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Relieve the problem in the doctor-patient relationship through Service Design: a Hospital Case

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Relieve the problem in the doctor-patient relationship through
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The thesis covers the methodology and theoretical background; all of the researchers were gathered from several trustworthy online, book sources and site investigation.

The doctor-patient relationship is central to the practice of healthcare and is essential for the delivery of high-quality health care in the diagnosis and treatment of disease. On this basis, patient's Satisfaction plays a critical factor in the doctor-patient relationship. The objective of this thesis is to relieve the doctor-patient relationship through designing the patient-centered services for a third-grade class-A hospital in Honghu Hubei China. In other words, to create a better medical environment adapts patient's requirements. Honghu Chinese Medical Hospital is the partner of this thesis. To achieve the goal, the author will investigate this hospital's healthcare environment, analyze their existing services and find their potential Shortcoming. Conclusively, using the newest existing knowledge, service innovation and several design methods creates the new services that can meet the needs of patients. All the relevant framework of reference and methods used in the analysis and innovation are explained below.

Keywords, Doctor-patient Relationship, Service Design, Innovation, Healthcare Environment

Table of contents

1	Introduction	6
1.1	Project Background	6
1.2	What is the doctor-patient relationship.....	6
1.3	Company Background	6
1.3.1	Why chosen this hospital.....	7
1.4	Objectives	7
1.5	Advantages Of the Project	8
1.5.1	Benefits of Patients	8
1.5.2	Benefits of both hospital and doctors	8
2	Analysis	8
2.1	Factors of hospitals and doctors.....	8
2.1.1	The problems of medical staff	8
2.1.2	Medical knowledge does not match	9
2.1.3	Lack of humanistic care	9
2.1.4	The mistake of medical staff.....	10
2.2	The limitations and risks of medical problems	10
2.3	Factors of patients	10
2.3.1	Enhanced awareness of rights.....	10
2.3.2	Hostility to the rich	10
2.4	Social factors.....	11
2.4.1	Negative publicity and media reports	11
3	Methodology	11
3.1	Research Methods	11
3.2	Qualitative Methods	12
3.2.1	Data Collection	12
3.2.2	Literature Reviews	13
3.2.3	Personas.....	13
3.2.4	Benchmarking.....	14
3.3	Quantitative Methods.....	14
3.3.1	Customer Journey	14
3.3.2	Questionnaire	16
3.3.3	Interviews.....	17
4	Implementation	18
4.1	Discovery of problems in the hospital's services through different research methods.....	18
4.2	brainstorming and working out ideas	22
5	result of implementation	23
6	Conclusion.....	23

References	25
Figures	26
Appendixes	27

1 Introduction

This section will present the project and company background as well as the purpose and advantages of the project.

1.1 Project Background

With the development of market economy, the consumer's demanding is the demanding of the market, leading the market trend. Therefore, the operators will be invincible only if they meet consumer's needs continuously. It is also the absolute principle for a hospital. The patient will be satisfied, only if the hospital handles the relationships with patients correctly and improve their many-sided services. Consequently, to study how to improve the hospital's services and relieve the doctor-patient relationship are critical for Chinese modern society.

1.2 What is the doctor-patient relationship

The doctor-patient relationship is the relationships that are produced from the practice of medicine. This relationship can be divided into narrow and broad aspects. The narrow doctor-patient relationship refers to the relationship between doctors and patients. The broader doctor-patient relationship relates to the relationship between physicians, nurses, administrators of a hospital and support staff with the patients themselves, other family members of patients and their guardians.

1.3 Company Background

The case company is Chinese Traditional Medicine Hospital in Honghu city where was found in August 1979. It is a third-grade class-A hospital. This hospital was made up of medical, research, teaching, rehabilitation as one comprehensive three-level Chinese Medicine Hospital where is the first series to pterygium formulation based on the international Zhou combination therapy. The treatment of rheumatoid arthritis, ankylosing spondylitis, and efficacy outstanding laid the leading position in China in the field of rheumatology as described in the Hospital's website (Honghu Chinese hospital, 2015).

In figure 1 below, it can be seen that the hospital has the comprehensive outpatient building and integral medical instruments and equipment in inside.



Figure 1 HongHu Chinese traditional hospital

1.3.1 Why chosen this hospital

In this section, the author will introduce how to reach a consensus with HongHu Chinese traditional Medical hospital. In the last summer, the author did the job placement in this hospital as an accountant. At that time, the author had heard that there are some problems in the doctor-patient relationship. After that an idea came to the author's mind: relieve the problem in the doctor-patient relationship through Service Design due to the previous studying experience. The author explained his situation and ideas to the person in charge of this hospital with sincerity. Finally, the person in charge of this hospital accepted the author's request and arranged the professional in logistics department to assist the author.

1.4 Objectives

The objective of this thesis is to relieve the doctor-patient relationship through service design for a third-grade class-A hospital in Honghu Hubei China. The service will be patient-centered. Because With the development of society, the medical and health services. People's pursuit for hospital facilities, medical environment and their health level have changed dramatically.

The function of the hospital is no longer a pure pursuit of treating diseases, but also need to create a convenient, quiet, peaceful, comfortable environment to patients to meet their social and psychological needs. A good medical environment has a positive therapeutic effect on the patient's physical and mental aspects. It is a new idea for a modern hospital to establish patient-centered services and architectural design and then further to relieve the doctor-patient relationship.

1.5 Advantages Of the Project

Compared with the traditional hospital's services, the patient-centered medical services become increasingly humanized and meet patient's needs, and there has been discussed advantages related to a good doctor-patient relationship online. Next, the author will examine the benefits of the project for both patients and hospital.

1.5.1 Benefits of Patients

The patient-centered medical services are beneficial to ensure people's health and improve the people's quality of life. At the same time, it helps the patient to reduce unnecessary spending, and the patient can get better treatment for their illness. It took people less money to enjoy better services from the hospital. Moreover, this eliminates the patient's distrusted sense to doctors and society.

1.5.2 Benefits of both hospital and doctors

Due to the design of patient-centered medical services and patient's cooperation, doctors can get an enjoyable working environment; by this way, the working efficiency of physicians also can be improved. As for the hospital, it can obtain a higher reputation and make the hospital sustainable development.

2 Analysis

In this section, the author will analyze the reasons why the phenomenon of the tense doctor-patient relationship appeared from different aspects to emphasize the significance of patient-centered services for relieving the tense doctor-patient relationship.

2.1 Factors of hospitals and doctors

2.1.1 The problems of medical staff

Human beings are social, people living in this society, they have to get the economic support. It is impossible to survive in the modern city without money. In various industries, there must be someone who pursues their profits in an improper way. The medical staff is also human beings. Therefore, there would be some individuals who only like money. The problems of prescribing an excess drug, over treatment and unreasonable inspection are existing, which lead to some of the patients think that medical staff treating patients is only for their economic benefits. Accordingly, once the treatment result is not good, the contradictions are generated Inevitably.

2.1.2 Medical knowledge does not match

Medical staff have been trained in medical education for many years, have seen a lot of diseases and patients. However, the patient may just come to hospital and deal with doctors due to suffering this illness. As for both sides, they are not familiar with each other, and it is illness who linked two sides together. So if there is no disease, they may never intersect. Only if both sides have reached a consensus on the understanding of illness, can the trusting relationship between doctors and patients be established. However, some medical staff did not inform and communicate with their patients deficiently, which leads to the situation that the patient has a little information about their disease. These patients have to gain the knowledge and information through other channels, such as acquaintances, network, online book and so on. Knowledge obtained from these ways is often one-sided. Once the doctor's explanation is different from patient's understanding, the contradictions will also be generated Inevitably.

2.1.3 Lack of humanistic care

People are also human beings. The traditional biomedical model has transformed to bio-psycho-social medical model. A treatment of the disease includes not only the medical intervention but also the psychological intervention. Both of methods are significant to patients. The patient from an ordinary social people became a patient who needs instrument checks and drugs or surgical treatment; besides, a family member of patients from a regular social citizen became an escort who is out of the original work. The daily tasks of these escorts have already changed, which are running in the hospital, taking the results of an inspection, picking up the medicine and feeding foods respectively. Sometimes, escorts have to undertake the various of obligations for risks of operation-signature. Therefore, their attitude will be changed dramatically. At that time, if the medical staff is lack of humanistic care to patients, lack of timely and efficient communication, comfort to relieve patients and their escort's psychological crisis as well as treating them with improper words and behaviors. The disputed condition will be raised.

2.1.4 The mistake of medical staff

Medical personnel are also human beings, and human beings cannot avoid making the error. But due to the importance of their working tasks, their mistakes are usually considered as "zero tolerance". In other words, Medical personnel cannot be accepted to make any mistake. A mirror error may lead to patient' death. Consequently, this is also a core of factor for the tense doctor-patient relationship.

2.2 The limitations and risks of medical problems

Medical science is an imperfect subject, and it is always behind the disease, which leads to its constraints and risks. Medicine is a double-edged sword, and it helps patients treating their disease but may bring new damage, side-effects and even death. However, people usually ignore this truth. Medical research is complicated, there is a great deal of unknown information to the people, and there is a noticeable difference among every individual. Therefore, the unpredictable results always appear in medical science.

The process of medical development is a process of continuous improvement, a doctor's growth is also a process of sustainable development. But patients want physicians to become a perfect person, which cannot make any mistake. As for doctors, they have witnessed a lot of sickness and health; they know the value of life clearly. The laws of nature are destined that sickness and death, no one can avoid. However, in patient's opinion, doctors could cure any ailments; doctors could do anything. Obviously, this is impossible.

2.3 Factors of patients

2.3.1 Enhanced awareness of rights

With the development of society and jurisprudence as well as the advancement of information technology, the patient's awareness of right-protection gradually strengthened. When they think their self-equity is harmed, they will safeguard their rights actively. They do not use a full-fledged legal system as their weapon, but taking the extreme or original methods, thus forming a vast majority of adverse events.

2.3.2 Hostility to the rich

There is a considerable gap between the rich and the poor in China. Therefore, when some people display their immense wealth in public, people will have a complex mentality based on hatred. Currently, all of the information patients obtained from various channels is about how rich doctors are. What's more, with the increase in the prices and a variety of costs, including hospitalization expenses, laboratory fee, medicine fee and so on, patients are inescapable to spend too much money in a hospital. Consequently, it is further intensified patient's concept of how rich doctors are. In patient's eyes, the doctor can be seen as the rich. Jealous of wealth is an existing state of mind, and people usually can find some reasons to balance this mentality. However, in the doctor-patient relationship, once doctors have made some mistakes, they will be unforgivable due to patient's mentality of hating the wealthy.

2.4 Social factors

2.4.1 Negative publicity and media reports

If a business has a lot of negative news, then people would lose trust in this business. The destruction of the negative news information is extraordinary. Some programme content includes not only someone's house on fire or brothers against each other but also couple's conflict. Although this news is all negative, the audience rating is very high.

Recently, the negative news about the medical industry is often reported in newspapers or TV programs. The main reason is that the media industry also need to survive in this society, negative stories are more attractive to reader's attention. Therefore, the media casually played a role of speculation in the doctor-patient relationship, some media do not respect the medical law to conclude some medical accidents, which lead to people getting a wrong impression. Moreover, a minority of the media even report falsely to pursuit their benefits.

3 Methodology

In this section, the author will introduce the understanding of the selection of qualitative methods include data collection, literature reviews, benchmarking and personas, as well as introduce the quantitative methods used in the project thesis. The analysis will be presented.

3.1 Research Methods

The methodology is the systematic, theoretical analysis of the methods applied to a field of research. Typically, it includes concept such as paradigm, theoretical model, phases and quantitative or qualitative techniques, as well as the theoretical analysis of the body of methods and principles associated with a branch of knowledge (Methodology 2015).

In general, qualitative research, quantitative research, regression analysis, and meta-analysis are the most commonly used research methods in academic studies.

The Wyse (2011) comments qualitative method is to definite an object or a phenomenon and then gain an understanding of underlying reasons, viewpoints, and motivations. This type of research method often used to describe in details particular situation using research tools such as interviews, survey, and observations. Quantitative research is to quantify an objective or a problem in collecting a certain amount of data and then transform into useful statistics. This type of research method often used to quantify opinions, behaviors, and other defined data. This kind of research methods requires quantifiable data involving logical and statistical explanations.

The thesis study for analysis and improvement is done mostly by using qualitative methods and quantitative methods. The qualitative methods include data collection from questionnaire, interview and observations; literature reviews from several trustworthy online and book sources, as well as benchmarking from the comparison of the Hospital in Finland.

The research methods are based on the purpose of the thesis; the purpose is to investigate the present situation of HongHu Chinese traditional Medical hospital's medical services, to see if the services can meet the demand for patients. It is the reason for why the project have chosen to use different kinds of research methods.

3.2 Qualitative Methods

3.2.1 Data Collection

Generally speaking, Dozier (2013) comments data collection can be divided into primary data and secondary data. Primary data is the data collected by the author who investigated the hospital. Secondary data is the data gathered by others for research purpose. Secondary data is more validity and reliability.

In this research, the primary data is from questionnaire and observations collected to accomplish the research. The questionnaire had five questions related to the patient's cares and requirements when they go to the hospital and was published on a Chinese application(Wechat). The questions will be further provided at the end of the thesis. The observations are from the author's investigation, to observe how doctors treat patients, where did patients dissatisfy, where do they like in the hospital. Moreover, the secondary data used in the research is getting from an interview with the chief of Logistics department in Honghu Chinese Traditional Hospital (more on this later).

3.2.2 Literature Reviews

In the research of this thesis, most of the useful information about the doctor-patient relationship and the patient-centered medical services were collected from Chinese sources. To illustrate, the author searched on the Internet, borrow books from Chinese library and go through the thesis from Theseus.

The literature reviews were accomplished to achieve a higher knowledge of the areas related to the search. Besides, the Internet the author used to find data that is the information about Chinese doctor-patient relationship, the related research about what the patient-centered medical services are and methodologies.

3.2.3 Personas

In user-centered design marketing, personas are fictitious stories created to represent the different kinds of products or services in a similar way. It can create an individual user persona or a coherent story to represent the goals, desires, and behavior of a group of users to help to guide decisions about a service, product or interaction space such as features, interactions, and visual design of a website (Persona 2015).



Figure 2 An example of Persona

The various fictional patients have been created in this thesis project that was based on the information gathered from the result of the investigation. The goal of selecting this approach was to look for different attitude and requirements of patients. Accordingly, come up with the appropriate solutions for the future service design based on patient-centered services.

3.2.4 Benchmarking

According to BusinessDictionary (2016), benchmarking is a measurement of the quality of an organization's policies, products, programs, strategies, and their comparison with standard measurements, or similar measurements of its peers. The purpose of benchmarking are to determine what and where to improve, to analyze how to enhance the performance level and how to use the practical information to improve the performance. Thus, the author chooses the HUS hospital as a comparison. Since the author has visited this hospital, and gathered some information about HUS hospital in Google. Therefore, the understanding is enough to make the comparison.

As for the medical equipment of both hospitals, they both provide excellent medical equipment for patients such as Oxygen Breathing Apparatus, Electric Aspirator, Automatic Gastric Lavage Machine, ECG Device and Defibrillator and so on, they both also provide patients with timely access to specialized medical services. However, the difference between the case hospital and HUS hospital are the medical attitude and services for patients. Due to the case hospital's deficiencies of therapeutic attitude and services, the benchmarking give the author great ideas about the patient-centered services, which is the reason why the author was benchmarking different hospital. There are several results of benchmarking in the implementation chapter.

3.3 Quantitative Methods

3.3.1 Customer Journey

The customer journey is the complete sum of experiences that the clients go through when interacting with your company and brand. Instead of looking at just a part of a transaction or experience, the customer journey documents the full experience of being a client (Audra S, 2014). As for this project, it refers to the stages patient's experience through each touch-point with a company or particular business; it is useful to both author and hospital to find out where to improve and what the patient-centered services can be made.

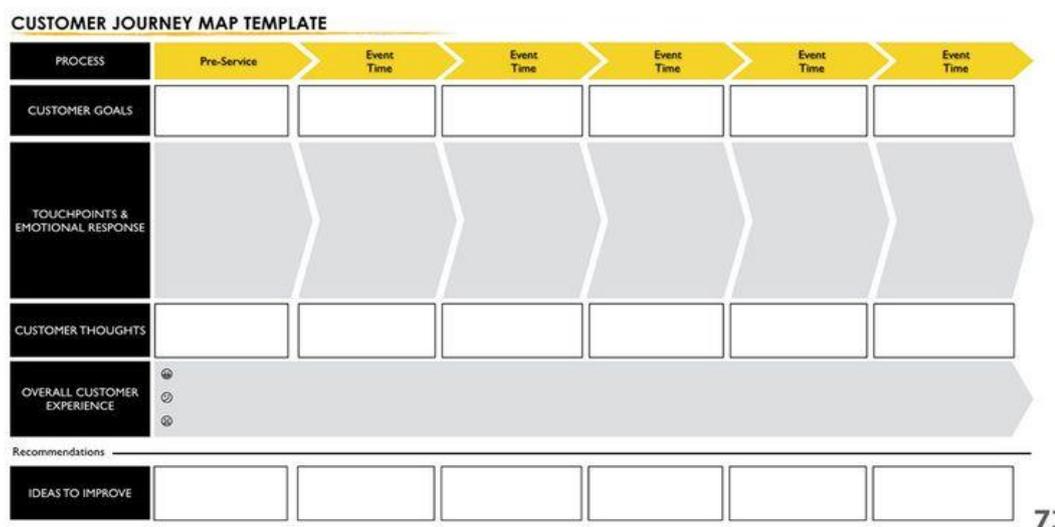


Figure 3 Customer Journey Map Example

The reason why the author applied this method in this project is that the author visited Honghu Chinese traditional hospital to experience the whole process of medical services as a patient, went through all touchpoints the hospital had and to see whether the author was satisfied or not. It is an excellent manner to understand what the patient's thinking. Moreover, It is also a good way to distinguish what services were satisfied by patients and what services should be improved.

Next, the author will explain how the customer journey used in the research. At 8:00 am, The author went to the hospital as a regular patient, found that there were already so many patients waiting in front of the registration area. So the author had to queue up to register. At that moment, the author was in the bad mood. The author thought 8 o'clock AM was quite early; It would not be needed for queueing up. On the contrary is that So many patients arrived here, which were earlier than the author. Queued for ten mins, the author got the appointment number and medical record. Then followed the reservation number to the corresponding office to find a doctor.

However, due to the first time to come there, the author was not familiar with the geographical environment. Therefore, it was not clear to reach that office. There had not a clear sign to show the way. Due to this condition, the author felt uncomfortable. After 5 minutes blindly look, the author found an available nurse, which was a life-saving straw, told me how to go to the office. After waited in line about 20mins, finally, the author got into the doctor's office. At that point, I felt a little bit nervous. The doctor enquired about author's illness without any expression. The author respectfully answered doctor's questions. Then the doctor said 'you need to have a health check, and then come back for me.' Consequently, the author's sense of relief was replaced by disappointment. Next, the author asked that doctor the location of laboratory medicine, then spent two hours for waiting in line and

received the results. Finally, the author came back to that physician's office and obtained the diagnosis and medication as well as cautions. At that time, the author was reassuring. But it was so indignant to spend the whole morning time for seeing a doctor. After finished the whole process of the customer journey, the author got a clear view about where he can improve for future patient-centered services, what kind of services he can add to for relieving the doctor-patient relationship. The outcome will be as follow in the implementation chapter.



Figure 4 Several long queues for registration

3.3.2 Questionnaire

A questionnaire serves have six essential functions; the details are as follow:

- (1) It translates the research objectives into specific questions that are asked of the respondents.
- (2) It standardizes those issues and the response categories so every participant responds.
- (3) By its wording, question flow, and appearance, it fosters cooperation and keeps respondents motivated throughout the interview.
- (4) Questionnaires serve as permanent records of the research.
- (5) They speed up the process of data analysis. For instance, some companies use questionnaires that can be scanned by machines and quickly converted into raw data files.

(6) They contain the information upon which reliability assessments such as test-retest or equivalent form questions may be made, and they are used in follow-up validation of respondents' participation in the survey.

Given that it serves all of these functions, the questionnaire is a critical element in the research process. In fact, research has shown that survey design directly affects the quality of the data collected. Even experienced viewers cannot compensate for questionnaire defects. The time and effort invested in developing a useful questionnaire are well spent (Designing Data Collection Forms 2014). As for this project, the questionnaire will be developed to collect information about patient's satisfaction with hospital's services so that the author can design the patient-centered services for patients according to their feedbacks. After the author demonstrates new ideas about what the specific patient-centered services will be to the hospital, another questionnaire will be designed so that the hospital can get a clear statistic data to compare original services and new services. Then It helps the hospital to decide whether implement the author's new ideas or not. These two questionnaire will be further discussed in following chapters.

3.3.3 Interviews

Interviews will be conducted with several patients of mixed backgrounds to find out exactly what the patient's preferences and needs and what the potential the patient's expect in medical services as well as any suggestions they might have for potential improvements.

The interviews can either be structured or unstructured. The difference between these is that the structured method requires a set of prepared questions that need to be presented by the interviewer while the unstructured method entails for the interviewer to ask open-ended questions that the interviewee can answer without constraint. Both approaches have their advantages and disadvantages.

The structured method is also known as a formal interview. According to McLeod (2014) the questions are asked in a set standardized order, and the interviewer will not deviate from the interview schedule or probe beyond the answers received (so they are not flexible). These are based on structured, closed-ended questions. The results from a structured interview are easy to replicate as a fixed set of closed questions are used, which are easy to quantify - this means it is easy to test for reliability. But the answers from structured interviews lack detail as only closed questions are asked which generates quantitative data. It means a research will not know why a person behaves in a certain way.

Conversely, McLeod (2014) commented that unstructured interviews are sometimes referred to as ‘discovery interviews’ and are more like a guided conversation than a strictly structured interview. By this the author means, it can be adapted and changed depending on the answer of the person being interviewed. Moreover, unstructured interviews generate qualitative data through the use of open questions. This allows the respondent to talk in some depth, choosing their words. This helps the researcher develop a real sense of a person’s understanding of a situation. Drawbacks of unstructured interviews are the possibility of it being time-consuming due to the flexible nature of the interview. This type of interview may also require prior skills or experience from the user.

The semi-structured method is a middle ground for the aforementioned interviewing methods. It allows for the flexibility, scalability and comfort of the unstructured method as well as the efficiency and repeatability of the structured method. This is the interview method that will be used for this research.

4 Implementation

In this section, the author will reveal the defects and problems of medical services of Honghu Chinese Traditional Medical Hospital and brainstorm the countermeasures for designing patient-centered services through various methods the author mentioned early.

4.1 Discovery of problems in the hospital’s services through different research methods

Through the field investigation, the author found that toilets in every layer of the hospital are not clean with a sharp odor. There are the yellow dirty on the wall in toilets, which can lead to patient's emotion and mood being affected to some extent.

According to Personas, the author found that as for the rich patient, they need some superior services, such as a separate sickroom, an authoritative doctor in charge. However, from observation, the author found that there is only one VIP sickroom in each department. But it includes three rooms in this VIP sickroom, which are a kitchen room, a room for family members of patients and a living room respectively. Although such facilities are very thoughtful and complete, the living room and kitchen room are vacated. Family members of patients will not cook their meals in the sickroom. Therefore, such facilities are wasteful; it did not maximize the utilization of resources. As for the indigent patients, what they need is use the cheaper drugs from the hospital as possible as they can. Also, medical staff's friendly manner and even a smile are also what they need due to their social status. But in the author's investigation, the author found that some of the doctors did not depend on patient's living standard to prescribe medicine for them. There were a lot of expensive drugs that

cannot be afforded by the very indigent patient. Moreover, a few doctors unfriendly treated their patients that would lead to the doctor-patient relationship getting worse. When it comes to the fictional third person from Persona, patients have a moderate living standard, but they are in a critical condition. Their need is a quick way to diagnosis and help. However, the author found, in Honghu Chinese traditional medical hospital, except those patients who need the emergency surgery, other patients have to take a long time queuing for registration which will delay not only the patient's disease but also lead to patients being not satisfied with the doctor. The problems described above will be addressed in the following section.



Figure 5 VIP sickroom

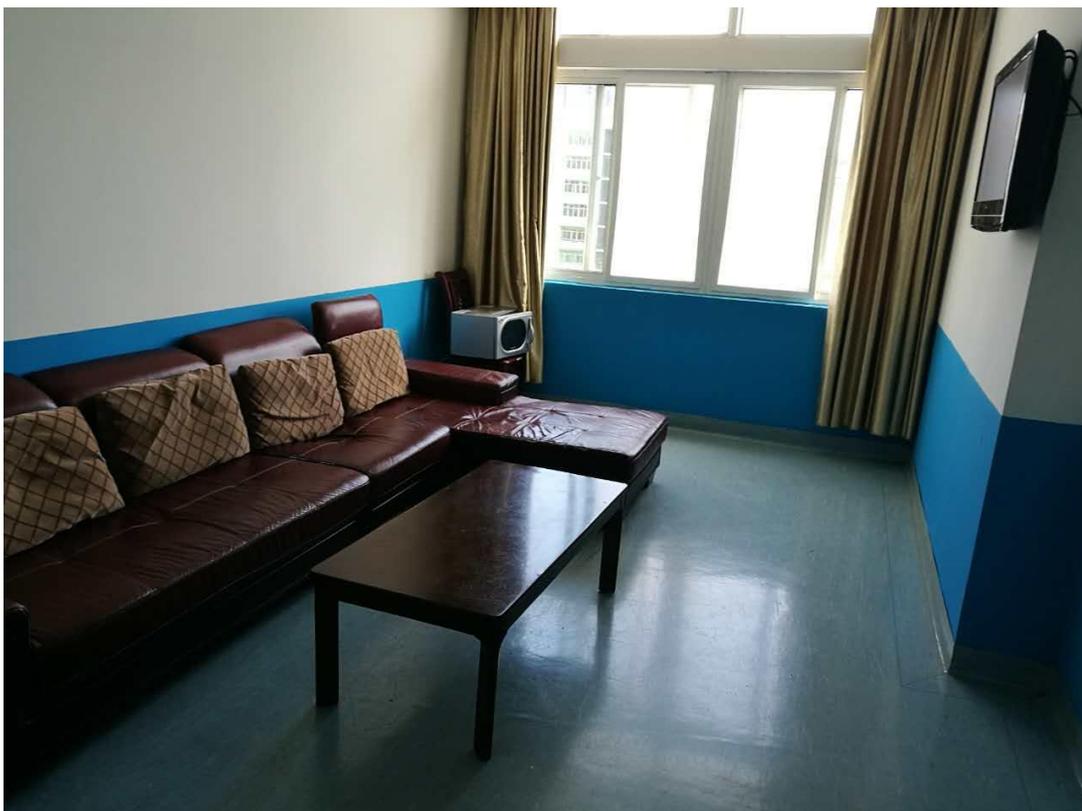


Figure 6 The sitting room in VIP room



Figure 7 Two sickbeds in VIP room

Furthermore, as mentioned earlier, the author compared Honghu Chinese Traditional Medical Hospital with HUS hospital in Finland. The author found there are a lot of things that can be learnt from HUS hospital. HUS hospital did focus on patient-centered services. To illustrate, their infrastructure was built around the patient's perspective. Specifically, there are some leading lines of different colors, corresponding to various departments. The patient can follow these leading lines of different colors to go where they want. By this way, it can solve the phenomenon of patients lost their way.



Figure 8 guide lines in HUS hospital

Besides, HUS hospital's wall and operating rooms are based on the warm-toned theme., giving people a vivifying feeling which would reduce patient's intense emotions to some extent when they come to the hospital or operating room. In comparison, Honghu Chinese Traditional Medical Hospital's wall and operating room are based on the white theme, although It gave people an immaculate feeling, in many people's eyes, the white color stands for bad things. Therefore, it would increase patient's negative emotions to some

extent.



Figure 9 HUS hospital's operating room



Figure 10 Chinese traditional hospital's operating room

As for the customer journey, the author summed up some dissatisfactions from what the author has done in customer journey as the potential problems that the Honghu Chinese traditional Hospital would improve. According to author mentioned before, there were some potential problems involved with hospital's medical services. Firstly, even if patients went to the hospital before it opens, they still needed to queue quite long to register. Secondly, there were no obvious signs to guide patients to go where they want to go. Thirdly, due to plenty of patients on the first floor of the hospital's clinic, there was lack of enough nurses to help and guide patients. Fourthly, doctors paid too little attention to their patients, which means it took a great effort for patients to see the doctor but seldom replied from doctors. Fifth, the time spent on the lineup and wait was too long and made patients more stressful.

4.2 brainstorming and working out ideas

Through the analysis and the research on the questions above, the author came up with several solutions to tackle the problems. Firstly, Honghu Chinese Traditional Medical Hospital could introduce a similar design method from HUA, as well as add different colors on the floor to guide the patients. Secondly, it's suggested that the hospital would renovate the kitchen in the VIP room into another separate VIP room. The reason is that through the on-the-spot

investigation before, the author found out that there was only one VIP room on each floor whereas there are significant demands for the rich patients. Thirdly, the hospital can set up an online hospital appointment register application which includes online consultation, free registration, free and easy access for night expert outpatient service, to provide more convenient services and improve the healthcare environment. In this way, it can efficiently solve the problem of queuing and reduce the waiting time. Moreover, the hospital could also build a vending machine on each two floors. Through this method, patients can purchase drinks and snacks whenever they are hungry or thirsty. This approach put forward by some patients during the questionnaire process. Several patients reflect that it takes more than ten minutes to buy water in the Kiosk downstairs. Therefore, adding a vending machine might be an effectively way to handle this issue.

5 result of implementation

The author presented the corresponding solutions to the appropriate department head. The person in charge of logistics was satisfied with author's solutions. Then the author did a survey about patient's satisfaction with the existing medical services in Hospital as well as the upcoming medical services, which included five questions respectively. The specific content of survey will be showed in the appendix.

Next, the author will indicate the patient's feedback about questionnaire survey. Generally, among 20 randomly selected patients, eleven patients are not satisfied with the existing medical services in Honghu Chinese Traditional Medical Hospital. Four patients feel very average about the existing medical services. The rest of four patients thought that the medical services are excellent.

However, when it comes to the upcoming and improved medical services, seventeen patients are satisfied with the upcoming medical services in Honghu Chinese traditional hospital. Two patients feel very average about it. The rest of 1 patient thinks that the medical services are still not good.

In summary, most patients are satisfied with upcoming medical services. They are looking forward to the new medical service's arrival.

6 Conclusion

This bachelor's thesis analyzed causes of the problem in the doctor-patient relationship and found out the potential drawbacks for the case hospital from the following aspects namely the research methods, the knowledge base and theoretical background, diverse patient's requirement analysis, and suggestions for improvement. The author has learned a lot about business information technology from this thesis project. The author hopes that this

bachelor's thesis will not only help Honghu Chinese traditional hospital to relieve the problem in the doctor-patient relationship, but also give readers a better understanding of Chinese medical environment.

The author also interviewed the person in charge of logistics department. According to feedbacks gathered from the interview as well as the questionnaire, It all displayed that both patients and leaders in the hospital are satisfied with the author's solutions. Moreover, after the hospital's leads discussed the approach, they decided to adopt the ideas, and the solutions will be used in their new building. As for the online application, they have found a company to help them making the app of online registration. Although these solutions cannot handle the problem of doctor-patient relationship completely, and the author cannot consider all aspects of the work in progress, he strongly believes that these solutions enable to improve patient's satisfaction with health services so that to alleviate the problem of the doctor-patient relationship in Honghu Chinese Traditional Medical Hospital.

This thesis was the author's first important project that he has worked on. After overcoming new problems, the author's skills and abilities had improved. Also, the author gains the knowledge and capabilities that he cannot learn in school or any particular sector. The experience of serving in Honghu Chinese traditional medical hospital was great, the work the author could complete here was very satisfactory. Although solutions to this hospital are not the best, and the upcoming medical services are still not accepted by all patients, the author is pretty sure that if the upcoming services go into actual use, more people will be happy coming to this hospital, it will provide a convenient and practical services for the patient. The author hopes the improvements for Honghu Chinese traditional Medical Hospital in this thesis project helps it meet its goals.

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Figures

Figure 1 HongHu Chinese traditional hospital	7
Figure 2 An example of Persona	13
Figure 3 Customer Journey Map Example.....	15
Figure 4 Several long queues for registration.....	16
Figure 5 VIP sickroom	19
Figure 6 The sitting room in VIP room	20
Figure 7 Two sickbeds in VIP room.....	20
Figure 8 guide lines in HUS hospital	21
Figure 9 HUS hospital's operating room	22
Figure 10 Chinese traditional hospital's operating room	22

Appendixes

Appendix 1: Questionnaire

About existing medical services

1. Are you satisfied with the attitude of contacted doctor's services?
 - A. satisfied
 - B. moderate
 - C. dissatisfied
 - D. very dissatisfied

2. Are you satisfied with the nursing services that you have met?
 - A. satisfied
 - B. moderate
 - C. dissatisfied
 - D. very dissatisfied

3. Are you satisfied with the staff's services at the reception desk?
 - A. satisfied
 - B. moderate
 - C. dissatisfied
 - D. very dissatisfied
 - E. no contact

4. Are you satisfied with the existing hospital's medical environment?
 - A. satisfied
 - B. moderate
 - C. dissatisfied
 - D. very dissatisfied

5. Are you satisfied with the existing hospital's medical services?
 - A. satisfied
 - B. moderate
 - C. dissatisfied
 - D. very dissatisfied

6. If you are not satisfied with some parts, please give us some feedbacks on blow.

Appendix 2: Questionnaire

About the upcoming medical services(after told solutions to patients)

1. What do you think about the new app for online registration?
 - A. useful
 - B. moderate
 - C. useless
 - D. no idea about using internet

2. Will you use the new app to make the reservation in future?
 - A. yes
 - B. No
 - C. Sometimes
 - D. no idea about using it

3. What do you think about vending machine in each two floors ?
 - A. useful and convenient
 - B. useless
 - C. expensive
 - D. never use it

4. Are you satisfied with improved medical services ?
 - A. satisfied
 - B. moderate
 - C. dissatisfied
 - D. very dissatisfied

5. If you are not satisfied with some parts, please give us some feedbacks on below.

Appendix 3: Personas



Name: Wang Zhonglei	Name: Wang Sicong	Name: Xi Lige
Age: 68	Age: 29	Age: 40
Location: HongHu	Location: Wuhong	Location: Honghu
Position: Investor	Position: Truck Driver	Position: Unemployed
<p>Attributes:</p> <p>Wang Zhonglei is a rich person who works as an investor in different business. He had history of hypertension and hyperlipidemia for several years.</p>	<p>Attributes:</p> <p>Wang Sicong is middle -class person in the society who works as a driver. He suffers from hemorrhoids due to his job.</p>	<p>Attributes:</p> <p>Xi Lige is a very pool person who lives by begging for money. He suffers from various diseases due to his unhealthy lifestyle.</p>
<p>Patient Needs:</p> <p>He wants to get some superior services from hospital, such as a VIP sickroom, an authoritative doctor.</p>	<p>Patient Needs:</p> <p>He wants to spend as little time as possible in the hospital.</p>	<p>Patient Needs:</p> <p>He wants to get both of cheap and effective treatment from the hospital. He does not want to be despised by doctors and nurses.</p>