

HEALTHTECH BUSINESS MODELS



THE BUSINESS
MODEL ANALYST

SUPER GUIDE:

HEALTHTECH BUSINESS MODELS

BY DANIEL PEREIRA



**THE BUSINESS
MODEL ANALYST**

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The Business Model Analyst is a website dedicated to analyzing business model types, patterns, and innovations using the business model canvas as its primary tool. The site offers a wide variety of free and premium content, including digital products such as PDF tools, presentations, spreadsheets, ebooks & guides, and much more. [Check it out here.](#)

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INTRODUCTION

Every day, we notice the ever-increasing presence of technology and digitization in virtually every aspect of our lives. Therefore, it was only natural that such innovations would eventually make their way into the healthcare sector and the way we interact with it. What most people never expected (except maybe ambitious sci-fi movies) was the degree of integration that we would see and the birth of an entire branch of technological application known as Health Technology (HealthTech).

At its most basic definition, HealthTech represents a union between the different parts of the healthcare industry and various disciplines within the field of engineering. The purpose of this overlap was to achieve improved healthcare services in terms of delivery, payment, and consumption. This includes numerous and widely varying technologies, from robot-assisted surgeries to telehealth solutions and even virtual augmented reality.

WHAT IS HEALTHTECH?

HealthTech (short for health technology) is an umbrella term used to describe the unique integration of the fields of healthcare and various engineering specialties like software engineering, robotics, and machine learning. The purpose of this overlap was to achieve improved healthcare services in all areas of the healthcare sector, including the delivery, payment, and utilization of medical services.

Far from being some futuristic utopian fantasy, health technology services are an increasingly visible part of our lives, with a global market value of \$175 billion in 2019. Machine learning aids in drug development, teleconferencing aids in virtual consultations, physician schedule planning apps optimize workflow and reduce waiting time, and numerous other examples.

The emergence of HealthTech was due to a combination of several important factors. First, there is the necessity to find innovative solutions to the worrisome inefficiencies, crushing costs, and stifling regulations that were suffocating the modern healthcare sector. Secondly, investors saw the overlap of health and technology as a potentially untapped market with much potential for growth as the world shifted slowly from the traditional manner healthcare has been practiced for the last several decades.

HEALTHTECH VS. DIGITAL HEALTH VS. HEALTHCARE IT

HealthTech is a rapidly growing field and the increasing number of terminologies and concepts can be somewhat confusing, even to the experts. This includes terms like **HealthTech**, **Digital Health**, and **Healthcare IT**. There is considerable overlap between these terms, with subtle (yet significant) differences between them.

- **HealthTech:** HealthTech is an umbrella term that refers to the application of a diverse array of technologies such as IoT, AI, and robotics, to improve the overall quality of healthcare;
- **Digital Health:** Digital health is a subset of HealthTech which involves the use of various forms of information and communication technology to improve existing healthcare services. This technology places emphasis on the unified integration of health information across a wide array of software and hardware;

Examples of such technologies include fields like machine learning, AI, mobile applications, and smart devices. Some important examples of such innovations include electronic health records (EHRs), wearable fitness and health monitoring devices, telehealth, and telemedicine.

- **Healthcare IT:** Healthcare Information Technology is

difficult to distinguish from Digital Health. A good way to distinguish between them is in terms of their everyday application. Digital Health deals with a larger subset of technology that deals with information processing, communication, and integration within the area of health service delivery.

On the other hand, Healthcare IT deals majorly with the day-to-day services necessary for running a healthcare service. This typically involves the conversion and maintenance of offline data into a digitized format. It includes things like data security, software solutions, electronic records, and so on.

HEALTHTECH IN THE CONTEXT OF THE BROADER HEALTHCARE SYSTEM

HealthTech has vast applications in virtually every aspect of health service provision, since its main purpose is the integration of technology to improve medical care. However, for the sake of simplicity, HealthTech services will be divided into three key applicable areas: **consumer care, medical care, and healthcare system management.**

CONSUMER CARE

This deals with general health promotion and disease prevention services. For this reason, it is also referred to as wellness solutions. The individuals who utilize these services may not be ill, but can use this technology to monitor their health and promote healthy behaviors that will reduce their risk of developing certain diseases.

This technology includes areas like fitness and biomonitoring devices, microbiome diagnostics and databases, digital dental health, dieting, digital wellness, lifestyle coaching, and much more.

MEDICAL CARE

Also known as medical solutions, these services are targeted toward improving patient care directly. It involves the use of modern technology to facilitate the detection, diagnosis, treatment, and monitoring of diseases.

This involves screening technology like genome sequencing and analysis using unique machine learning algorithms. Also, there are improved diagnostic services through the use of telemedicine, symptom libraries, electronic medical/healthcare records (EMRs/EHRs), and image analysis software. Lastly, robotics-assisted surgeries, digital pharmacy, and other forms of treatments are another important aspect.

HEALTHCARE SYSTEM MANAGEMENT

These technologies have less to do with the direct treatment of patients and more to do with hospital administrative services. It encompasses the various support and logistical services involved in the day-to-day running of the healthcare industry.

Enhanced payment processing technology, mass media enlightenment programs, digital insurance providers, and databases like EHRs/EMRs are some of the key technologies involved.

HEALTHTECH ECOSYSTEM

Despite the initial inertia that is characteristic of the medical industry, there has been a rapid integration of various types of technology into the healthcare sector. We have previously mentioned some of the major factors behind this changing trend, such as **increased interest due to changing demographics and investment potential, advancements in the flexibility and scalability of the technology, and rising healthcare costs in a background of a lack of improvement in healthcare delivery.** Like all newly developing innovative economies, vibrant startups and a strong funding landscape are the essential backbones to competition, growth, and continued innovation.

STARTUP ECOSYSTEM

Startups play key roles in both the economy as a whole and for their respective industries. They drive innovation, attract investor interest, create public awareness, and foster positive competitive dynamics. Not only that, but they also provide employment opportunities and boost the local economy as well.

Startups have featured heavily in the world of HealthTech and are some of the major driving forces behind research and development into emerging digital health trends. According to healthtechbase, the United States is at the forefront of this trend both in terms of the number of new startups and total monetary investment.

According to recent statistics from the same source, there are

currently over 1,500 HealthTech startups in the United States alone. While many startups eventually fail to survive, the vast majority of successful startups are still found in the United States due to the sheer size of their healthcare industry and the growing investment interest in health technology. To illustrate this point, the number of HealthTech startups in the U.S. alone is nearly three times that of the rest of the world combined.

In terms of absolute numbers, China, the United Kingdom, France, India, and Switzerland are next on the list right after the U.S. When looking at the numbers in terms of health technology startups per capita (the number of startups divided by the population of the country), the U.S. is still at the top, but now followed by Switzerland and Germany.

FUNDING LANDSCAPE

As we mentioned earlier, startups promote investor interest and attract potential funding. Therefore, it is expected that the United States would once again top the list. HealthTech funding in the U.S. makes up about three-quarters of the global investment into the health technology industry. The rest is shared closely by China and Europe. Among European nations, the UK and Switzerland have relatively high total funding figures relative to the size of their respective populations.

Another area where these major ecosystems differ is in the area of funding. While the key application areas of HealthTech appear to receive relatively equal funding within the U.S., European and Chinese investors seem to be more interested in medical solutions services. European investors funnel their funding more towards treatment and screening, while the Chinese seem to be more focused on diagnosis support.

THE EVOLUTION OF DIGITAL HEALTH: HOW DID WE GET HERE?

Despite the massive recent spike in interest and investment into the HealthTech industry, health technology has traditionally been an underfunded and undervalued area. The reasons for this are numerous and in many cases interwoven. However, there seem to be several important explanations behind the recent explosion in the field of health technology.

To understand the recent trends in HealthTech it's important to take a brief look at its past. It seems the first true surge in health technology came around the early 2010s in the form of support services for more traditional health delivery services like healthcare providers, insurance providers, and payment processing firms. This meant that the technology being created focused more on the healthcare providers and less on the patients themselves.

Around the mid-2010s, startups started paying more attention to providing medical and wellness solutions to the patients. However, two major hurdles stood in the way of large-scale adoption of various forms of health technology; sustainable distribution and a viable value capture system. The high cost of their technology and its failure to integrate with existing healthcare systems further slowed its growth.

In the early 2020s, exponential advancements in the field of

health technology meant that not only had the cost of the technology finally become bearable, but also the increased flexibility allowed it to become easier to integrate into the medical system. New payment options increased digitization of the healthcare industry and, of course, the promotion of telehealth by the COVID-19 pandemic, all played key roles in this progress.

4 HEALTHTECH TRENDS CHANGING THE WORLD OF MEDICINE

HealthTech is rapidly expanding along all forefronts, but certain key areas seem to be attracting particular interest from investors.

PREDICTIVE AND PREVENTATIVE CARE

According to data from the CDC, chronic diseases account for 75% of the United States healthcare spending and cost the country \$260 billion per year. Most chronic diseases are preventable, and medical services geared toward disease prevention have the potential to significantly increase the economic output of a nation while freeing up funding for other sectors.

Technologies that encourage preventive medicine by promoting wellness solutions include wearable fitness devices, dieting, and calorie-tracking apps, digital fitness solutions, and lifestyle coaching technology.

Predictive medicine is also a key area of focus. By identifying individuals who are at risk of certain negative health challenges through screening technologies, disease states

can be diagnosed early before significant harm is done. Some of these technologies include virtual diagnostic clinics, telehealth, and even smartphone screening applications.

PERSONALIZED MEDICATION

Personalized medical services are the next step in the evolution of healthcare delivery and are set to take over from the current standard of evidence-based medicine. Personalized medicine involves making decisions concerning an individual's medical care based on their genetic background.

Rapid innovations in genome sequencing such as Next-Generation Sequencing and the integration of this technology with big data analysis using machine learning-based AI's is the key driver of this field. Personalized medications, improved blood transfusion services and cancer treatment options, and even advancements in screening techniques are all under the umbrella of personalized medicine.

CONSUMERIZATION

Government red tape and unfavorable policies have stifled innovation and competition in the healthcare industry, pushing objectives like enhanced customer experience and widespread adoption of new technologies out of the forefront. Giving patients greater power to make choices concerning their health will encourage healthcare providers to get rid of many of the inefficiencies and redundancies plaguing the healthcare industry through market competition.

Digitization of the healthcare industry helps make these services more available to patients both in terms of price and

convenience, therefore increasing their consumer value. In the long term, this will lead to democratization and consumerization of the healthcare industry, with increased efficiency and lower costs.

DE-SILOING

Despite efforts from both sides, there is often little communication between doctors of different specialties concerning the health of a patient. Each physician may be interested only in their particular specialty and ignore or fail to properly attend to other problems their clients may have.

The digitization of the healthcare sector encourages communication, especially through avenues like health IT. This promotes a multidisciplinary approach to healthcare with a team of doctors managing a particular individual instead of the more common “lone wolf” approach seen today. Health IT brings different arms of the healthcare team together by eliminating barriers such as distance and easy information dissemination.

THE NEW GO-TO-MARKETS IN DIGITAL HEALTH

Digital health involves the use of various forms of information and communication technology to improve existing healthcare services. It emphasizes the unified integration of health information across a wide array of software and hardware.

The applications of digital health are too numerous to mention, but some significant business trends have been emerging from this relatively new area. Here are some of the untapped markets that digital health companies have been investing heavily into.

B2C2B / BOTTOM-UP SALES

Business-to-consumer-to-business (B2C2B) is a combination of B2B and B2C sales models. In this situation, a company attempts to use the influence it has over a particular consumer base as leverage to negotiate contracts from another business. A good example would be Facebook leveraging its large user base to obtain advertising deals, or a HealthTech firm working together with a health insurance firm to provide better coverage for its large number of users.

B2SMB

Business-to-small-and-mid-sized-business is another sales

tactic that involves marketing services to small and medium scale businesses. It's easy to understand how this would work in the healthcare industry, as many HealthTech companies can offer their services directly to private clinics, pharmacies, physiotherapy centers, and so on.

There are both advantages and disadvantages to this sales model. Small businesses typically offer shorter sales cycles and faster feedback loops. However, you must also consider the smaller average contract values, higher margins, and increased pressure on the cost structure of such enterprises.

RISK-BASED CONTRACTING

The idea of risk-based contracting is tied to the emerging value-based care model. A value-based contract is a contractual agreement between the healthcare provider and the patient in which the payment for medical services provided are predetermined costs based on certain expected metric-based patient outcomes.

TWO-SIDED NETWORKS

This is a unique sales model which involves leveraging the information or commercial advantage obtained by providing a product to one party to sell another product to a second party. It works in such a way that both parties benefit from the goods or services being provided, and the two-sided network simply acts as an intermediary in this exchange of value.

A good example would be the relationship between patients and doctors, with health maintenance organizations (HMOs) acting as the intermediaries.

DISTRIBUTION PARTNERSHIPS THROUGH AGGREGATORS

In the world of e-commerce, an aggregator is an entity that obtains data and information about a particular product or service from competing service providers and collects it into a single central source. Consumers can then make decisions and choose a service provider based on the information provided to them through the aggregator, instead of having to research different service providers themselves.

This role is typically played by entities with large distribution networks who can influence consumer decision-making. This ability to consolidate consumer purchasing decisions allows them to monetize their services to interested service providers. Such services are becoming increasingly popular among various digital health services to avoid vendor fatigue and enhance market competition.

HEALTHTECH HAS BEEN EXPERIENCING A SHIFT FROM B2B TO B2C BUSINESS MODELS

One of the major changes that seem to have contributed significantly to the widespread adoption of HealthTech is its shift from B2B dominated business models to B2C. Between 2016 and 2021 the relative percentage of B2C business entities which made up the funded digital companies almost doubled in size.

This is in part due to the increased consumerization of digital health services and the improved scalability of the industry, which made it more cost-effective for consumers to utilize such services directly and opened up a new customer segment to many HealthTech companies.

7 HEALTH TECH BUSINESS MODELS

The image above represents a hassle diagram, a pictorial representation of all the challenges a patient faces when trying to access adequate medical services. Remember that all this is despite the fact that insurance providers and HMOs are supposed to integrate medical care and streamline the process as much as possible.

Also, don't forget that out-of-pocket costs most patients deal with such as deductibles, co-payments, and coinsurance have been increasing despite increased insurance coverage. This is largely due to the inefficiencies that are innate to the current method of health insurance coverage.

The introduction of digital health services may be the solution to this. Such services increase competition, discourage waste, inefficiency, and encourage cost-competitiveness among different service providers. Let's take a look at some popular HealthTech business models which are at the forefront of such innovation and expansion.

ON-DEMAND HEALTH MODELS

This business model is built on the principle that “access is better than ownership”. On-demand health models are specialists in providing immediate individualized services which do not require long-term contractual commitment. In other words, this business model aims to make healthcare as easy as ordering a product online.

This business model is aimed at achieving several key goals within the healthcare sector.

- Cost reduction
- Improved outcomes
- Enhanced patient experience

All these goals are closely tied with the overarching theme of consumerization of the health sector. It achieves these goals by laying emphasis on consumer convenience, service or product delivery speed, improving quality through value-based care and risk contracts, as well as increasing accuracy through personalized care.

FIVE TOUCH POINTS IN THE HEALTHCARE CYCLE OF A TYPICAL CUSTOMER

These are the core changes that must be implemented within the healthcare sector to build a truly effective on-demand business model.

PERSONALIZED HEALTH SOLUTIONS

A “one size fits all” business style is dangerously outdated, and yet is still prevalent in the way medical services are delivered today. This may be due to the perceived lack of flexibility within the healthcare industry, or simple stakeholder inertia towards adopting new solutions and systems.

However, the rise in precision technology like genome sequencing and personalized medications and information integration services like electronic medical records offers a solution to this issue. Health services can now be tailored not only to the needs and personal health history of patients but even to their genetic makeup, and this information can be easily shared among members of the health team.

INFORMATION ON REQUEST

The ability to easily collect, analyze and disseminate patient records was one of the first innovations of digital health. Using services like electronic medical records, patient medical records are readily available for authorized medical

service providers to improve patient management.

PATIENT EXPERIENCE BENCHMARKS

Improving patient experiences and outcomes through the use of several metric-based patient-centric standards is the basis of value-based care and risk contracts. This can be achieved using patient reviews, as well as health service provider ratings and bios. Not only does this improve patient experience, but it also incentivizes healthcare providers to improve treatment outcomes.

CARE-ANYWHERE NETWORKS

Care-anywhere networks are the next logical step in the evolution of digital health information on request services like electronic medical records. This allows medical services to be received at home, in pharmacies, using apps, or even in more traditional settings like a physician's office.

It also involves the ability to remotely make payments, book appointments with a health service provider, and receive dispatches. The idea is to optimize care by increasing its mobility and removing it from expensive locations, allowing patients to choose more cost-effective locations for medical care.

TELEHEALTH

This is an extension of the care-network idea. This involves providing medical care remotely when possible. The creation of virtual clinics, robot-assisted procedures, and wearable

monitoring devices allow patients to receive effective medical services remotely.

ON-DEMAND ON-SITE MODELS

These promote the distribution of on-demand services directly to the consumer's location. The key aim of this business model is the standardization of price, standardization of service, and the quick delivery of goods and services. Some popular models include:

1. ON-DEMAND HOME SERVICES

These are medical care services that allow patients to interact with nearby on-call physicians who are available 24 hours a day. These services may include digital consults or on-site-based care which may be in a hotel, residential dwelling, or office.

2. TELEHEALTH

This involves remote care, which can be offered through digital consultations. It has several advantages which include reducing the burdens placed on the healthcare system, reducing waiting-room time, and increasing patient and physician convenience.

3. ON-DEMAND MEDICAL TRANSPORT

These include the various methods used by HealthTech companies to reduce the cost and average response times associated with ambulance services.

MARKETPLACE MODELS

The rapidly changing nature of the healthcare sector due to digitization is slowly eroding the rigid nature by which medical services are provided. By encouraging the growth of a B2C marketplace environment with greater interconnectivity and information flow, consumers can now interact directly with a far wider range of service providers.

This in turn creates a reverse auction environment where service providers compete for consumers. Eventually, this will have several important effects on the entire ecosystem as a whole. Some of them include:

- Increased focus on value-based care
- Increased market efficiency
- Access to a wider range of service providers
- Reduced average cost
- Increased trust and collaboration within the health sector

Let's take a look at some potential areas that marketplace business models may apply. They are:

1. DOCTORS/CLINICIANS – HOSPITALS MARKETPLACE

This is the most obvious application for such a model. By

bringing together a large number of clinicians and allowing patients to choose, the healthcare industry will be democratized and promote the growth of a value-based care system. Patients may be allowed to choose based on several factors such as proximity, services offered, qualifications, pricing, and even reviews from previous patients as well.

2. MEDICAL DEVICES — HOSPITALS MARKETPLACE

A medical device sharing economy may create a unique mixture of both on-demand and marketplace business models. For instance, by allowing connected medical facilities to share equipment based on need the healthcare sector can:

- Preventing unnecessary capital costs, by preventing certain hospitals from buying unnecessary non-emergency equipment, when they can simply rent one that is not in use from a nearby center for a significantly reduced cost;
- Generating revenue for hospitals, by allowing them to rent out their unnecessary equipment;
- Expanding services to a wider patient base and improving the quality of care.

The business will most likely be B2B and cater to nearby hospitals and other health centers.

3. CROWDSOURCED SAFETY NET

With the rise of services such as GoFundMe, healthcare crowdfunding has been on the rise. This may be a method of providing financial aid to individuals who the traditional safety

nets failed to help. Thinking in the same direction, such a service can be created as a platform uniquely for such services.

People, especially those with a chronic or debilitating illness, will be able to find and interact with other individuals who are going through the same eco as they are. These individuals may be able to offer advice, financial aid, and emotional support.

CURATION MODELS

With the increase in B2C business models, health service digitization, and enhanced consumerization, patients can now have greater control over their own health choices and increased flexibility. However, the privilege of decision-making also means extra responsibility, especially when there are numerous options to choose from and most patients are not well-versed in the world of healthcare technology.

That's where the curation model business is useful. By creating concise, yet comprehensive, guides on the various services and options available to patients, they can make the decision-making process much easier. Not only that, but by arming patients with all the facts, they are more likely to make informed decisions about their medical care.

Disruption in Healthc

DISRUPTION IN HEALTHCARE: TOOLS TO REDESIGN YOUR BUSINESS MODEL

Having an understanding of HealthTech is one thing, understanding how to apply it to real-world issues and even integrate it with already existing business models is something else entirely. HealthTech has become an increasingly disruptive force within the healthcare industry, and it's important that businesses adapt to current trends or face the risk of being left behind.

Asides from the current changes due to increased digitization, other challenges such as competition, changing policies and regulations, and changes in consumer demand can lead to a need to adapt your current business model to suit the current business climate. So, how can you do this?

Several tools are commonly used to design business models and highlight key areas of strength, weakness, and opportunity in a business. The two most commonly used and most easily applicable tools are the Business Model Canvas and the Value Proposition Canvas.

THE BUSINESS MODEL CANVAS

The Business Model Canvas is a unique visualization tool that was created by Professor Yves Pigneur and Dr. Alexander Osterwalder at the University of Lausanne in Switzerland. Though it was initially designed to be used by startups, businesses from all sectors and model types found it to be incredibly useful.

There are nine basic building blocks that make up a Business Model Canvas. Generally, they can be divided into four categories; client-based (customer segments, customer relationships, distribution channels), offer-based (value proposition), resource-based (key resources, key partners, key activities), and finance-based (revenue streams, cost structure). Now let's take a closer look into what all these terms mean:

- **Value Proposition:** This is a summary of not only the products/services offered by your company, but also why a consumer should choose your products/services over that of a competitor. For example, a clinic may offer face-to-face consultations, with an option for virtual clinic consultations for increased patient convenience and scheduling flexibility;
- **Customer Segment:** This refers to which demographic within the population is your product/service aimed at, e.g. couples/singles, young/old, high-income/low-income. A clinic may be targeted toward individuals who live within a close distance and therefore offer home services to appeal to this demographic. Another way of defining your customer segment can be into the 4 P's — patients, payers, providers, and pharma;

- **Distribution Channels:** How do you intend to communicate with your patients? This can be through email, text messages, social media platforms, and advertising. For example, a clinic can maintain a mailing list of all its regular visitors;
- **Customer Relationships:** This can be built upon the customer segment and channels the business plans to use. Customer relationships involve the interactions between the business and its client within the context of the product/service delivery. It may be through personal assistance, dedicated personal assistance, self-service, communities, and so on. A clinic that provides medical care in the form of surgical treatment is providing personal assistance, while home care services may be regarded as dedicated personal assistance. Customer relationships also include how the business plans on acquiring new clients, retaining old ones, and encouraging clients to expand their existing services;
- **Revenue Streams:** This simply refers to how the business plans to generate income from the products/services they offer to their customer segment. This could be in the form of one-off payments, subscriptions, licensing, rental fees, and so on. It also includes the pricing mechanism that will be used by the business. The pricing mechanism may be volume-dependent (how much is used), customer segment-dependent (who is using it), product feature-dependent (what is the quality of the product/service offered), or a fixed list pricing. A good example would be a clinic that generates revenue through consultations, surgical procedures, and home-care services. Revenue streams will be discussed more later in the guide;
- **Key Activities:** This refers to essential activities which

must be carried out to ensure the business functions properly. This may include research and development, production, service delivery, marketing, customer service, and so on. Research and development are how many digital health companies stay ahead of their competitors in the highly competitive world of HealthTech;

- **Key Resources:** This refers to the inputs that are required for this particular business model to work. This involves things like material resources, technological inputs, human resources, intellectual property, financial resources, and so on. The key resources of any healthcare business are of course human resources, which are the driving force behind its activities;
- **Key Partners:** No business exists in isolation. Your partners are other businesses or entities which are essential to the functioning of your business. They may offer key services, maximize profits through economies of scale, reduce risk, help in resource acquisition, and provide other key services. Physicians and medical scheduling firms form a key partnership that promotes the smooth running of the health sector. Other relevant partners may be electronic medical records companies, HMOs, and medical device suppliers;
- **Cost Structure:** This involves all costs that are linked to the operation of the business and the delivery of services. For a clinic, this may include employees' salaries, facilities maintenance, acquisition of medical devices and software applications, and so on. Your cost structure is generally divided into fixed costs, ongoing costs, and one-off costs. Some other classes include product development costs, customer

acquisition costs, and so on.

Knowing this will help you calculate your burn (the amount of money you spend monthly to run the business minus your monthly revenue) and your runway (how long you can sustain the current business model before running out of cash). It also allows you to calculate your growth rate as well.

GROWTH RATE: %

$$\frac{\text{Money in (month 2)} - \text{Money in (Month 1)}}{\text{Money in (Month 1)}}$$

THE VALUE PROPOSITION CANVAS

The Value Proposition Canvas is the second essential tool and is a graphical representation of what the value proposition of a company is. It was also designed by the creators of the Business Model Canvas and has several key components. These help you to define your Value Proposition and gain a better understanding of the products/services you provide.

The graph is divided into two key parts: 1) The customer profile on the right, and 2) The value map on the left. Each of these is further divided into smaller building blocks.

Let's take a look at the components found in the customer

profile side of the Value Proposition Canvas:

- **Customer Jobs:** These are highlighted in yellow and represent efforts that must be taken on the part of the consumer to obtain your products/services. In the healthcare care sector, this includes finding a medical care provider, providing payment, scheduling an appointment, waiting, undergoing treatment, and so on;
- **Gains:** This involves what consumers stand to gain from using your products/services. This may include better services, obtaining a cure, reduced discomfort, alleviation of anxiety, and so on. They are usually highlighted in green;
- **Pains:** These are represented in red and involve the challenges or sacrifices consumers go through before, during, and after using your value proposition. This may include resources spent finding a physician or hospital, commuting, waiting time, and so on.

On the left side is the value map, which represents what you have to offer the consumer in terms of value. Let's look at the key components under this section:

- **Products and Services:** This is a more detailed list of the specific products/ services that you offer. They may include consultations (physical or virtual), home-care services, bookings, and so on;
- **Gain Creators:** This typically involves any quality that your products/services possess that makes them more desirable than those of your competitors. This typically includes more flexibility, reduced waiting times, no hidden costs, and so on. They are usually highlighted in green;
- **Pain Relievers:** This is a schema that describes how

you plan to reduce the challenges faced by clients before, during, and after using your product. It may include virtual consultations, elimination of waiting times with efficient scheduling, and an immediate first diagnosis. These are also highlighted in green.

HOW TO ASSESS DIGITAL HEALTH BUSINESS MODELS

The Business Model Canvas and Value Proposition Canvas are some of the best ways to assess a digital health business model. Not only do they effectively map out the key areas and factors to be considered in a business model, but they also highlight the fact that the ultimate goal of a health service provider should not be purely financial.

A digital health entity is not just judged based on its profitability or the size of its consumer base. It is also important to consider the quality of the service they provide. This can be done through independent ratings, reviews, bios, and so on. Directly linking the reputation of a business to the level of value it provides is a great way to incentivize digital health firms to increase the quality of the services they offer.

A thorough assessment also helps identify the **strengths**, **weaknesses**, **opportunities**, and **threats** (S.W.O.T.) to the business, an approach known as the SWOT analysis. This identifies lagging areas the business can improve upon and strong points it can capitalize on. It also points out companies with similar business models and products/services which may be potential competitors to the business.

THE APPLICATION OF BUSINESS MODELS TO E-HEALTH

The application of business models to e-health has traditionally been a rather slow-paced industry. There are several issues that every HealthTech faces when trying to create a new business. This includes cost, adaptability, slow adoption, and pushback from other interest groups.

Though most of these issues are generalized to any business sector, the high amount of bureaucracy, reluctance to change, and the over-complexity of the modern healthcare sector make it a particularly unchanging area. However, recent advancements within the industry seem to be changing this.

New innovations, more widespread acceptance, better organizational structure, increased investment, and even changes in legal and social policy mean that the HealthTech industry is finally entering the mainstream business world.

FOUR PRINCIPAL COMPONENTS IN AN E-HEALTH BUSINESS MODEL

As we mentioned earlier, a Business Model Canvas can be broken down into four key parts: the client, the offer, resources, and finance. Let's take a look at how this applies to the HealthTech industry:

THE CLIENT

HealthTech companies typically serve either of two clients; health care providers (B2B model) or patients (B2C model). Even among these two groups of clients, their roles can vary widely.

For example, health service providers may provide administrative services through physician scheduling software and electronic medical records, help in drug development through AI and machine learning programs, assist in surgical procedures with robot-assisted surgeries and virtual augmented reality, reduce diagnosis and screening errors with Next-Generation genome sequencing and large data analysis, and so on.

They also offer an extensive list of services to patients too,

which may include wellness solutions like medical fitness devices and wearables, dieting and calorie tracking apps, and so on. Also, medical solutions like telemedicine, virtual clinics, and ambulance services are available.

This is why it's important to fully grasp this section of the business model, which includes your customer segments, customer relationships, and distribution channels. Consider whether you're dealing with large-scale organizations or small-scale businesses, low-income or high-income patients, alcoholics, elderly individuals, people with chronic diseases, and so on. Without a full understanding of this, you may find it hard to target your value proposition to the right market.

THE OFFER

This is centered around your value proposition, which means what particular product/service you feel you can offer to your clients. So, obviously an in-depth understanding of your clients should be your first objective.

An example of how HealthTech can be applied in this situation is through the use of telehealth to reach out to isolated or marginalized groups such as minorities, low-income families, and geographically isolated populations. Remember that this isolation might not only be geographical, social isolation such as that commonly seen in the elderly is another important issue as well.

RESOURCES

This refers to the various resources you plan to use to achieve your value proposition. This may mean human, technological, financial, material, intellectual, and intangible resources.

FINANCE

Funding for HealthTech services typically comes from a wide range of sources. These include charities, investors, government, and other key stakeholders in the industry. Even though most HealthTech organizations are not purely for-profit enterprises, long-term sustainability depends strongly on analyzing the various revenue streams and costs that go into running the business.

NINE HEALTHCARE VALUE POOLS

Within the numerous specialties of HealthTech, let's take a look at nine of the most promising untapped markets in digital health.

RESEARCH AND DEVELOPMENT

Research and development have always been a traditionally slow area in the healthcare industry, and for good reason. On average, it takes over ten years for a new drug to make it onto the market after discovery and can cost well over \$2.6 billion.

With the use of AI and machine learning technology, researchers can predict the interaction of new drugs through virtual trials with digital models much more quickly and without having to use as many animal test subjects. This greatly will reduce the cost of drug development, increase its speed and help in better decision-making by allowing researchers to predict the potential interactions of a drug even before it reaches the human testing phase.

Also, the use of genome sequencing technology is central to personalized pharmacy. This is a form of precision medicine that allows drugs to be tailored carefully to an individual's genetic code. The pharmaceutical R&D industry was valued at \$109 billion in 2019 and is showing considerable room for future growth.

WELLNESS AND DISEASE PREVENTION

In the modern world, the vast majority of morbidity and mortality are now associated with chronic diseases that have been associated with genetic susceptibility and lifestyle choices. For example, of the top ten causes of death in the U.S., at least six of them are strongly associated with lifestyle and environmental factors.

Therefore, wellness solutions that promote healthy lifestyle modifications like exercise, healthy feeding habits, and adequate sleep are slowly moving to the forefront of preventive medicine. For example, the wearable technology industry alone was valued at \$27.91 billion in 2020 and is expected to reach \$74 billion by the year 2026 with a compound annual growth rate (CAGR) of 17.65%.

The global weight loss industry was estimated at \$254.9 billion in 2021 and is expected to reach \$377.3 billion by 2026 with a CAGR of 8.2%. During the 2020 COVID-19 pandemic, online weight management and other virtual weight loss services saw a 10.7% increase in revenue. This growth is expected to be sustained by the increasing obesity rates in the developed world and a need to tackle the issue.

RAPID GENOME SEQUENCING

Advancing genome sequencing technologies have improved our ability to detect and even predict certain genetic conditions. Rapid genome sequencing technology means that an entire human genome can be sequenced in a day. Machine learning algorithms and AI also mean that the

analysis of the genome can be done within a business week. This has significant importance in the field of screening and diagnosis, as most diseases have now been found to have a genetic component as well.

The global genomics market is projected to grow from \$27.81 billion in 2021 to over \$94.65 billion in 2028 at a CAGR of 19.4% according to Fortune Business Insights. This includes various disciplines like instruments, software, PCR technology, Next-Gen sequencing, Sanger Sequencing, R&D, and so on.

AI-BASED IMAGING DIAGNOSTICS

The use of AI technology in image processing, enhancement, and even interpretation is a rapidly advancing field in HealthTech. It involves the use of computerized algorithms to analyze complex data and improve sensitivity and specificity in the detection and characterization of tissue abnormalities. While this is still an emerging field, there is much optimism and room for growth in the industry, such as in at-home diagnostic tools. The industry is currently valued at \$505 million but has the potential to expand to \$3.8 billion in 2025 with a CAGR of 50.2% during that period.

IMPROVED CARE EFFECTIVENESS

This simply involves the various industries involved in improving the level of care patients receive directly. It involves things like clinical-decision support (CDS), insurance claims data analysis, electronic medical records (EMRs), electronic patient-reported outcomes (ePROs), adherence solutions, and other disease management technologies.

REMOTE PATIENT SUPPORT TECHNOLOGY

Telemedicine saw increased interest during 2020 due to the global pandemic. Telehealth solutions such as virtual clinics, remote monitoring, robotic surgical assistants, digital communities, logistics, and care-navigation support systems were placed at the forefront of future medical technology.

The global telemedicine industry was valued at \$41.63 billion in 2019, but renewed interest following the pandemic may see the industry grow to as large as \$636.38 billion by 2028 with a CAGR of 32.1%.

IMPROVING PRODUCT/SERVICE DELIVERY TECHNOLOGIES

One way of adding value is by providing convenience. This involves not only improving the services you provide, but making it easier for patients to receive these services. Improved onboarding strategies through online applications, digital pharmacies, and various supply chain solutions for medical supplies and medication delivery. A good example would be drone delivery services, as famously popularized by Amazon. This has the potential to deliver much-needed medical supplies to even the most remote geographical locations.

OPTIMIZATION OF THE CURRENT HEALTH SYSTEM FINANCIAL MODEL

Data-oriented fintech solutions are a key tool for optimizing the current health system. Hidden costs, fragmented pricing systems, and crippling inefficiencies are just some of the issues the modern healthcare industry has to combat. Some of the proposed solutions to this include value-based care and risk contracting services, leveraging blockchain technologies, deep learning algorithms which automate the payment processing system, and so on.

INCREASED OPERATIONAL EFFICIENCY SOLUTIONS

This involves administrative services that are not directly involved with the patients, or disease management, but still help in streamlining how health services are provided. Physician scheduling services, back-office simplifications, and non-clinical workflow support are some of the popular solutions in this area.

HOW DO DIGITAL HEALTH COMPANIES TYPICALLY DEMONSTRATE VALUE?

This can vary widely within different value pools and even among individual companies. However, most businesses tend to craft their value proposition around the current issues plaguing the healthcare industry, and one of the most pressing among these issues is cost.

Most companies offer unique solutions on how to drive down the cost of current medical care. This may be through cheaper technologies, greater operational efficiency, and even the introduction of innovative problem-solving strategies into the healthcare industry.

According to 2018 healthcare spending information, digital health solutions have the potential to save the healthcare industry nearly \$500 billion in the short term. This is most evident in care-delivery services like telehealth, disease management solutions, and digital therapies, which alone can save both providers and payers up to \$270 billion.

Another way digital health companies demonstrate value is through directly improving the quality of service they provide to both healthcare providers and consumers. This may not translate directly as reduced costs but may manifest as workflow optimization, improved productivity, and great consumer satisfaction. Workflow automation and various

fintech solutions may save the healthcare system up to \$180 billion.

The value of screening and diagnostic technologies is seen in their potential to reduce long-term costs. They allow chronic diseases to be detected earlier, with early diagnosis and management being associated with significantly reduced hospital costs in the long term. To better understand this point, current research shows that chronic disease makes up as much as 85% of the total healthcare costs in the US.

The last aspect we would like to discuss is patenting and research publication. This is common among screening and diagnostic companies, who publish on average a total of 27 publications in academic journals and file up to 15 patents, considerably higher than other value pools within the digital health industry.

WHICH VALUE POOLS ARE INVESTORS MOST EXCITED ABOUT?

The changing financial ecosystem of the healthcare system has led to increasing investment in HealthTech since the mid-2010s. This is not only represented in increased venture capital investment, which increased by nearly eight times the original value during this period, but also in shifting focus among the different value pools as well.

The most significant change was seen in the care delivery service, where funding shifted from 42% in 2015 to 47% in 2019. This also coincided with a drop in interest in the health prevention and wellness solutions industry. This may represent growing investor interest in payer-based business models which directly impact patient care instead of

consumer-based ones. Despite this, virtually all value pools saw a significant increase in venture capital funding.

WHICH VALUE POOLS ARE PATIENTS MOST EXCITED ABOUT?

Since patient interest can not be measured according to capital invested (since many healthcare services are essential), researchers tend to use internet search terms to track patient interest in health-related information.

From these studies, the key areas of patient interest include online symptom checkers, online prescriptions, and clinical trials related to cancer treatment. This may represent an opportunity for screening and diagnostic services to tap into this potential market through symptom checkers and other telehealth services.

Another thing to consider is the fact that patient interest seems to assume seasonal tendencies. For example, interest in wellness solutions and fitness wearables seems to peak around the holiday season (November to January), which coincides with an increase in new gym memberships (known as the January gym rush).

HOW TO HARNESS THE POTENTIAL OF DIGITAL HEALTH

Let's take a look at some ways startups can tap into the emerging potential market that is digital health.

AVOID STAGNATION AND CONSTANTLY LOOK FOR NEW VALUE POOLS

Despite its well-known resistance to change, the healthcare sector is still a rapidly evolving field. New value pools are being constantly created and dynamic shifts within current value pools provide new opportunities for key healthcare players. The current trend of consumerization and digitization also provides more rapid feedback, allowing investors to receive new information on what service providers and patients require.

ENCOURAGE PARTNERSHIP AND COLLABORATION

A shift from the traditionally competitive mindset seen among members of the same value pool to a more collaborative one may be the next step in the advancement of HealthTech. Mergers and acquisitions, joint ventures, partners, and alliances allow these companies to offer a more holistic approach to patient care and improved quality of care.

TAKE THE INITIATIVE AND SEIZE OPPORTUNITIES

Speed, adaptability, and flexibility are very important to investors. This means that a startup should be able to adapt its business model to the changing healthcare ecosystem and capitalize on opportunities as soon as they appear. Therefore, commitment, a dedicated roadmap, organization-wide support, and execution readiness are very important.

HOW TO BUILD A TEAM FOR A MEDICAL STARTUP

When it comes to building a startup, nothing is more important than your team. This should include the thinkers, planners, and innovators. Your team members could play several key functions and may also be structured in numerous ways. However, there are several key team-building principles that apply to nearly all business models. They include:

GATHER YOUR CORE TEAM MEMBERS

This is the first step and includes recruiting co-founders and key team members. Key team members include individuals experienced in business planning, healthcare expertise, technical knowledge, and so on. Remember that your core team members can change over time as the business model changes as well and should not be a rigid structure but rather a flexible system.

EMPLOY AN EXPERIENCED CTO

As important as the other members of your core team are, no digital health startup can survive without a competent Chief Technical Officer (CTO). They are in charge of hiring other technical staff, overseeing software development, and

managing production. Therefore, a CTO with extensive experience in that field and in-depth technical knowledge of that value pool is necessary.

OUTSOURCE SOFTWARE DEVELOPMENT

Another good piece of advice is to outsource software development. This is because healthcare software development is a niche market and by outsourcing, you are allowed to interact with a much larger talent pool. Outsourcing also reduces cost and promotes flexibility within your team.

HOW TO START A HEALTHCARE BUSINESS: A STEP-BY-STEP GUIDE

Launching a startup is extremely complex, especially in a field like healthcare. Besides from issues like consumer value pools and cost structures, you also have to consider health regulations and government policies. It's quite easy to get lost in the process, so here are the basic steps involved in building a healthcare business.

STUDY THE MARKET

We've dealt with this topic extensively already. Having a vague idea of what consumers "want" is not enough to build a viable business model. You must take into account numerous factors, and all of these have been carefully elucidated when we discussed how to build a business model with the Business Model Canvas and Value Proposition Canvas. In summary, ensure that you thoroughly study your target market, value proposition, the healthcare market, your key challenges, and your competitors.

HIRE A MEDICAL ADVISORY BOARD

An in-depth understanding of the intricacies of the healthcare industry is key to the survival of any startup. Whether you have expertise in the medical field or not, it is important that

you set up a medical advisory board to help you navigate the red tape and pitfalls of the industry with expert opinions.

Not only that, a good committee will provide contrasting views on various issues, allowing you to have a well-rounded view of the topic. They keep you up-to-date with the latest developments and advancements in the world of healthcare and work closely with your CTO to discover how these may potentially apply to your startup.

Concerning this, your medical advisory board must be made up of experts from different fields and backgrounds like physicians, nurses, other medical personnel, software developers, fintech experts, and so on. This ensures that you get ideas and perspectives from all angles.

Lastly, a well-rounded medical advisory board adds credibility to your team, especially in the eyes of investors. That means you should choose individuals who are qualified and have a proven track record with other projects as well.

OUTLINE OF THE DEVELOPMENT PLAN

One of the first duties of your CTO and other members of the development team is to draft a viable product outline. By viable, we mean a comprehensive document that details the objectives, targets, functional and non-functional requirements, and dependencies with other allied systems.

This should include an outline for the software development such as the frameworks, programming languages, application programming interfaces and open-source tools to be used. Also, the design workflow should be explained including the

key features, user interface, and application logic.

Also, the architecture of the business model should be drafted out. This includes your Business Model Canvas, dependencies, and other key components. Lastly, security and evaluation systems should be put in place to monitor both external and internal security risks, as well as how to mitigate these risks.

CREATE A BUSINESS PLAN AND CALCULATE THE BUDGET

This involves crafting a long-term roadmap for your startup in terms of objectives, targets, and budgeting. This is done by defining the cost structure of your startup and identifying the essential costs, both recurring expenditures, like rent, insurance, taxes, internet and hosting services, wages, and one-time costs like property, assets, and security deposits.

It's important to note that your business plan and budget may change significantly as the company grows, and frequent readjustments are normal. However, it should act as a map that guides the team on whether the startup is on track to meeting all its specified objectives.

START WITH AN MVP

Your minimum viable product (MVP) is a simplified model of your final product which retains all its core functionality. The aim of this is to allow you to test your product thoroughly and identify the viability of your revenue model and cost structure before making the product available to consumers. All glitches or oversights during product development will hopefully be identified and corrected in this phase.

CHOOSE THE REVENUE MODEL

Your revenue model is simply how you plan to monetize your product. This can be in the form of subscription-based payments, a one-time payment system, tier-pricing, or a pay-as-you-go pricing structure. A freemium feature that allows users to access some of the core features of the product is a great way to market your product and maintain the key features behind a paywall.

ENSURE COMPLIANCE WITH REGULATIONS

The sheer mass of bureaucracy, policies, and red tape surrounding the healthcare market make it treacherous to navigate. That's why it's important to make sure both your product and company comply with both local and international regulations. This could be in terms of data security, user safety, administrative policies, licensing, tax regulations, and so on.

There are various compliance management tools and auditing firms that are well-versed in such issues. Hiring one early can save you a lot of time and money in potential licensing and litigation battles down the road.

PROMOTE YOUR PRODUCT BEFORE RELEASE

This is your opportunity to inform your consumers about your product and the numerous advantages it has for them. You

can do this through advertising, freemiums, peer reviews, and randomized control trials. Remember that the health industry is a market that is traditionally resistant to change, so any innovative ideas should be backed up with strong evidence.

DEVELOP AND RELEASE A FULL PRODUCT

This is done after you have analyzed the results and feedback you received from your MVP. Once all the issues have been sorted out, the MVP can now be fully fleshed out by developers into a full-scale product that is ready to be released into the market.

REVENUE STREAMS

Let's take a look at the various ways digital health startups can monetize their products.

DIRECT-TO-CUSTOMERS (D2C)

DIGITAL HEALTH PRODUCTS

This involves brands who market their services directly to consumers and patients, not intermediate healthcare providers like hospitals or insurance providers.

Advertising: This involves converting your platform into a monetized advertising service for other health products/services, especially health-related ones. It's a relatively easy source of income, but can be quite off-putting to users. Also, if you are using location-based applications you will have to get a user's agreement to use their personal information, which is a hot button issue.

Freemium: This allows you to create two versions of your product, one that is paid and another that is free. Some features will be restricted in the free version, but the basic functionality will be preserved. This allows users to test out your product without having to commit themselves financially, and serves as a form of marketing. However, there's also the risk of users remaining on the free version forever.

Subscriptions: A subscription-based payment model can be through monthly or annual payments and ensures a steady

flow of revenue. However, customer engagement and retention are very important in this model and should be one of the core objectives of your business model;

In-app purchases: This involves selling content through your product, instead of selling the product itself. This may be educational information, products, prescription refills, vitamins, and so on. It's an easy model to set up and operate, but startups should be careful with their initial pricing;

User-data monetization: This involves monetizing user health or wellness data to research companies and other companies. This can help in the creation of more personalized products/services and aid in research, but it's also a very controversial issue. This requires that you set up strong user data safety measures, obtain explicit consent and take cognizance of government privacy laws.

INSURERS AS YOUR SPONSORS

In situations where the product may be too expensive for patients, insurance companies can reimburse some of the cost. This creates a hybrid of B2C and B2B services.

Fee-for-service model: This is the most traditional model, which involves covering part of the cost of a digital health product or service the same way a medical procedure or drug would have been covered by an insurance provider;

Value-based reimbursements: This involves a value-based reimbursement contract paid out regularly (typically yearly) or a reimbursement contract that offers a specified earning rate based on the volume of product usage or user satisfaction with the product;

Software-as-a-medical-device (SaMD) model: As the name

implies, this simply involves marketing healthcare software to hospitals and physicians.

REVENUE STREAMS: CONTRACTS WITH HOSPITALS (B2B & B2B2C)

One-time sale: This involves a one-time purchase of your product, giving them a perpetual license to use the product. This method is simplified and is the least-tasking revenue stream to maintain;

Subscription licensing: This is the same subscription model as it applies to D2C revenue streams;

Freemium: The same principle as the freemium model used in D2C revenue streams, except the product, in this case, is aimed toward hospitals;

Pay-per-use: This is typically for experimental products and is not commonly used in the digital health industry. The revenue may be unpredictable, and customer interactions are not as stable as the subscription model, therefore customer retention may be low.

WHY HEALTHCARE STARTUPS FAIL

We've taken a look at how to successfully build a thriving HealthTech startup. Now, it's pertinent that we also point out some of the pitfalls every healthcare technology startup should look out for.

INSUFFICIENT NETWORKING AND MARKETING

Failing to reach out to relevant stakeholders and investors early on is a common mistake made by a lot of startups. In many ways investment is driven by interest and the key way to draw interest towards your product is to demonstrate the value it has to both users and investors.

The world of HealthTech is loud and fast, so you must do everything you can to ensure your voice is heard above the rabble of the crowd. Attract investors, align your value proposition with the demands of your customer segment, and build a strong team to give legitimacy to your project.

WRONG PEOPLE AT THE C-LEVEL

Building the wrong team involves more than recruiting individuals who are poorly qualified. It also includes mistakes like hiring people who are not dedicated to the advancement

of the company, who have a proven record of being untrustworthy, and who fail to grasp the ever-changing dynamics of the digital health industry. Without a good CEO, CTO and CFO, it will be almost impossible for a startup to survive.

TUNNEL VISION

Focus is great, but remember this is not a marathon, but more like a treasure hunt. While you should have specific goals in mind, always ensure that both you, your team, and your product have the flexibility to adjust to the constantly changing dynamics of the industry. One way of doing this is by constantly studying the feedback you receive from your product and adjusting its functionalities accordingly.

LACK OF AN EVIDENCE-GENERATION STRATEGY

This also involves getting your data early, even before speaking with potential investors. This will give you a vague idea of what is required from you before finally fine-tuning your value proposition and setting out to obtain evidence to prove that your business model and value proposition model are both viable. Never start any venture without strong evidence support.

REIMBURSEMENT AND PAYMENT PROBLEMS

The complexity of the US healthcare system creates a fertile

environment for inefficiency and counteractive policies. One of these inefficiencies is the extreme fragmentation of the health insurance system, leading to differing reimbursement rates between states and the reluctance of investors to look into such markets. One way of combating this is to look deeply into the local and state laws that affect eligibility for reimbursement, coverage, exemptions, and so on.

LACK OF DEMAND

Trying to solve an issue that appeals to you without appealing to consumers is a recipe for disaster. Your value proposition should be guided only by consumer interest and feedback, not by your perceived notions of what the market wants.

In another scenario, the demand may be present, but you have not yet demonstrated a viable and scalable method for solving this issue. That's why choosing your customer segment wisely is typically one of the first parts of building a Business Model Canvas.

NEW BUSINESS MODELS IN DIGITAL HEALTH

As we have mentioned previously. The current shift in the healthcare sector towards increased digitization is driven by several factors; rising healthcare costs that are not associated with better treatment outcomes, changes in patient demographics, and enabling technological advancements in telehealth and data sharing have increased the flexibility and scalability of the healthcare industry.

By looking at patients as consumers, health service providers will be incentivized to promote value-based care models. This also involves the use of technology to promote service provider accountability, encourage cross-specialty collaboration, and engage more closely with an increasingly informed client base, all while driving down cost.

These ideals and the various business models borne out of them I've collectively been referred to as a **Shift Left Model**. This refers to business models more focused on patients instead of traditional care providers like hospitals. Let's take a look at some real-life examples of new healthcare business models built upon the **Shift Left Model**.

METRIC AID

MetricAid is an advanced physician scheduling technology that helps improve patient flow through health facilities, reduce waiting time and increase hospital revenue. It does

this by using a unique algorithm to map out the available hospital staff at different facilities.

VITALHUB

VitalHub is a software platform that allows physicians to access patient medical records across a large number of databases and aggregate them into a single source. This reduces the rate of clinical errors, avoids hospital inefficiency, and promotes the standardization of information into a single source, all while allowing this information to be delivered to the point of care as easy as possible.

EVOLUTION HEALTH SYSTEMS INC.

Poor treatment adherence is one of the most serious issues plaguing the healthcare industry. Evolution Health Systems Inc. helps tackle some of the key challenges to treatment adherence that patients face such as lifestyle changes, dealing with the side effects of medications, and adapting to new medication protocols.

The company does this by adapting several behavioral modification tactics crafted by a unique algorithm that provides a multi-modal approach to dealing with these challenges. It also makes use of several digital tools to monitor treatment adherence and track medication use.

LIBERATE

Lack of communication and poor patient understanding of physician instructions has always been a major issue within the healthcare sector. Also, it has been found that patients retain much less of the information obtained from a consultation than they initially assumed.

That's why Liberate encourages doctor-patient communication by allowing physicians and other healthcare professionals to educate patients through educational content concerning their condition, treatment, and ongoing medical management. This includes audio and visual channels, as well as visualization aids like charts and infographics. All this information can be saved as a Patient Visit Record (PVR) and revisited by the patient as needed.

DMAR

The Dialysis Measurement Analysis and Reporting (DMAR) system is a scalable-web platform that provides accurate information concerning dialysis treatments to reduce costs and improve patient outcomes. It helps in data collection and helps in accurate measurement of important treatment parameters as well.

SENSORY TECHNOLOGIES

One of the most successful models designed by Sensory Technologies is their Community Care Manager Enterprise (CCMe™) system. This is a care-centered wireless smartphone and web application that encourages information sharing and remote collaboration between different primary care services, minimizing hospital visits and allowing the patient to receive great point-of-care treatment from the comfort of their home.

BEST HEALTHTECH MARKETING STRATEGIES TO CONVERT CUSTOMERS

The increase in telehealth ushered in by the pandemic didn't just stimulate interest in digital health technologies, but also telemedicine marketing strategies. Let's take a look at eight key case studies which highlight the different ways digital health companies are reaching out to consumers.

1. MEDSHR USED FACEBOOK ADS TO GROW ITS MEDICAL COMMUNITY

With 60% of the population operating active social media accounts, targeted ads on social media platforms are a great way to advertise the services of your digital health firm. MedShr is one such firm. It is a digital Health startup that promotes information dissemination among over 1,000,000 health professionals through the sharing and discussion of case files and medical knowledge.

As a key marketing strategy, they run a targeted ad campaign on several social media platforms, including Facebook. Their ads are aimed primarily toward individuals with a medical background and have helped grow their user base significantly.

2. DOCTIFY CREATED AN OMNICHANNEL MARKETING STRATEGY TO TARGET DIFFERENT BUYER PERSONAS

Sometimes a company may be faced with the dilemma of having two contrasting customer segments. In the case of Doctify, an online service that allows users to “search, compare and request appointments with medical specialists, dentists, and clinics online”, they had two key markets — patients and physicians.

They achieved a comprehensive advertising campaign by adopting an omnichannel marketing strategy. This is a type of branding which involves the seamless integration of organizational channels to create a more impactful customer experience. Doctify relied heavily on Facebook and Google Ads to achieve this goal.

3. PATIENTPOP REVAMPED ITS CASE STUDY LIBRARY BASED ON OUTCOMES

PatientPop is a digital health service that helps healthcare professionals improve their online visibility through the use of key branding and marketing strategies like search engine optimization (SEO), creating marketing campaigns, and

managing their online reputation.

One way they achieved their marketing goals is by building a case study library, which allowed customers to search through previous projects that had been carried out and review the outcomes as well as ROI. This allowed customers to find situations that were similar to theirs and fully understand what their expectations should be, as well as prove that the company has a proven track record of success.

4. MEDICAL REALITIES LIVE STREAMS 360° VR VIDEO ON YOUTUBE FOR BRAND AWARENESS

Virtual reality (VR) is fast becoming an increasingly popular option for healthcare worker education and has entered the forefront of future training procedures for medical personnel. Medical Realities, a UK-based VR company, uses virtual reality to teach students and healthcare professionals various surgical procedures.

How did they advertise their services and create increased brand awareness? By livestreaming 360° VR medical videos on YouTube. However, VR technology is not only great for health workers, it also allows patients to have an immersive experience of various medical departments and procedures, all from the comfort of their homes.

5. MAYO CLINIC'S CONTENT MARKETING STRATEGY MAKES IT A SUBJECT-MATTER EXPERT IN THE INDUSTRY

The Mayo Clinic is probably one of the most easily recognizable names in the entire guide, and this is true partly due to its strong content market strategy. By offering patients accurate, yet simplified information on a wide range of conditions, they have cemented their place at the top of the digital health content creation ranks. In fact, it is nearly impossible to look up any condition or symptom without a Mayo Clinic article being one of the first items your search engine brings out.

Outside their very popular primary platform, they also boast of several successful microblogging sites. Some of them include the Sharing Mayo Clinic blog, which provides user-generated content gotten directly from Mayo Clinic patients. Another key example is the Mayo Clinic Connect platform, which allows patients and healthcare professionals to interact closely together on a community-based platform.

6. ROCHESTER REGIONAL HEALTH CREATED SOCIAL MEDIA HASHTAGS TO COLLECT USER-GENERATED CONTENT

Hashtags are one of the most prominent offshoots of the current social media trend and a great way to capitalize on the popularity associated with their use. The Rochester Regional Health, an integrated health services organization, utilized hashtags during the pandemic to spread messages of hope and positivity through the hashtag #RRHSpreadJoy.

7. WEGO HEALTH WORKS WITH INFLUENCERS IN THE MEDICAL COMMUNITY TO REACH A WIDER AUDIENCE

Health influencers are a growing offshoot within the social media world, and one that many companies and brands are capitalizing on quickly. Studies have shown that up to 49% of customers admit to having their decision-making process influenced by popular social media personalities when purchasing products/services.

The Boston-based Wego Health works closely with a network of health influencers and popular personalities to market various healthcare institutions to a wider audience.

CONCLUSION

Building a new startup is rarely easy. In the enthusiasm for creating something new and innovative, it's easy to lose sight of the more mundane, yet essential, aspects such as building a business model with a viable cost structure and revenue stream. That's why team building is so important when building a startup, since everyone can bring their area of expertise to the table and create a fostering environment for the company to grow.

With that being said, there is much optimism within the world of HealthTech. This is not just for the wonder it has become, but also for what it may hold in store for our future. As we struggle to find new unique solutions to some of the issues plaguing our healthcare system now, we should always keep in mind the primary goal of HealthTech, optimizing patient care and delivering value-based services.

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