

Digital Transformation Plan for Pusrawi Hospital

¹Abdul Rahman Bin Ahmad Dahlan, ²Muhammad Shakirin bin Roslan,
³Muhammad Arsyad Bin Abdul Razak

^{1, 2, 3} Kulliyah of Information & Communication Technology, International Islamic University Malaysia

Abstract: The purpose of this paper is to create a digital transformational plan for an Islamic institution. Specifically, for Pusrawi, a health care institute that applies Islamic values in their business. The proposed transformational plan includes the implementation of Pusrawi mobile application that is dedicated to serving the patients needs in a very comprehensive yet simplified way. This app provides the handling of patient records as well as analysis of data generated by the app as decision support.

Keywords: Pusrawi, Hospital, Future, IT Plan, Mobility.

I. INTRODUCTION

Hospital Pusrawi is a Islamic institution seeking to become an excellent modern private hospital through Islamic practices. As such, Pusrawi has become an ideal target for our planning of a health care digital transformation plan. Now, health care is defined as "The preservation of mental and physical health by preventing or treating illness through services offered by the health profession" (WordWeb.com). And in the business of health care, Malaysia is considered to be one of the most visited country for health tourism, having attracted patients from around the world. Malaysia is ranked as the country with the best healthcare in the world in 2016 ("4 Countries with the Best Healthcare in the World", Hockton et al, International Living, 2017), with the Pusat Rawatan Islam (Pusrawi) Hospital in Kuala Lumpur being one of the main contributors to that recognition. This shows that Pusrawi's patient numbers is steadily growing, and a digital transformation plan is crucial to maintain those numbers.

II. PROJECT BACKGROUND

Nowadays have become a huge presence in a large parts of the world, even including low and middle-income countries. The global mobile phone penetration rate has grown drastically over the last 10 years, these numbers overlap with the patients attending hospitals. This shows potential that current medical industry can exploit to improve their health services. Through the use of mobile health (mHealth), this field can give new means of providing greater access to a large segment of the population quality healthcare while at the same time keeping it low cost. But not only can Pusrawi can benefit with the use of mHealth with providing modern health care to patients, but it can also benefit through it by carrying out patients and medical officers routine hospital activities like waiting for your turn or sending out daily reports in a fast manner, benefitting both patient and doctor.

III. PROBLEM STATEMENT

It has been found that Pusrawi's current hospital information system is in the process of migrating to a newer, more modern system to meet company demands and objectives. With their competitors nearby Jalan Tun Razak, Pusrawi seek

to find new additions to their system to create a drawing power unique from other medical centers, while keeping costs at an affordable level. These additions should also take into account Pusrawis objectives of improving their service time and improve outpatient and inpatient satisfaction.

IV. METHODOLOGY

For developing this transformational plan, activity to search for opportunities and insight about customer's needs and problems. This is done by having a literature review about the existing business, benchmarking and reviewing current health care trends. Current business model canvas (BMC) was created from this review to have a clearer view of the current business situation.

A new business model was established that is the result of the method taken before. The tools used in this stage includes the enhanced environment map, business model canvas, value proposition canvas and strategy canvas.

V. LITERATURE REVIEW

The American Hospital Association have created a plan that offer strategies to improving the health care services as well as efficiency in American hospitals by changing from a volume-based model to a value-based one. The improvement in quality and efficiency will in turn generate more visitors while keeping costs low. One of the main strategies is to adopt modern technology in the form of integrated information systems to improve financial and customer management.

The Deloitte Center for Health Solutions shed light on the subject of connected health or technology enabled care (TEC) and how it "is increasingly seen as an integral part of the solution to many of the challenges facing the health, social care and wellness centers, especially enabling more effective integration of care" (Karen Taylor, Connected health How digital technology is transforming health and social care, 2015).

Great Western Hospital National Health Service Foundation Trust (NHS FT) located in England has come up with a strategic transformation programme to increase the efficiency of hospital in handling patients. This is to enhance the move in and out of patient from the hospital to increase the number of patient that it can take at each time. The new telehealth technology will assist in taking care of the patient's diagnostics result and give suitable medicine or treatment.

Digital Government In Malaysia – MAMPU

MAMPU has develop an IT planning called Digital Government in Malaysia which how Malaysia government going to use IT to make a better economy and social infrastructure. It consist of man plan on how to use IT and many government sector to improve government service and economy.

The first part of the article show the national vision of Malaysia of what we going to achieve in 2020. Vision 2020 is part of Malaysia biggest plan in making Malaysia a high income country. In the MAMPU article, the plan will involving every citizen in Malaysia in helping to achieve Vision 2020.

Secondly, the article show the current scenario of Malaysia. MAMPU have given the guideline of how IT will first just use for getting information until it become a transformation for the public sectors. IT will enhance in every aspect of government service. This plan is called SMART Government. It is a plan of how social media, mobility, big data analytics and cloud computing will help to transform our current government into a SMART Government.

Next, The government have achieve a number of achievement in transforming the public sector. MAMPU has planned ahead of what the government need in achieving next. By fully utilize four IT big game changing which is social media, mobility, cloud computing and information, the government could transform the public sector from just a government services into a new way of creating business opportunities.

After that, the way forward to become Smart Government has already planned in Eleventh Malaysia Plan. This has a lot to do with easy data sharing access in real time. Faster data sharing mean the decision making will be even faster.

Lastly, MAMPU has analyze 4 things in order for Digital Government to be a success. The list are, information sharing, e-participation and co-creation, capability development and information security. The 4 factor will ensure the success of MAMPU digital government plan.

As Conclusion, the plan has a great way to be adapt in many situation. Pusrawi can benefit from the plan by utilizing IT for the services in the hospital. The hospital's services should be more open to create opportunities for the customers to also help in making a better and more enhance hospital services. Pusrawi should also make certain less confidential information more shareable to everybody to benefit a lot more customer and they also can help in making hospital a better place with the information. The services of Pusrawi could be much better with a higher mobility of their services. Certain services that do not require or required but can go mobile should be develop to create a more enhance mobile service of the hospital. The hospital IT services will not function itself if there is no one using it. The participation of customer and staff of Pusrawi is needed to make this a success. Customer will not like if no one attend to them when using the service.

VI. INITIAL CONCEPTUAL FRAMEWORK/BIZ MODEL

(Please refer to figure 1 in the Appendix)

VII. ENHANCE CONCEPTUAL FRAMEWORK/BIZ MODEL

(Please refer to figure 4 in the Appendix)

A) Key Partners:

i. Hospital

Acts as the main benefactor for the app's creation. Also provides resources like patient records and medical expertise.

ii. Medical Officers

Supplies the medical expertise and the ones closest to the patients. Provides online consultancy through the app and medical advice.

iii. IT Department

Act as the main developer of the app, as well as for providing constant maintenance and improvement.

iv. Companies partnered with Pusrawi

Companies that send their employees to Pusrawi for medical checkups, they help promote the app to their employees as well as their other customers.

B) Key Activities:

The key activities of the business will be

C) Key Resources:

The key resources for the plan will be the IT department that is in charge of maintaining and improving the app. Any services created by the department for the app will further benefit all parties involved.

D) Value Proposition:

The value proposition of this service for the patient is having a focused platform to gain health care, all catered to the patient's needs. This consumer driven app can help promote improving their own wellness without being obstructive. This service also connects patients to Pusrawi's health care services, supporting the patient even outside the hospital itself.

E) Customer Relationship:

The customer relationship for this business will be done through various social media website (e.g. Facebook, Twitter, Instagram,). The social medias will be used to raise awareness about the service, post news about the service and also notify customer about a promotion. Moreover, the social medias can also be used to listen to customer's feedback, resolve an issue and overall maintain a good public relationship with the customer.

After customer adoption of the mobile application, the app itself will also start to one of the channels for the customers to get up-to-date news and health care related info.

F) Channels:

The primary channel of the business will be through its own website and mobile app.

G) Customer Segment:

i. Patients

- Patients that use the mobile apps to get Pusrawi service while not physically being at the hospital.

H) Cost Structure:

The cost of developing and maintaining the website and also the mobile app must be factored into the business cost structure as it is the primary channel for the business's customers.

The business also must take care of training for medical officers to learn and understand the new system.

I) Revenue Stream:

The main revenue for the Pusrawi App will be the membership subscription fee that can be paid annually. Although some basic functions of the app will be free, services like the doctor online consultancy and big data analysis will need a small fee to be used

Product Key Feature

The main feature for the mobile app is the ability for patients to log in to the mobile apps to check their patient record, history and online consultancy from Pusrawi. All of the patient data can also be used as Big Data to analyze in detail the patients current health status and then give out an accurate medical recommendation. Online payment can also be done through the app, as well as taking number for queuing for a doctor's appointment and live number updates without actually waiting there.

J) Environment Model:

Key Trends:

In modern health care practices, the use of technology is wide and varied. Almost every department uses technology in manners to improve on efficiency and time spent on tasks. This can be seen in their competitors' systems like Prince Court and HKL. On the customer side, it has become the norm for almost each patient to carry a smartphone with them, as well as mobile data so that they have a constant access to the internet.

Market Forces:

Currently, modern customers are very used to technology being used on their daily lives. People owning digital devices like smartphones and tablets have become the norm. Due to relying on these devices that enables information retrieval with fast response times, the average tolerable waiting for tasks to be performed for people have have decreased significantly compared since the turn of the century.

Industry Forces:

The Pusrawi Hospital is located in Jalan Tun Razak in Kuala Lumpur, besides other hospitals and medical centers. This includes, Kuala Lumpur Hospital (HKL), the National Heart Institute (IJN), National Blood Center, KPJ Tawakkal Specialist Hospital the Respiratory Medical Institute and Prince Court Medical Center. The street have varying institutes, government and private, each with their own specialty and unique draw factor.

Macro-economic Forces:

Healthcare is readily available nationwide with a variety of choices to go, due to the nation operating a two-tier health care system consisting of both a government-run universal healthcare system and a co-existing private healthcare system, making Malaysia having a widespread system of health care. As of late, the industry has seen steady growth and development, due to the government's increasing efforts to improve on the current system. This have attracted many foreign visitors and expats to travel to the country, making Malaysia a highly-valued destination in the health tourism industry.

VIII. CONCLUSION

The Pusrawi App is an online mobile application that enables patients to closely monitor their own health while at the same time being supported by professionals even from outside the hospital. With this application, both patient and doctor can interactively work together to better the patients overall health. In addition, carefully stored records and predictive analytics can provide optimal management of specific diseases or ailments faced by the patient, making the overall experience tailor-made for each individual patients. By combining all the technology from the third platform and mHealth, the Pusrawi App aims to be a transformational plan that achieves the objectives of Pusrawi Hospital and more.

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APPENDIX – A

List of Figures:

Key Partners -Banks	Key Activities - Medical treatments - Health Consultancy - Health Diagnostics - Emergency Support	Value Propositions Inpatients: - Reasonable price treatments - Less time spend in the ward Outpatients: - Reasonable price medicines - Less wait for diagnostic and medicine	Customer Relationships - Patient’s record	Customer Segments Inpatients: - Patient needed to stay in hospital for treatment. Outpatients: - Patient not needed stay in hospital for treatment.
Key Resources - Medical Equipment - Medicines - Doctors			Channels -Websites - Ads	
Cost Structure - Medical Equipment - Buildings - Staff salaries - Medicines			Revenue Streams -Medicine sales - Treatments - Consultancy	

Figure 1: Initial Conceptual Framework/ Biz Model

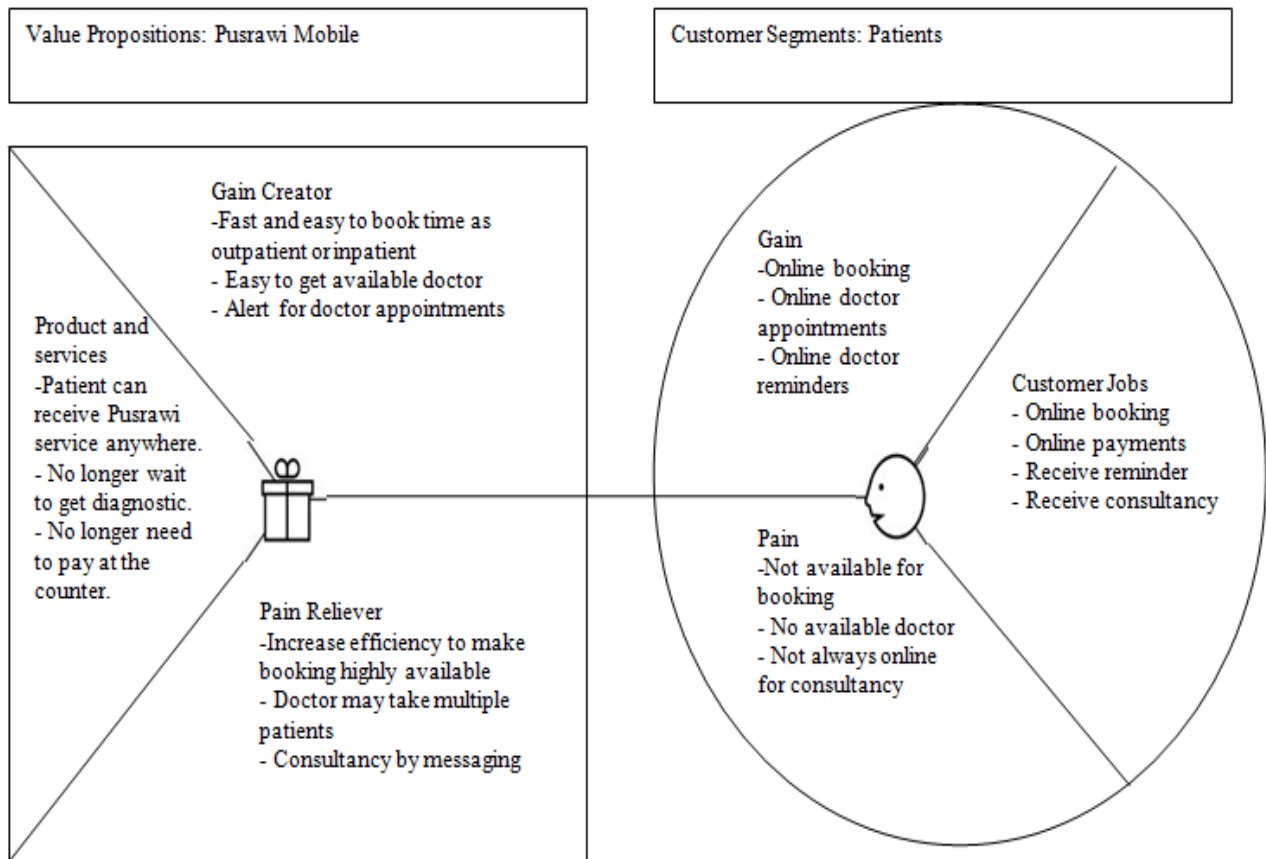


Figure 2: Initial Conceptual Framework/Value Proposition (Inpatients)

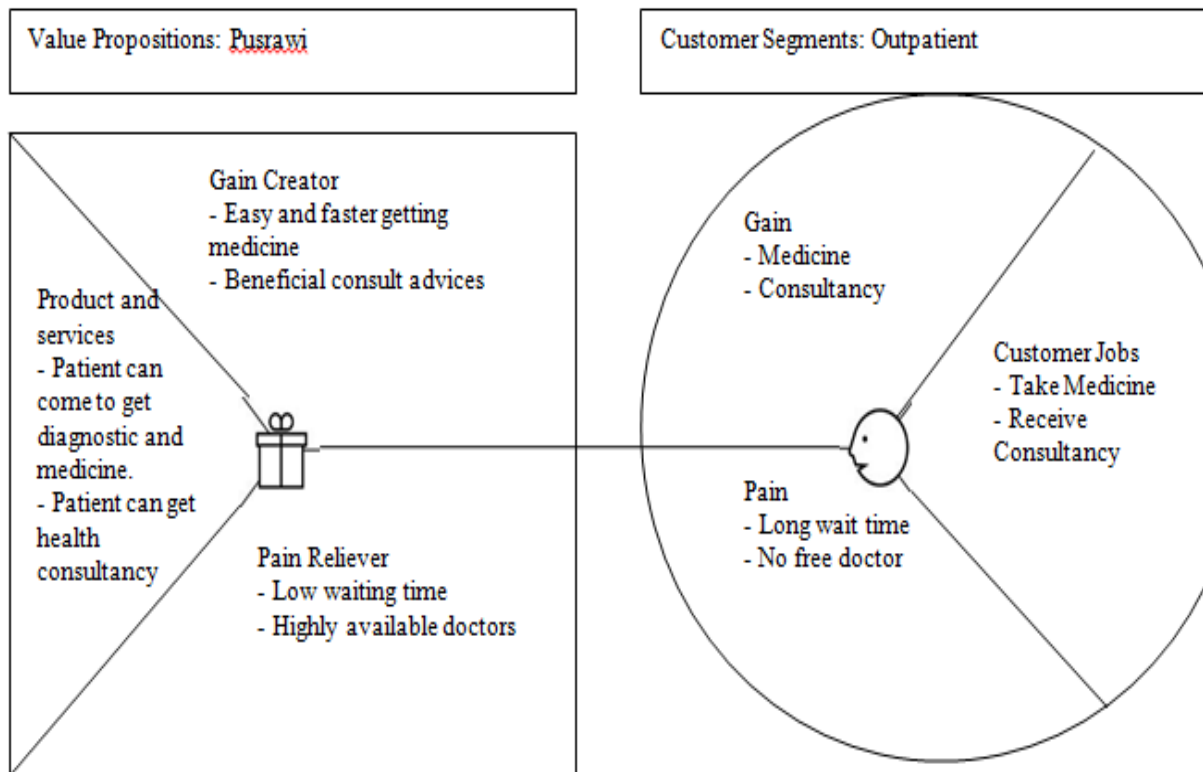


Figure 3: Initial Conceptual Framework/Value Proposition (Outpatients)

Key Partners -Hospital -Medical Officers -IT Department -Patients -Companies partnered with Pusrawi	Key Activities - Online booking - Online payments - Online info - Online consultancy	Value Propositions Patients: - Can book as outpatient - Can book as inpatient - Can book available doctor - Can get latest news on Pusrawi - Can get reminder for doctor's appointment - Can get online consultancy	Customer Relationships - Patient's Database - Online Customer Service	Customer Segments Patients: - Patients who want to get to Pusrawi products or service. - Currently not in Pusrawi Hospital
Cost Structure - Online infrastructure - App development - App service provider		Revenue Streams - Online payments		

Figure 4: Enhanced Conceptual Framework/Biz Model

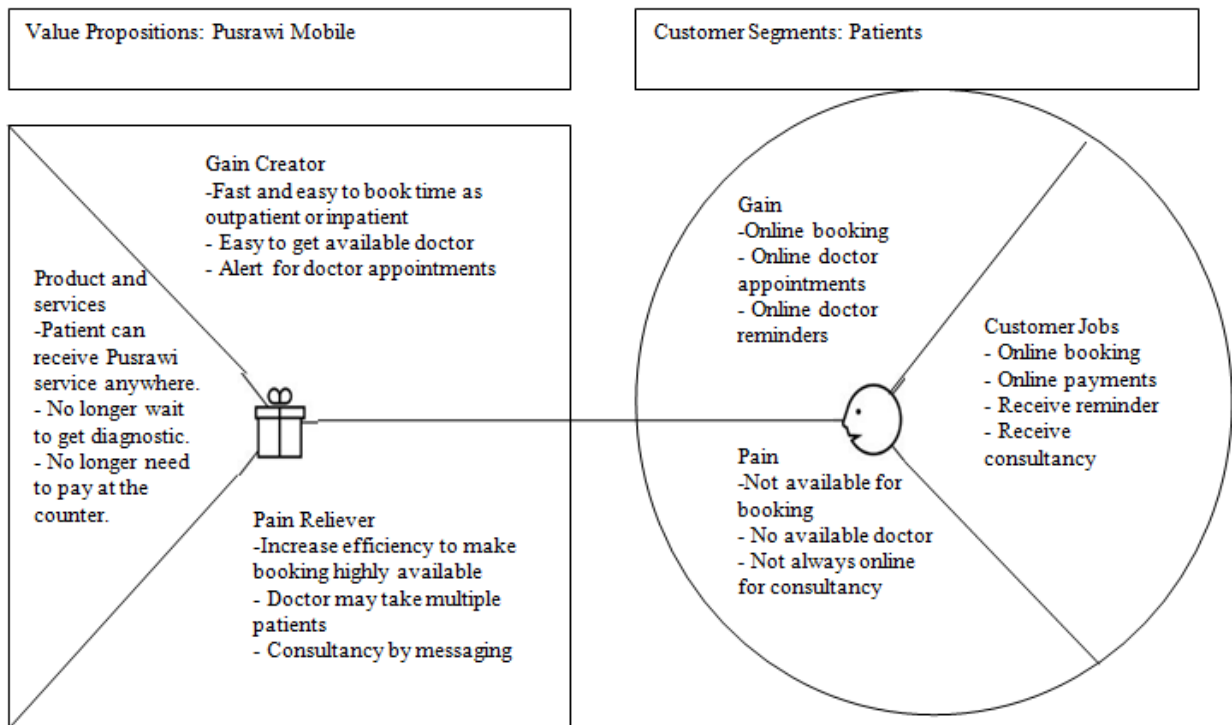


Figure 5: Enhanced Conceptual Framework/ Value Proposition (Patients)