels have found a new way to manifest themselves in her body and she needs immediate medical attention.

Her physician, Dr. Sabdakar is a very busy person. He is a very young and energetic person. As almost all homes in the town have at least one diabetic patient so Dr. Sabdakar never falls short of professional visitors. An infinite number of patients queue before his chamber and he could attend only a countable. It is difficult to get an instant appointment from Dr. Sabdakar. In addition to this, Dr. Sabdakar is associated with District Sports Association and with several other NGOs and there also dedicates sufficient time. But, despite the busyness of the doctor, Mrs. Choudhury is lucky of having a good relationship with him. Being a patient of Dr. Sabdakar, from the initial days of his practice, she has direct access to the doctor through phone. So she at once called the doctor, to get an appointment for that day- but, the phone seemed to be switched off. Several times, she tried but nothing different resulted. She sent her servant to the chamber of Dr. Sabdakar, to get an appointment of the doctor for that day. But, within an hour the servant returned with the news that the doctor is out of the country for a conference.

Now, this was the reason why wrinkles were vivid in the forehead of Mrs. Choudhury. She is unable to understand at this hour of crisis when her husband and wards are away, whom to call and how to get an appointment with another doctor for her. She has always been in touch with Dr. Sabdakar and rarely saw any other endocrinologist in town. After taxing her brain for some time, she could recall a situation when she visited another endocrinologist, but

that doctor was a visiting physician from Apollo Hospital, Chennai. She visited for a second opinion. But the doctor certified the treatment of Dr. Sabdakar positively and after that, she had no reason to change her doctor.

This time she was running short of ideas. She knew that she needs to address her issue at the earliest but did not know any alternative doctor and how to get the appointment. Collecting names of alternative doctors is not difficult. You shall always find people around you for suggestions but collecting appointment tokens means standing in long queues in pharmacies (that turns to the doctor's chamber in the afternoon and evening).

It was time to disturb Mr. Choudhury now- she thought. Mr. Choudhury is a duty-bound person. Had Mr. Choudhury been here he would have at once arranged something. Mrs. Choudhury contacted her husband over the mobile and told her the situation. Mr. Choudhury took a few moments to understand the seriousness of the matter and with a promise to come up with a solution within half-an-hour disconnected the phone. At about 20 minutes later a young man knocked on the door of Mrs. Choudhury, he identified himself as Kelvin. He told that Mr. Choudhury asked him to visit Mrs. Choudhury and understand the issue. On getting all details from the lady, Kelvin rushed on his bike towards the town. Kelvin seems to be a very devoted person. Within the next 45 minutes he responded with appointments of two endocrinologists of the town; one for the next day and the other one for the day after. Kelvin told that all appointments of all endocrinologists he knows, for that day had exhausted. Mrs. Choudhury had no words to thank Kelvin, what

help he did when she was in so much trouble. She had no idea how Mr. Choudhury knows Kelvin, but the world is still a beautiful place to live because of wonderful people like Kelvin. She at once called and updated Mr. Choudhury on the matter.

After a few hours, Mrs. Choudhury found that the problem was getting more serious and she was getting a feeling that it is not wise to wait for the next day but she needs medical attention immediately. Mr. Choudhury has done his best and there is no point calling him again. She was thinking of the other alternatives before her and ultimately decided to call her younger daughter Nazneen who might have some doctor friends and may come in handy in this situation. Since there was no other family member present at her home then so she also needs someone to accompany her to the doctor. Probably, Nazneen can show her some light. With high hopes, she called Nazneen, who is a very outgoing, smart, and informed young lady.

Nazneen was an assistant professor of History and was in the class explaining to her students the reasons for the failure of the Mughal Emperor. But she picked up the phone at once as she could perceive that there must be some emergency at home as her mother (Mrs. Choudhury) never calls her at this hour. Her guess was right. Mrs. Choudhury explained in detail what she is going through, regarding her health and about the non-availability of doctors, her need to visit the doctor immediately, and the absence of anyone at home. Nazneen understands the seriousness of the issue and dismissed the class. She made her way to her department. She knew what she was going to do. She opened Google chrome and typed in a web address.

Half an hour after Mrs. Choudhury called Nazneen, an ambulance was at the doorstep of Mrs. Choudhury's residence. The staff of the ambulance asked Mrs. Choudhury to accompany them to the chamber of Dr. Das, another well-known endocrinologist of Silchar. Mrs. Choudhury was not feeling well and was not in her senses to suspect where she was taken to and who has arranged for this. But what she knew was that for her survival, she needs medical attention immediately and that was ready at her doorsteps. No point in thinking twice, she carried herself inside the ambulance.

Rest is the usual stuff. She was taken to the doctor and was soon admitted to a nursing home. Relatives were informed. Soon the brother of Mrs. Choudhury, who stays in a nearby town came to the hospital. Mr. Choudhury returned a day after with his son Manzoor and the same day evening Nazneen also arrived. Within a few days, Mrs. Choudhury was fit and kicking. She has returned home now. The crisis is over. By that time her regular physician Dr. Sabdakar is also available in town.

But some questions still remained unanswered.... Who arranged the ambulance?...Who got the doctor's appointment?...Who had paid the initial expenditure?

All eyes turned towards Nazneen.....Well it was "Quick-o-book" a small answer followed from Nazneen. Then she elaborated... "One of our juniors at the university, Biswajit, made this possible...he made a website...where you can get information about all the doctors of Silchar...arranged in order of their expertise... you can book appointments there...pay their fee...book ambulance and several other features. It was Quick-o-book with which I can arrange

everything for my mother sitting miles away. Say- "thanks to Quick-o-book".

And the Choudhurys shouted in unison...
"THANK YOU Quick-o-book"

This is not just a case of one family. Likewise, there are a number of families in Silchar (a small town of South Assam) who face problems with regard to doctors' appointment booking. Some of the renowned doctors in Silchar witnessed long queues in front of their chamber since early dawn. Waiting in such long queues for appointment booking becomes a very stressful experience. Even after getting the appointment at the end of such tedious hours, some doctors cancel the appointment without providing prior information to the patients.

OBJECTIVES

The broad objective of the paper is to refine and extend the understanding of the readers about when, where, and how entrepreneurs act in problem situations. It allows them to recognize the social and situational dimensions of entrepreneurship towards leveraging entrepreneurial solutions for social good.

This research paper attempts to understand the system architecture of Quick-o-Book medical appointment booking system. It also presents an overview of the innovative products and services offered by Quick-o-Book. An attempt is also made to undertake a SWOT analysis of Quick-o-Book.

METHODOLOGY

The methodology was driven by the motive to provide the readers a glimpse of the conditions that drove the entrepreneur to

build the necessary mechanisms. It reflects the particularities of the phenomenon and gives an interpretive analysis of the context.

The data has been primarily collected from Quick-o-Book through surveys and interviews. The study builds on previous work that established levels of generic use of the internet and related communication technologies considering health products.

BACKGROUND

In today's fast society driven by science and technology demands the highest efficiency from the health care sector to deliver utmost patient satisfaction. The number of missed appointments, unnecessary waste of patient's appointment time have caused an imminent problem for the healthcare institutions as well as the patients. Hence, it is desirable to intercede with the healthcare system to provide smooth and continuous care for the patients. The traditional appointment booking requires hard and tedious work to get a doctor's appointment. Uncertainty arising due to doctors' unavailability is a serious issue people often face. Traveling miles to consult the doctor and the unavailability of doctors creates difficulties for the patient in terms of time, money, and effort. Even ignoring the overall stress associated with health risks, one has to spend a lot of your time in infamously long hospital queues. According to a 2015 study by Harvard Medical School, people spend 121 minutes for every visit to the doctor (Ray, Chari, Engberg, Bertolet, & Mehrotra, 2015). There often is a mismatch of the demand and supply with regard to patients and available doctors. Also, the lack of any systematic procedure leads to complete chaos. Patients often do not have

any information regarding the availability of the doctors on the specific dates. It requires a number of physical visits to the chamber/clinic to get any type of information. The traditional appointment booking system considers the doctors' time to be more important than the patients' time. So current desi of an appointment system should consider all decisive factors concerning both the patient and doctor (Takakuwa, 2005).

The use of the internet for health purposes is increasing steadily in all parts of the world. Online communication between doctor and patient is one aspect of e-health with potentially great impact on the use of health systems, patient-doctor roles and relations, and individuals' health.

e-health is an emerging field in the intersection of medical informatics, public health, and business, referring to health services and information delivered or enhanced through the Internet and related technologies (Eysenbach, 2001).

Monitoring and understanding practices, trends, and expectations in this area are important, as they may bring invaluable knowledge to all stakeholders (Santana, et al., 2010). A well-developed e-health portal, (among other factors like regulation framework, infrastructure, maturity in internet adoption, etc.) facilitates a positive environment for eHealth services (Santana, et al., 2010).

REVIEW OF LITERATURE

Appointment Booking System

An appointment booking system lies at the junction of providing efficient and timely access to health care services. Appointment booking is

a subject of great interest to hospitals and other medical institutions (Koole, 2007). Waiting time means a period of time in which one has to wait for a specific action to occur, after that action is requested or mandated (Fernandes et al., 1994). Patients' waiting time is defined as "the length of time from when the patient entered the outpatient clinic to the time the patient actually received his or her prescription" (Jamaiah, 2003). It is defined as the total time from registration until consultation with a doctor.

Delays in the appointment schedules lead to underutilization of time (Bailey, 1954). Research on outpatient clinics shows that waiting times are patients' main dissatisfaction concerning health care services (Huang, 1994). Also, overtime and peak workloads are potential threats according to doctors and personnel because they increase stress and time pressure (Idowu, Adeosun, & Williams, 2014). Long waiting times are serious problems for patients using urban health centre's in developing countries (Bachmann, 1998).

Managing Patients' Appointment system

According to Dexter (1999), managing a patient appointment system is a computer application used to manage and reduce the patient waiting time at the health care centres. Patients have longer waiting times in the health centres which do not manage appointment systems efficiently. When patients are made to wait longer by the physicians in a health centre they feel that they are being disregarded and treated unfairly. The timely delivery of health care services at the health centres leads to a positive evaluation of the quality of services by the patients (Dexter, 1999).

Hence, developing patients' appointment process for health care centres entails the use of a sophisticated queuing model that must capture the real system's features like reducing idle time and efficacious use of resources (Rohleder, 2002). An ideal patient appointment system is supposed to manage the doctor's time, reduce the patient's waiting time, reduce the doctor's idle time, reduce nurse's idle time, and improve the overall quality of service in health care (Harper, 2003).

Appointment scheduling systems are used to manage and improve access to health care services. Some of the factors that affect the performance of appointment systems include arrival time and service time variability, patient and provider preferences, available information technology, and the experience level of the scheduling staff. Thus a proper scheduling system should deliver the highest quality services, minimize costs and align the patients' expectations with their service experience. An online scheduling system allows individuals to book their appointments conveniently and securely. Compared to the usual queuing method, the web-based appointment system significantly increases the patient's satisfaction and reduces total waiting time effectively (S & Sarda, 2014).

Existing Hospital Appointment Schemes

Chua (2010) opines that the ever-rising demand for a better healthcare system and facilities and the daunting number of missed appointments due to uncertain changes in doctors' schedules have forced the healthcare sector to recognize a way to deliver such services more efficiently with the help of information technology. An appointment booking system

should seamlessly integrate efficient delivery, dependable and timely access to health services. With the growing internet penetration, the healthcare industry is moving towards the use of communication technologies. Internet today provides a wide scope of technologies that will enable hospitals to communicate with their patients more successfully. Electronic patient-provider communications promise to improve the efficiency and effectiveness of clinical care (Wakefield, 2004).

Hospitals are continuously combating a scheduling problem that causes waste in medical experts' time and also decreases patient satisfaction and staff morale. Many scheduling systems have been developed and implemented in order to improve such operations in individual hospitals or even groups of health care facilities called health care networks. Health Care Facilities use ICTs such as internet-based applications to provide current and potential clients with the information they need on a real-time basis. The use of ICTs in health care has led to a new term called Health Telematics (III & Sankaranarayanan, 2012).

The e-hospital management system provides the benefits of streamlined operations, augments better administration & control, higher-level patient care, strict cost control and boosts profitability (Olamide, Adedayo, & Abiodun, 2015). Thus it is found using information and related technologies can aid the medical profession in improving its quality of service and hence increasing the system's preparedness and defensiveness (Balaraman & Kosalram, 2013). Thereupon it is of critical importance that the software must have the right type of modularity and openness so that

it is manageable, maintainable and upgradable. The hardware should also be reliable, available and have the necessary performance capacity. Well designed, integrated computer system can be a great tool in the hands of the hospital management in improving services, controlling cost, and ensuring optimal utilisation of facilities (Rajesh, D, & K, 2008).

Thus the long waiting times, overcrowding, multiple visits to the health centre to get doctor's appointments, unnecessary delays in appointment schedules, sudden changes in appointment schedules of the doctor, uncertainty at getting doctor's appointments, absence of congenial environment; amongst others are some of the prime reasons for the patients' dissatisfaction at concerned health centres. The health care centres are often found guilty of not managing the patients' time effectively and treating them poorly. These systemic problems leave the patients frustrated and dissatisfied. The stress for the patients and their attendants or family members is even worse in a small town with limited infrastructure and facilities.

Such potential threats are overcome by managing patient appointment systems through computer applications thus reducing the patient waiting time at the health care centres and solving other issues concerned.

QUICK-O-BOOK SYSTEM ARCHITECTURE

Pertaining to the myriad of problems faced by the patients, attendants and family members in the process of getting a doctor's appointment and receiving the related service becomes a

stressful and demanding situation. The Quick-o-Book appointment booking system streamlines the operations, provides better administration for both patients and doctors at different healthcares, thus providing a higher level of care for the patients. It helped improve the overall quality of the healthcare service.

Quick-o-Book (QOB) enables patients to bypass the long queues, overcrowding and long waiting times to get an appointment. It delivers high quality, controls cost and provides satisfaction to its customers in numerous ways.

QOB's online doctor booking system has two ways of booking a doctor's appointment:

(i) Online booking system and (ii) SMS booking system via the designated QOB Stores.

The person booking through the online system has to visit the webpage of Quick-o-Book i.e. www.Quick-o-Book.com. He/she then selects the specialist doctor and confirms the booking after making the necessary payments.

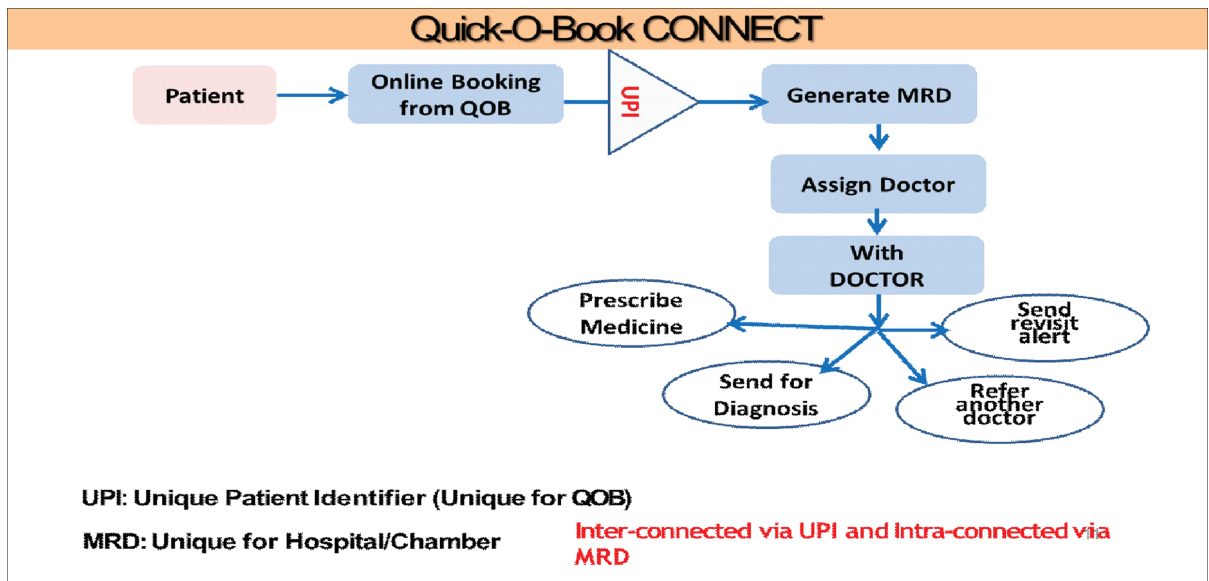


Figure 1: QOB Online Booking system architecture

The SMS booking system via the designated QOB Stores is rather more popular in remote locations where there is limited internet connectivity. A QOB manual contains the doctor's chamber's unique id and other details. A QOB wallet is maintained at the QOB stores. The appointment is booked with the help of a long code SMS service. Every time an appointment is made, the service fees against the appointment get deducted from the QOB wallet and the client gets confirmation through SMS and pays the service charge to the store. This is the most unique feature and a very innovative way of booking a doctor's appointment. Almost 45% of QOBs patients prefer this system of appointment booking over the online booking system.

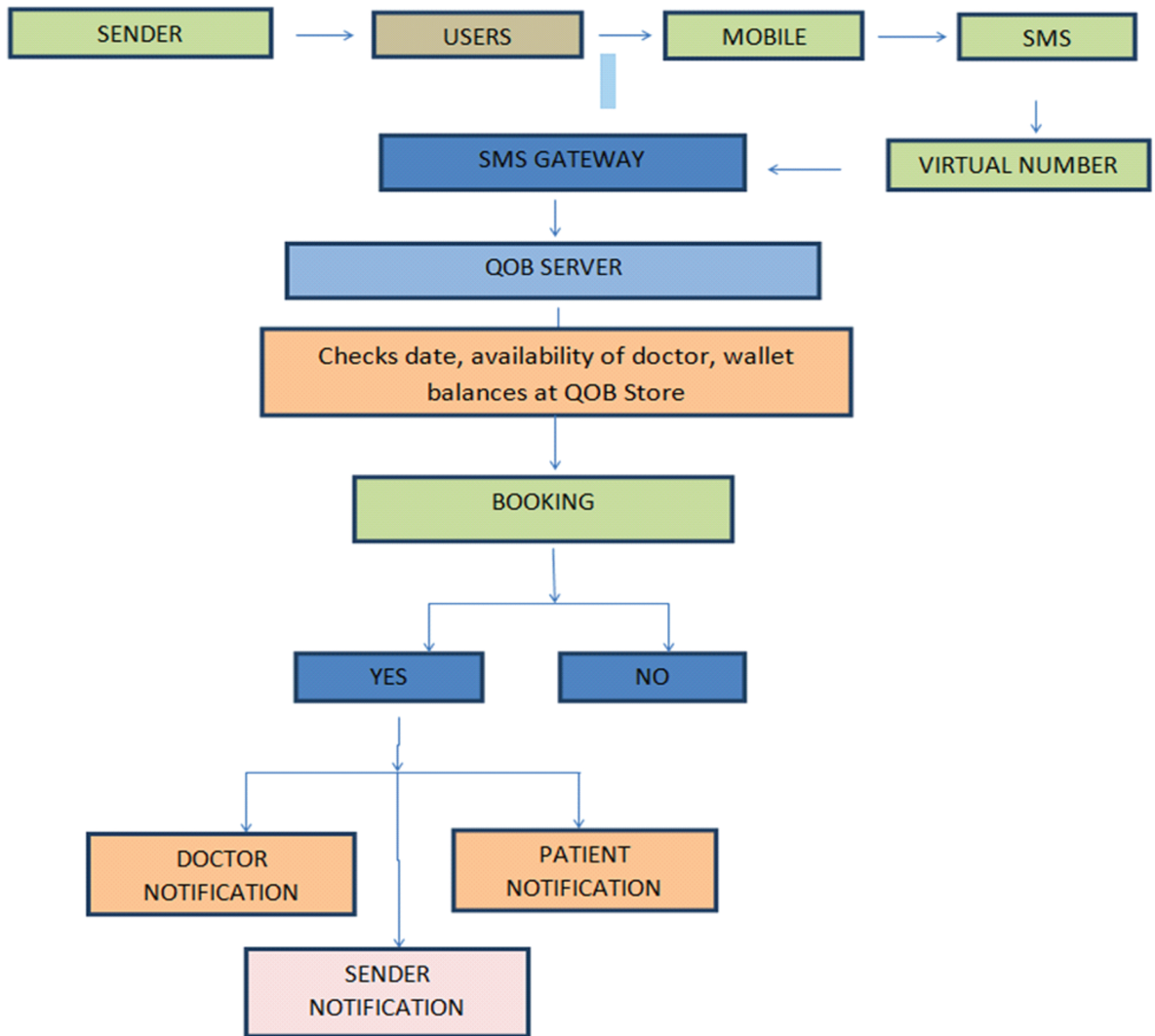


Figure 2: Quick-o-Book SMS booking system architecture

QOB Doctor Dashboards

QOB also provides individual dashboards to each doctor where a doctor can easily find his profile to store records and history of the patients’ diagnosis. There also is an unavailability option against specific dates and times where doctor can set their unavailability and re-schedule dates and time as per their calendar. Once updated, the message reaches the patients instantly. The QOB dashboard provides a user panel to every doctor to maintain their records of daily activity and helps in regular follow-up for patients by sending them reminder messages through an automated system for re-visit.

QOB Clinica and QOB Connect

QOB provides a total management solution to the hospitals and clinics too. For Clinic's they have a QOB Clinica and QOB Connect for hospitals. It includes almost each and every required field starting from the patient information, patient clinical information, investigation report, prescription, drug directory, specialist referrals, online consultation reports etc. Every user shall be interconnected via a cloud server providing a systematic way of diagnosis.

When a patient arrives at the receptionist desk at the hospital, a UPI (Unique Patient Identifier) is generated for first-timers. The patient is then directed to the specialized doctor. Once the request is created, the doctor immediately receives a notification at his panel about the new appointment. Once the patient is registered at QOB the very next time he visits, an MRD (Medical Research Data) is created. The doctor then with the help of QOB prescribes medicine, sends the patient for diagnosis or may even refer him to some other specialist.

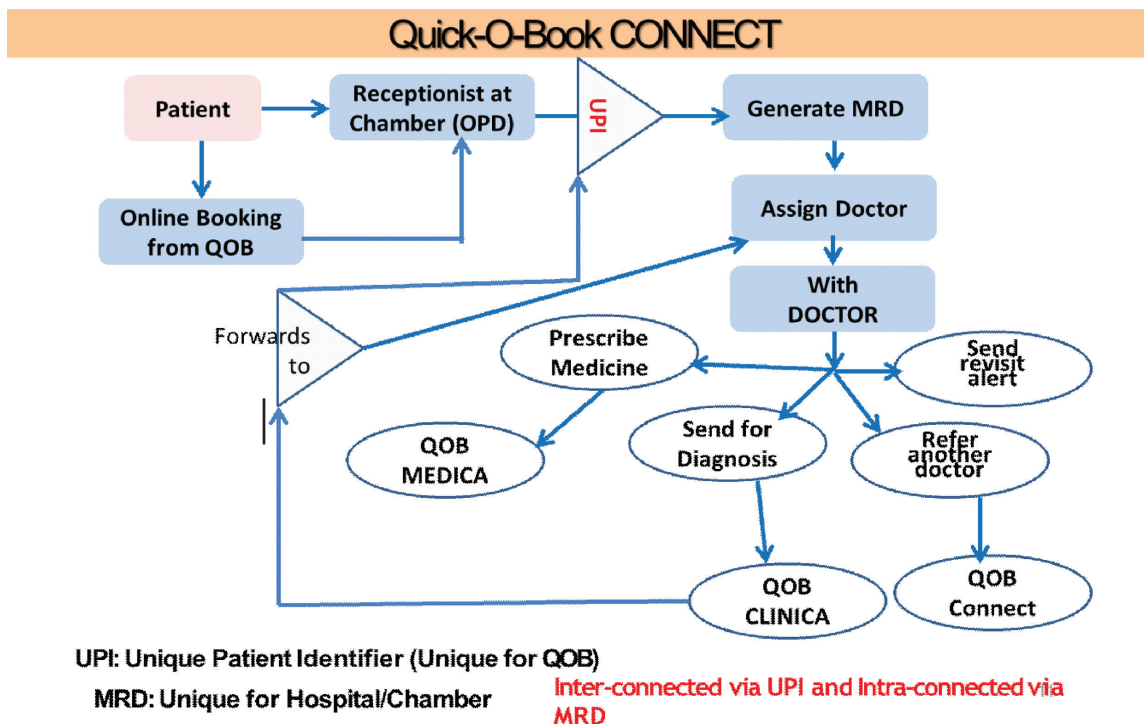


Figure 3: QOB Connect system architecture

INNOVATION AND DIVERSIFICATION

One of the major problems in convincing doctors to use the QOB dashboard, Clinica and Connect software was their reluctance towards the use of new technology. Some doctors preferred the use of a traditional pen and pad to write down the prescription. This drawback was overcome with the

help of Neo pens. Neo pen captures everything that is written on a special notebook. The bluetooth enabled pen syncs with the software and prescription that is written on the note pad automatically appears on the computer screen. QOB also caters to the online sale of medicines. Online purchases are economical and do not require a prescription. People can purchase medicines online through the same QOB website and can also upload their prescriptions. QOB provides emergency medical care to any person requiring emergency treatment with their QOB ambulance services. These facilitates can be availed through QOB emergency numbers. The QOB helplines are available to solve any possible queries raised by the clients.

SWOT ANALYSIS OF QUICK-O-BOOK

Strengths	Weaknesses
<ul style="list-style-type: none"> • More than 1500 doctors registered • 2000 QOB stores • More than 2 lakhs satisfied patients • More effective and efficient than traditional booking system • First mover advantage as an Online booking system • Patented SMS Booking system • Innovative Products and Services 	<ul style="list-style-type: none"> • Developers, employees are the core pillars as they are aware of all operational strategies. Losing the current employees to potential • competitors might cost the company • Limited funds and manpower
Opportunities	Threats
<ul style="list-style-type: none"> • North-East is still a virgin market • Venture funding by potential investors • Government is promoting digitalization 	<ul style="list-style-type: none"> • No potential entrants or competitors but might arise in future • Dissatisfaction of QOB franchisees in future • Unable to properly invest in advertising and promotion due to limited funds

Figure 4: SWOT Analysis of Quick-o-Book

Strengths and Opportunities

Quick-o-Book has several advantages over the prevailing traditional system as it involves lesser effort, saves money, time and above all it maintains transparency. Customers can seek information from a distant place through the latest updated information on the web portal and also from the nearest QOB Store. Appointment booking can be done online and also at QOB designated stores through the SMS booking system. The SMS booking caters to the need of people from remote villages that

often do not have any awareness or access to internet services. The SMS booking facility is the unique strength of QOB as no other company in North-East India is using this model. QOB has patented its SMS Booking process. The QOB dashboard provides a user panel to every doctor to maintain their records of daily activity and helps in regular follow-up for patients by sending them reminder messages through an automated system for re-visit whereas traditional system does not involve such activity. They provide total management

solutions to the Hospitals and Clinics via QOB Connect and through QOB Clinica.

More than 2000 doctors have registered been with QOB till now. 2000 chemist stores are working as franchisees for QOB. More than 25 hospitals and 100 clinics have started using QOB Connect and QOB Clinica. It has been delivering utmost satisfaction to more than 2 lakhs patients so far. QOB has marked its remarkable existence in the whole of Barak valley (southern region of Assam, mainly consisting of three administrative districts namely- Cachar, Karimganj and Hailakandi) and also in some parts of Guwahati. They have extended their arms in Tripura as well. They have more than 100 doctors registered under QOB in Tripura. The QOB Connect and Clinica have also found momentum in Tripura. Recently QOB has started operations in the state of Mizoram.

Since QOB is the first to start such an operation, they have the first-mover advantage. Many doctors, clinics and hospitals in different parts of North-East have already started using QOB software, it will be tough for new entrants to convince them to shift to other portals. They have been constantly modifying and improving their products and services to better meet the demands of the customers. Some include online/offline helpline service, ambulance services, neo pens for doctors, small-scale awareness programmes, booking from e-wallet available at shops/venues in every nook and corner of the city and also the nearby villages, franchisees for aiding booking from remote village areas etc.

The company in a short span of a few years has achieved a good response from the market with gradually increasing demand for their services. The number of patients of QOB for the years 2016, 2017, 2018, 2019 and 2020 are 7202,

28852, 79846, 98548 and 87704 respectively. The total revenue generated by QOB for the years 2016, 2017, 2018, 2019 and 2020 are Rs 2,52,070, Rs 12,98,340, Rs 75,00,000, Rs 1.1 crores and Rs 3 crores respectively.

QOB has now penetrated the whole of Barak valley and some of the nearby North-eastern states as well. QOB has been incubated under world-class entrepreneur organisation, NASSCOM. They are also going to be incubated by Assam Start Up Nest, Guwahati. The company has been valued at more than Rs 3 crores. They have begun raising investment for seed funds based on equity dilution. Potential investors have shown investment interest. North-east is still a virgin market. It offers immense opportunity for Quick-o-Book to expand and penetrate. QOB has received the recognition of Start Up Company for innovativeness under the Make in India programme by the Government of India.

Threats and Weaknesses

Initially the company started with a meager corpus of funds. Lack of sufficient funds was always a problem. However, investors have shown keen interest in venture funding in the company. The employees of the company are the core pillars. They have been fully trained as per the existing system of operations. If they leave the organization will suffer. Currently, there are no entrants or competitors in the market. The franchisees of QOB are its assets. The dissatisfaction of them might be a threat in future. They might even be lured by competitors in future for a better offer.

As a result of limited funds and manpower the company is catering to only 1-2% of the potential market. North-East is still a virgin market but due to financial constraints and lack

of funds, they are unable to properly invest in advertising and promotion and employ required manpower. The company requires aggressive advertising and promotion campaigns to penetrate further into the north-eastern states. Moreover, the government of India is promoting digitalization hence the project has better opportunities for growth in future.

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TEACHING NOTES AND CASE ANALYSIS

Intended Course and Levels

This case can be used in the class of entrepreneurship studies at the undergraduate as well as in the post graduate level. The case can be used to make the students understand how innovative entrepreneurship helps in solving social problems. It can be used to explain the entrepreneurial competencies. The example is of a budding entrepreneur who identifies the problems that a group of consumer (patients in this case) faces in attaining a particular service (health service in this case) based on the available channels and applies electronic technology to provide a solution.

At the higher levels, advanced topics like customer appointment management system may be discussed using the case as a backdrop. The case can also be used in information technology classes or in Management Information System courses to explain students how services can be more technology driven. This is a good exercise for computer programmers to learn the concept of scheduling.

TEACHING PLANS/APPROACHES

This case can be presented in an open-ended form without any specific questions. It may also be directed with several recommended questions focusing on several issues. Classroom formats can be designed based on the problems and other critical issues pertaining to this case.

GUIDELINES FOR PREPARATION

The following guidelines may be given to the participants for preparation:

- How innovative entrepreneurship helps in solving social problems?
- Explain the role entrepreneurial competencies.
- Use of appointment management systems at hospitals and health centres

RELEVANT THEORY AND LITERATURE

- (Mitchelmore & Rowley, 2010). Entrepreneurial competencies: a literature review and development agenda. Emerald
- (Norris F. Krueger & Brazeal, 1994). Entrepreneurial Potential and Potential Entrepreneurs. Entrepreneurship Theory and Practice. Sage
- (Yeon, Lee, & Jang, 2010). Outpatients appointment scheduling with multi-doctor sharing resources, IEEE

CLASS STRATEGY

Following aspects may be explained during the class:

- Problems faced by the patients, attendants, friends and relatives in getting a doctor's appointment.
- Role of Quick-o-book in managing the appointment system
- Appointment management system or architecture of Quick-o-book
- Strategy for using different types of appointment booking system by Quick-o-book
- Advantages of Quick-o-book appointment system vis-à-vis the traditional appointment system
- Future prospects of QOB Connect and QOB Clinica
- Strengths and challenges of Quick-o-book

- Suitable solutions for further innovation in the current scenario

ANALYSIS AND NOTE TO THE INSTRUCTOR

This case is a good example of how entrepreneurs create new ventures in an attempt to find solutions to the existing social problems. It gives the readers an idea of the entrepreneurial competencies and skills needed to overcome existing problems. It tells the readers how problems are resolved by investigating and observing the current phenomenon.

In the area of medical appointment booking systems at health centres, the case delves into the various decisive factors to be considered while developing an appointment booking system. It identifies the facilitators and the barriers for patients and doctors' adoption of QOB softwares to provide a platform supporting interaction between both parties. Identified barriers here may include patients' lack of access to internet, low computer skills, lack of awareness of the service and incompatibility of the online appointment

booking system to facilitate face-to-face or phone based appointment booking. It can be explained to the students about how QOB has overcome these set of barriers. Another big issue that can be raised in the class is how the general public's acceptance for the QOB products can be improved.

The biggest motto of the case is to make the students aware of how the overall system of QOB helps in reducing manual efforts, balancing patient load, reducing uncertainty about getting the appointment, reducing overall cost, reducing waiting times, improving revenue for both the health centres and QOB, improving patients satisfaction, improving efficiency and increasing popularity of QOB

CASE FLOW

The case may follow the following pattern and be winded up in an hour (60 minutes):

- Introducing the Case: 5 minutes
- Background Review: 10 minutes
- Quick-o-book system architecture: 15 minutes
- Discussion: 20 minutes
- Summing up the Case: 10 minutes