**General company description**

Afya hub is a business that aims to deliver medical services in a more convenient manner to patients without compromising on quality, while easing hospital operations by making their services more remote. It focuses on the health sector in Kenya and Africa where technological growth, especially in its operations, has been fairly stagnant. This reluctance to change has largely been due to concerns of a potential drop in quality of services in the pursuit of convenience. Hence, while other sectors have moved onto better technologies, prioritizing the convenience of their customers, the medical field has been left behind. Afya hub seeks to solve this by ensuring convenience for both hospitals and their patients and making healthcare services more accessible to the general population, while maintaining the same high standards of quality. This will in turn increase healthcare coverage, ensuring a healthier, more productive population. We also aim to advance the medical field by introducing technology into service delivery. Our ***mission*** as a company is to open up the medical field to technology and improve healthcare. The business consists of various products and strategic partners used to achieve the set goals.

The products include a hospital management system component and an application. The component consists of a video-conferencing feature and remote ticketing/queuing, registration, and payment systems that will enable remote consultations with doctors. The component is to be integrated into existing hospital management systems to enable simultaneous functioning of both physical and virtual consultations. The application enables patients to access the system and use its services.

The strategic partners include hospitals, clinics, drug delivery companies, and individual partners. The hospitals are essential in providing certified doctors to deliver treatment services to the patients. The clinics, which we will collaborate with all around the country, will have our system incorporated and will act as testing centers for local patients through their equipped laboratories. Their pharmacies will also provide necessary drugs for the patients, on prescription from the doctors. The drug delivery companies will be an alternative for patients, where they can order their prescribed drugs and have them delivered to their location. Individual partners, that is, certified laboratory technicians and pharmacists, will be able to set up remote testing centers and chemists adjacent to them in Afya Hub’s name. These testing centers and pharmacies will be run independently, but will also offer localized services to patients referred by doctors from our system.

The company’s ***strengths*** include:

1. There is a sense of novelty, technology-wise, in service delivery for the healthcare sector, hence our product will be among the first of its kind, and with proper strategies, could be embraced fairly quickly by the market.
2. The increasing internet coverage in the country will make virtual interactions feasible for majority of the population.
3. Majority of the market is embracing convenience, as evidenced by several online platforms cropping up such as ride sharing apps and online shopping platforms, hence our business could be embraced fairly quickly.
4. The company shows apparent benefits both to the service provider and the consumer. The system will ease hospital operations, while adding to the already-available options of consultation. The patients get easier access to healthcare and added convenience.
5. The company addressees all concerns tied to the concept of telehealth. Our idea addresses all steps of the treatment process, while maintaining the convenience promised to our consumers. We also recognize our inability to handle some ailments through our platform, and will advice our users to seek physical consultation, which they can conveniently book through our application.
6. The idea was thought up in full knowledge of the presence of existent management systems in hospitals that cater to most of these functions, hence we only market a system component that can be integrated into the existing systems to improve them.
7. We acknowledge the indispensability of physical consultations in the doctor-patient relationship; hence our idea is being introduced not as a replacement, but something to complement the already existing mode of operations.
8. The company creates employment by allowing professional medical practitioners, as described above, to set up remote testing centers and chemists under our name and have our patients referred to them by doctors. It also enables professional doctors and nurses to undertake freelance work, through a separate app we will create, hence will build networks and get referrals without necessarily being associated with an institution.

**Management and Organization**

The founders of this company are Steve Wanangwe and Salah Osman. Steve Wanangwe is a 19-year-old student at Jomo Kenyatta Institute of Agriculture and Technology, studying for a bachelor’s degree in Electrical and Electronics Engineering. Salah Osman is 20-years old, still in his gap year after graduating from high school in 2019, but hopes to study computer science upon admission to university. The two are budding innovators, and have shown interest in tech-oriented business solutions since their high school days. This is their breakthrough project which they conceived in 2018 as it is currently known, “Afya Hub”, and presented to several business and science competitions. The business at the time consisted of nothing more than an app, which they hoped would connect doctors to patients. It was abandoned for a while due to a lack of solutions for the drop in healthcare quality that the idea promised, and a lack of proper means of sourcing doctors, and verifying their certifications. A reconceptualization of the idea, however, gave birth to the current business model. The two will take up most managerial duties at the early stages of implementation of Afya Hub.

The following professionals will also make up part of the Afya Hub business model:

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| Professional | Number | Functions | Year of operation by which they ought to be hired. |
| Database administrator | 1 | Oversee the smooth working of the database and to control the inflow and outflow of data between the hospitals, clinics, and the patients. | 1st year |
| Software developer | 1 | Maintenance of the system and the application.  Eventually develop a full management system for the hospitals.  Later develop a website and a second application for freelance doctors and nurses.  Convince hospital IT teams of how seamlessly our system will integrate with their present systems and, eventually, sell our product | 1st year |
| Sales professional | 1 | Convince hospital procurement teams and IT teams of the value of our system and how seamlessly it will integrate with their present systems and, eventually, sell our product. | 4th year |
| Product manager | 1 | Suggest improvements to our software products and recommend additional products that will help the company in achieving their goals.  Gauge the value of our products and determine their pricing, and how best they will be delivered to the market. | 5th year |
| Call center operator | 2 | Will receive inquiries and complaints on the functioning of our products and relay the same to our software professionals for fixing.  Receive complaints on the quality of service, which will be communicated to the respective hospitals. | 1st year |
| Independent laboratory technicians. | Undefined. | Set up laboratories under the company’s name that will act as remote testing centers for patients within the locality. | 5th year |
| Independent pharmacists. | Undefined. | Set up chemists under the company’s name that will facilitate delivery of medicine to patients within the locality. | 5th year |

As stated above, we will have independent laboratory technicians. The company will allow certified medical professionals to set up testing centers/laboratories around the country in our name. This will be approved upon certification by the *Kenya Medical Laboratories Technicians and Technologists Board*, which checks and ascertains the suitability of laboratories in Kenya. The testing centers will be under our name and will act as alternatives to clinics. They will, however, still be able to carry out their own independent operations. Similarly, we will allow certified pharmacists to set up chemists adjacent to the testing centers in our name. Their quality will be certified by the *Pharmacy and Poisons Board of Kenya*.

The organization will basically be a two-level hierarchy, with the two managers at the top of the hierarchy and the rest of the professionals below them at one level. The managers will work with them by setting certain objectives for the company, and outlining the responsibility of each professional in achieving this objective, after which they will work independently to complete their tasks. This will be the structure for the early stages of the business.

The jobs described above will satisfy the company’s requirements for the early stages of our operations, and may be downsized or upsized depending on evolving needs. We will directly create employment through independent remote testing centers set up across the country, as well as chemists adjacent to them. These options will be made known to our patients who will have the convenience of picking the closest and highest quality testing centers. The second app for doctors that we hope to create later will also create employment for freelance doctors who are not employed by any institution. They will gain a steady network of patients and referrals that will help them become independent.

**Operational plan**

The system will offer an alternative means of registration, booking, communication, and payment for hospitals. The video conferencing component to be introduced will enable patients to consult with doctors at any location and time, while the ticketing system will enable booking and queuing either virtually or physically. The process is as explained in this scenario, which will also be a reflection of the daily operations.

***Scenario****:* *Patient A, a male, has violent diarrhea, nausea, stomach cramps, is vomiting, and is incapacitated or cannot get to the hospital of his choice which is an hour away. The hospital might also be the only one accepting his insurance. He, however, has remote testing centers and chemists under our company close by.*

Say, the hospital of choice for patient A is Nairobi west hospital. The app will enable the patient to select Nairobi west hospital amongst the options. Upon accepting to register, the patient’s details, which will already be in the app’s database, will be sent to the hospital. Once registration is done, the patient specifies that he wants to see a general doctor. He fills in a questionnaire inquiring on his medical history and symptoms of his ailment, and saves the information to be used during the consultation. The ticketing system, which will have synced with Nairobi west’s, will show that there are say, 63, people ahead of him. It will then show him the progress of the consultations, as it ticks down from say, 59…60, till his ticket number is reached after which a notification will be sent to him, alerting him that his consultation is due. The system will also notify the doctor that the next patient, number 64, is not within the hospital premises and requires another form of conferencing, in this case, video conferencing (there will be other forms of communication available: call, text). The doctor then accepts the video conference request and consults with the patient, who outlines his symptoms as were described above. The doctor will also have access to the afore-mentioned structured questionnaire filled by the patient. Such a condition would obviously require testing to ascertain the cause, so the doctor will send prescribed tests in text form to the patient, who will receive them through the app. In this case, the prescribed test is a stool test to detect any presence of viruses in the digestive tract. Other minor tests such as blood pressure, temperature, weight/height will be made mandatory as complementary data to aid the doctor’s analysis. We will have remote testing centers, mostly clinics that we will collaborate with, where the patient will be able to go, give the test prescription and the doctor that referred him, and enter both into the system. After the test, the results will be sent directly, through the system again (the clinics will also have the system/ component incorporated), to both the doctor and the patient. A notification will then be shown to the doctor that the test results of patient A are back. Say, the results showed traces of *Entamoeba histolytica* parasites in the patient’s stool. Upon analyzing the results, the doctor will communicate the list of prescribed drugs or therapy to the patient through either of the channels available, and thereafter send them in text. The session will then be terminated upon receipt of the prescription by the patient, and the pre-paid consultation fees forwarded from our system to the hospital’s payment system. The same applies for the testing center. The treatment process, however, will still be ongoing and will be terminated later upon following up on the health of the patient and recommending any further actions, as will be explained later. Transition between virtual and physical consultations is key. Therefore, way before termination of the session, say after prescription of tests, the doctor will be able to revert to physical consultations as well as the ticketing system before the test results come back, which the doctor can also open at his convenience. The patient can then purchase the prescribed drugs through the closest pharmacy, or one of our testing centers which will also have chemists adjacent to them. Later, we will collaborate with existing drug delivery services for the purchase of drugs. Our system will make wellness checkups by the doctor mandatory. They will be scheduled about a week after the initial appointment, or on the day the prescribed drugs ought to have been finished. The patient will be given the option of carrying out the follow up consultation either on video conference, call, or text. If a video conference or call is selected, the patient will go through the same process of registration and ticketing on the day of appointment, after which the doctor will inquire on his health and improvement up to that point. A follow-up consultation will not incur any cost for the patient, and the doctor can recommend additional tests or drugs depending on how well the patient is doing, or request a physical consultation if deemed necessary. This will be a continuation of the previous consultation, and the doctor can only terminate the treatment process once it is ascertained the patient is fully recovered. This will ensure a wholesome and thorough treatment process, that will not only maintain the current standards of quality, but improve on them.

This outlines the entire process of treatment, from consultation to the purchase of drugs, and how our product will be used to facilitate this. This will also constitute much of our daily operations, ensuring the processes outlined above run smoothly. The only recurring costs, at the start of the project at least, will be related to the maintenance of our databases, primarily utility costs such as electricity. The rest of the costs will be catered to by independent entities owing to our plans to collaborate with clinics as testing centers, and drug delivery services for the purchase of drugs.

We are in the process of creating the hospital management system, which we will market to major hospitals in Nairobi County, then later, other counties. It will be sold to hospitals at a price to be determined later by professional product experts that we will source. Once we incorporate our system component to one or two hospitals, we will shift focus to the clinics. We will market our system to the clinics, and seek their collaboration as remote testing centers for our clients. Our target is at least one clinic within each estate, neighborhood, or ward. This will ensure close proximity to patients. On achieving this, we will begin marketing our app to the general population, more so the middle class in estates that have a reliable internet connection. Our aim is to get at least 5,000 users within the first six months of marketing the app. Our marketing strategies for both products will be detailed in another section. Once these three milestones are achieved, operations will officially begin as described above. This, we project, will be within the first year of marketing our products. Our goals and milestones for the subsequent years will be as shown in the table below.

**Long term operational plan summary**

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| Period | Products | Goals | Milestones |
| 1st year | Hospital management system component.  Application. | Market and sell the hospital management system component. | 2 major hospitals in Nairobi. |
| Market the system component to clinics and collaborate with them as testing centers. | 1 clinic within each estate, neighborhood, or ward in Nairobi. |
| Market the application and gain users. | 10,000 users. |
| 2nd year | Hospital management system component.  Application. | Further Market and sell the hospital management system component. | 10 major hospitals in Nairobi. |
| Market the system component to more clinics and collaborate with them as testing centers. | 4 clinics within each estate, neighborhood, or ward in Nairobi. |
| Further market the application to gain users. | 50,000 users. |
| 3rd year | Hospital management system component.  Complete hospital management system with additional features.  Application. | Further Market and sell the hospital management system component. | 20 major hospitals in Nairobi and Kiambu. |
| Market the system component to more clinics and collaborate with them as testing centers. | 5 clinics within each estate, neighborhood, or ward in Nairobi, and 1 each in Kiambu. |
| Market and agree on a payment plan for the complete system with already-partnered hospitals and clinics. | 4 major hospitals in Nairobi. |
| Further market the application to gain users. | 150,000 users. |
| 4th year | Hospital management system component.  Complete hospital management system with additional features.  Application. | Further Market and sell the hospital management system component. | 35 major hospitals in Nairobi and Kiambu. |
| Market the system component to more clinics and collaborate with them as testing centers. | 4 clinics in each estate, neighborhood, or ward in Kiambu. |
| Market and agree on a payment plan for the complete system with already-partnered hospitals and clinics. | 10 major hospitals in Nairobi. |
| Further market the application to gain users. | 250,000 users. |
| 5th year | Hospital management system component.  Complete hospital management system with additional features.  Application for patients.  Application for doctors. | Further Market and sell the hospital management system component. | 60 major hospitals in Nairobi and Kiambu. |
| Market the system component to more clinics and collaborate with them as testing centers. | 5 clinics in each estate, neighborhood, or ward in Kiambu. |
| Market and agree on a payment plan for the complete system with already-partnered hospitals and clinics. | 20 major hospitals in Nairobi, and 2 in Kiambu. |
| Further market the application to gain users. | 350,000 users. |
| Market the application for freelance doctors. | 1000 users. |
| Approve the opening of remote testing centers and chemists under the company name. | 1 testing center and chemist in each` constituency in Nairobi. |
| Collaborate with a medicine delivery company. | 1 medicine delivery company. |