

Developing Strategies Using Scenario Planning for Telemedicine Service Platform (Halodoc) for Future Challenge

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Abstract - The growth of telemedicine service providers (Halodoc) increased drastically during the Covid-19 pandemic. However, there is significant uncertainty regarding post-pandemic business conditions. Halodoc must prepare adaptive strategies for future uncertainties, and scenario planning is the suitable method to use. This paper focuses on identifying scenarios, options, and implications for the next 3 years of telemedicine. Driving forces and key uncertainties identification were carried out through literature studies and interviews (experts and stakeholders). Analysis results showed that 18 driving forces and 2 key uncertainties were found (government regulation and people's education/behavior). The key uncertainties formed 4 possible scenarios: Best of Both Worlds (Supportive Government Regulation-High People's Acceptance), No Pain No Gain (Supportive Government Regulation-Low People's Acceptance), The Perfect Storm (Unsupportive Government Regulation-Low People's Acceptance), and Bite the Bullet (Unsupportive Government Regulation-High People's Acceptance). The implication of each scenario observed from telemedicine-user growth and government regulation changes. The options of each scenario developed based on internal, external analysis, and questionnaire results. Developed new features besides telemedicine related services and more hospital collaboration are most reasonable options to be implemented for all scenarios.

Keywords - Driving force, Halodoc, key uncertainty, scenario planning, telemedicine

I. INTRODUCTION

Digital disruptions are happening in all Indonesian business sectors, such as financial services, transportation, education, health services, and many more. Since the Covid-19 pandemic hit Indonesia, the health sector has become one of the sectors that received much attention from the public, businesspeople, and government. Digital technology disruption in health care services is unavoidable. Covid-19 pandemic forces people to adapt to using telemedicine. Telemedicine uses information and communication technology to deliver health care by all healthcare professionals, particularly in a setting where access to medical services is insufficient, to improve a person's health status [25] [5]. According to the Ministry of Health regulation No. 20 of 2019 (Indonesian Ministry of Health, 2019) [14], telemedicine is the provision of remote health services by health professionals using information and communication technology, including exchange of information on diagnosis, treatment, prevention of disease and injury, research and evaluation, and continuing education of health service providers for

the benefit of individual health improvement. Telemedicine services that are allowed in Indonesia consist of teleradiology, tele-electrocardiography, tele-ultrasonography, clinical teleconsultation, and other telemedicine services following developments of science and technology. The rampant social distancing action accelerates telemedicine's development as an appropriate alternative in providing health services while minimizing physical contact that may occur.

In Indonesia, there are various kinds of tech-health startup companies engaged in telemedicine. Among them are AloDokter, Go-Med, Gue Sehat, HaloDoc, Homedika, Homecare24, Klik Dokter, and many others. Two of the most popular online health platforms in Indonesia are AloDokter and HaloDoc. Mobile applications from these two companies have been downloaded more than 5 million times by Android-based mobile phone users [9][1].

Since the Covid-19 pandemic outbreak, HaloDoc business experience exponential growth due to new normal behavior that has to be implemented by the community. Since March, Halodoc mobile application download increase 300 percent, and 7.2 million users using Covid-19 special features that the company launch [6]. On June 8, 2020, the CEO of Halodoc (Jonathan Sudharta) stated that Halodoc experienced growth of 600% compared to the condition of the company two months ago [11]. In June 2020, Doddy Lukito, as Chief Business Officer & Co-Founder of Halodoc, stated that the number of teleconsultation services increased by six times, drug purchase transactions increased by 300 times, and active Halodoc's users have reached 20 million people per month [3]. The data above illustrates the rapid increase in public interest and usage in online-based health service platforms during the Covid-19 pandemic.

The rapid growth of Halodoc in 2020, mainly triggered by the social distancing activity because of the Covid-19 pandemic. This condition raises a big question: will the people's behavior remain the same after the pandemic is over? There is considerable uncertainty about people's behavior for the future. There is a possibility that after the pandemic is over, people will go back to their usual way of seeking medical services. Based on McKinsey's (2020) survey in Indonesia, only 65% of users who have used telemedicine services intend to continue using it even after the Covid-19 pandemic is over and the use of telemedicine is still at the shifting stage, which can return to its original state (before the Covid-19 pandemic). Besides, Covid-19 related services, which are one of the

products that generate high traffic, will also disappear along with the pandemic's end. If this happens, there is a potential business downturn at Halodoc.

Besides people changing behavior, several other factors can affect Halodoc's business and create uncertain future conditions. Such as regulation, technology development, infrastructure development, and increasing numbers of competitors. Based on the issues above, Halodoc has to make strategic plans in preparing the proper steps to answer future uncertainty. Scenario planning can help the company develop its organizational strategies in uncertain market conditions [18] [16]. In this paper, the strategies are formulated through scenario planning with time period of 3 years, considering the end of the Covid-19 pandemic and the presidential elections in Indonesia that will be conducted in 2024.

II. METHODOLOGY

This paper using scenario planning as the main method in developed company's strategies to answer the future uncertainty. The business issues will be further explored using internal and external analysis to understand Halodoc's business's environmental conditions. External analysis will be conducted using PESTEL and Porter's five forces, while the internal analysis will be conducted using SWOT analysis. The data collection process will be conducted through literature review (to understand the environment of the business), interview (to get the expert opinion regarding the business), and questionnaire (to get insight regarding users' view on telemedicine services). The conceptual framework overview can be seen in the figure below.

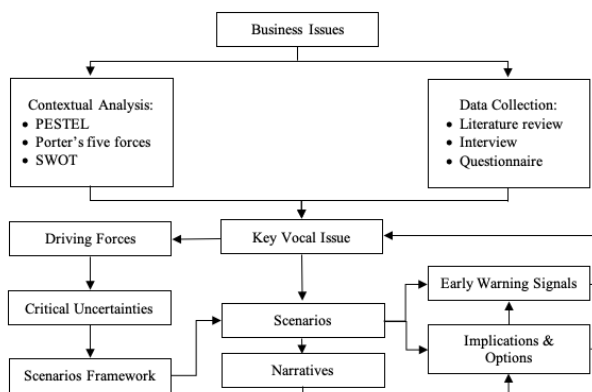


Figure 1. Conceptual framework (Adaptation from [7])

PESTEL and Porter's five forces analysis was used to help author to understand the business environment and to developed relevant questions for the interview and questionnaire. SWOT analysis was developed as a basis to design the suitable options (strategies) in the proses of formulating the scenario planning.

The interview data will be extracted to identify the telemedicine business's key focal issues and driving forces. The questionnaire results were used to develop the option (what kind of services, the expectation, and the

problems that they have) and as support data in the business environment's external and internal analysis.

After the key vocal issue is identified, the driving forces that can affect the business will be identified. These driving forces will further be analyzed to determine the critical uncertainties of the business. Two driving forces will be chosen as critical uncertainties based on their level of impact and uncertainties. These critical uncertainties will be the basis to develop possible scenarios for the future. The scenarios will be developed into four quadrants which will have their respective implication, options and early warning signals. The implication and options developed for each scenario will make it easier for the company to choose the best strategy that can be taken when one of the scenarios occurs. Early warning signals are the signals that indicate which scenario is most likely to occur [7].

III. RESULTS

A. PESTEL Analysis (External Analysis)

The first factor to be analyzed is politic and legal. Politics will directly influence the regulations issued by the government. The one that will significantly affect telemedicine is the regulation. Therefore, the discussion of political and legal factors will be combined. According to Mohamad Intan Sabrina and Irma Ruslina Defi (2021), several laws in Indonesia regulate telemedicine activities, namely:

- The law of Republic Indonesia Number 11 of 2008 concerning Electronic Information and Transaction. This law regulates matters related to the definition, governance security, record keeping, storage, distribution, infrastructure, and legal aspects of telemedicine.
- Minister of Health Regulation No. 20 of 2019 concerning Telemedicine Services Between Health Service Facilities. This regulation regulates matters related to definitions, diagnosis, record keeping, infrastructure, and apps, licensing, ethics, consent, confidentiality, the task of health care facilities that provide telemedicine, cost, and functions regulation.
- Regulation of the Food and Drug Supervisory Agency (BPOM) number 8 of 2020 concerning Drugs and Food Circulated Online. This regulation regulates matters related to the definition, privacy, confidentiality, consent, identification, clinical governance, ICT infrastructure, ethics, legal, licensing, and mHealth.

The regulations governing telemedicine activities in Indonesia are still considered minimal. Due to the Covid-19, people put much attention in the health business sector, so there is a high chance that the regulation will be updated and become stringent. Several new regulations related to telemedicine in dealing with Covid-19 have been launched by the government, namely:

- Circular letter number HK.02.01 / Menkes / 303/2020 concerning The Implementation of Health Services

through the Use of Information and Communication Technology in the Context of Preventing the Spread of Corona Virus Disease 2019 (COVID-19). This regulates matters related to telemedicine and health practitioners' clinical, ethical, technical, and operational aspects.

- Indonesian Medical Council Regulation Number 74 of 2020 concerning Clinical Authority and Medical Practice through Telemedicine during the Corona Virus (COVID-19) Pandemic in Indonesia. This regulates matters related to clinical, ethical, and operational aspects of teleconsultation and telepractice.

The second factor is economy. The economy influences health care organizations and practitioners. There is evidence that the recession has discouraged patients from obtaining inpatient and elective treatment and that more patients cannot pay for their care because they are uninsured or underinsured by doctors and institutional providers [12]. Indonesia's annual GDP growth is always positive from 1999 until 2019 [24]. This data indicates that Indonesia is experiencing economic growth as a nation. However, in 2020 Indonesia experienced a recession due to the Covid-19 pandemic. Luckily Halodoc's business provides the perfect alternative for the current condition; Covid-19 brings opportunities rather than a threat. However, if the cause of the recession is different, it definitely will be a threat for Halodoc's business. Economic growth will also support infrastructure development (telecommunications networks), which is essential for telemedicine services.

The third factor is social culture. Based on the expert interviews conducted, all respondents agreed that the Indonesian people's education related to telemedicine was still minimal, which is one of the challenges that the company has to overcome. However, thanks to Covid-19, this barrier has been very minimal in the past year. Based on the survey results, 41% of respondents had never used telemedicine, and 23.3% of the reason they had not used it was that they did not know the existence of telemedicine services.

The fourth factor is technology. Based on the Indonesian Internet Service Providers Association (IISPA) survey, there always an increase in internet usage, and in 2020, there are close to 197 million internet users in Indonesia, which is 74% of Indonesia's population. It is a significant number that can utilize for Halodoc's business. In conducting telemedicine business, companies must quickly read market needs and innovate. The Covid-19 test is an innovative example that Halodoc has carried out quickly to answer market needs during the Covid-19 pandemic. This decision is proven to be effective because, until November 2020, there are already 7.2 million users using this feature. However, the development of telecommunication infrastructure in Indonesia is still uneven. Infrastructure is one of the main barriers in doing telemedicine business, especially in developing countries [4].

The fifth factor is environment. The rampant social distancing action accelerates telemedicine's development as an appropriate alternative in providing health services while minimizing physical contact that may occur. Since March, Halodoc active users and mobile application download has increased [6] [11] [3]. This condition can be further utilized as opportunities. Also, the distribution of health personnel is not evenly distributed across Indonesia [2]. Telemedicine can play an essential role in helping to equalize health services in Indonesia.

B. Porter's Five Forces Analysis (External Analysis)

The first factor to be analyzed is the bargaining power of supplier. The supplier context in Halodoc business will be the partners such as the doctor, pharmacist, assurance company, and hospital. They can easily move to another platform that offers the same kind of services as Halodoc because, as for now, there is no exclusivity statement in the contract. That is why the bargaining power of the supplier is high.

The second factor is the bargaining power of buyers. The buyer's switching cost is very low. By just using a phone and internet connection, the customer can move easily from Halodoc to another telemedicine platform provider. Because of that, the bargaining power of the buyers will be high.

The third factor is the threats of substitute. The only substitute for Halodoc type of services is the conventional health services. Where people directly come to the hospital seeking medical services. At the current condition, the threats are low while people were building a new social distancing behavior. Telemedicine is the one that disturbs the conventional health service. However, after the Covid-19 pandemic ends, the substitution threat level can shift to a high level due to the disappearance of the regulation and the needs of social distancing that push people to try/choose telemedicine.

The fourth factor is rivalry among existing competitors. Alodokter, as Halodoc's number one competitor, provides the same kind of main product (chat with doctor). Even though there are some features that are not available on Alodokter, they can easily imitate because that are not inimitable kind of features. Besides, Alodokter has the first-mover advantage as the first health-tech startup in Indonesia that provide telemedicine services. Based on the data in SimilarWeb (2020), Halodoc has 28.64 million web visitors every month. The top 3 rivals of Halodoc are:

- Alodokter: with monthly web visit, 40.70 million
- Klikdokter: with monthly web visit, 13.44 million
- Halosehat.com: with monthly web visit, 15.06 million

The last factor is threats of entry. The threats will be low for a completely new player because the shadow of two dominant players (Halodoc and Alodokter) are too strong in this business. Besides, the capital to enter this business will be high. The threats will be high for conventional hospitals that want to provide telemedicine services. Because they already have a brand reputation,

loyal customers, and knowledge about the business. Besides, it will be easier for them to raise the capital needed as a reputable and functional hospital. As a player that has been engaged in the health sector for a long time, its access to supplies (doctors, pharmacists) will be easy. However, hospitals have limitations in developing the technology needed for telemedicine. Therefore, many hospitals collaborate with tech-health startups in developing their company's telemedicine services. The Siloam hospital collaborates with Aido Health in developing its telemedicine services.

C. SWOT Analysis (Internal Analysis)

Halodoc has several identified strengths, namely: a) Halodoc managed to provide good and consistent service throughout the business. This is evident from the questionnaire results: if the respondent has used more than one telemedicine service platform, the next question is which platform they use the most. 75.2% of respondents answered Halodoc, 14.2% answered Alodokter, and 4.4% answered Klikdokter. This provides insight related to customer satisfaction in using Halodoc services; if they use Halodoc services more frequently than other telemedicine platforms, they are more satisfied with the services provided by Halodoc; b) Have a good brand awareness compare to other service platforms. The questionnaire results indicated this: 83.6% of respondents stated that the telemedicine service platform they had used was Halodoc, 31.1% was Alodokter, and 5.7% was Klikdokter. This data shows that the brand awareness of Halodoc in the eyes of telemedicine service users is already strong; c) Provide a variety of types of services compared to other competitors. This is the point of difference of Halodoc compare to other telemedicine service platforms. Based on the questionnaire results, the variety of services provided is the second most important factor for users after the ease of using the application. To generate revenue, Halodoc has seven features (Chat with the doctor, health store, made appointment in the hospital, mental health, lab test, Covid-19 test, animal health). While to gain traffic and awareness, Halodoc includes several supporting services such as a menstruation calendar, medication remainder, Halofit, BMI calculator, and self-check for Covid-19; d) Their capability to simplify access to health services through digital integration between patients, providers (doctors, hospitals, pharmacies), and payers (insurance companies) in a short time. Halodoc adheres to an agile culture within its company, making it easier for them to provide new services quickly. This is proven because Halodoc is the first telemedicine platform that has succeeded in providing Covid-19 related services that can be accessed online.

The identified weaknesses of the company are a) In 2020, Halodoc can create a partnership with 19,000 licensed doctors and 1,000 certified partner pharmacists, and in 2019 Halodoc can create a partnership with 350 hospitals. This number is still below the number of

collaborations that have been successfully obtained by Alodokter (Halodoc's main competitor). In 2019 Alodokter managed to collaborate with 20,000 doctors and 500 hospitals in Indonesia; b) The service features available on Halodoc's website are not as complete as the services available in the application. An example is the follow-up feature that is not available on the website, leaving the customers with no choice but to download and use Halodoc's application.

The identified opportunities for the company's business are a) The low barrier and increasing number of users since the Covid-19 pandemic; b) Indonesia has 416 districts and 98 cities [17]. Halodoc still provides its services to 50 cities, there are many opportunities to expand service coverage areas; c) Increasing numbers of internet users. Based on the Indonesian Internet Service Providers Association (IISPA) survey, in 2020, there are close to 197 million internet users in Indonesia, which is 74% of Indonesia's population. It is a significant number that can utilize for Halodoc's business; d) Gain support from the government since the Covid-19 pandemic. The government urges the public to start using telemedicine services during the pandemic.

The identified threats for the company's business are a) Stiff rivalry among competitors. Based on strategic position theory by M. E. Porter, Halodoc adopt differentiation strategy position in their business. They differentiate their services and gives added value in the customer's eyes by including several features, such as:

- Option to conduct video and voice call with the doctor
- Provide consultation for animal health with a certified veterinarian
- Partnership with GOMED and provide delivery service option for the drug and prescription
- Create menstruation calendar, drug consumption remainder, BMI calculator, and Covid-19 self-check features to gain traffics.

Halodoc is not provided the lowest price within the industry, but the company provides a competitive price compare to its competitors; b) Government regulation can change at any time; c) The increasing number of competitors since the Covid-19 outbreak; d) Several interviewees stated that telemedicine's knowledge and awareness in Indonesia still minimal. Telemedicine was still relatively new to Indonesia's people. This condition causes reluctant on people to use telemedicine services.

D. Interview result

Primary data collection was carried out by interviewing several related key stakeholders, namely the business actors (Halodoc's employees) and health workers (doctors). In this paper, interviews were conducted with AVP of Business Strategic Development, Product Manager, Investor Relations & Corporate Development Manager, Associate Product Manager, Doctors (3 interviewees) that practice telemedicine.

Based on the interview result, 18 driving forces have been successfully identified. The driving forces can be

grouped into several general categories. Six categories can be formed based on the identified driving forces, namely political/legal, economic, social culture, technology, environment, and competitors.

Politic/legal

Politics can directly influence regulations; these regulation factors will directly impact Halodoc's business. In Indonesia, telemedicine is still not strictly regulated, so there is a possibility that this regulation will be updated and straightened, so there will be changes. This regulatory change must be obeyed by business players so that the impact on the business is enormous. The following is the statement put forward by KSA (March 15, 2021):

"Telemedicine regulation still in the "gray" area. There are no clear regulations related to telemedicine, at a time when the medical world is one of the tightly regulated sectors. But because of this pandemic we feel it has been helped from a regulatory perspective, because the government is encouraging people to use telemedicine."

The KSA statement above is supported by a statement from APR (March 16, 2021), which states:

"Telemedicine services do not only involve regulators in the health sector but also regulators in other fields such as communication and informatics, considering that in telemedicine there is digital communication (doctor consultation). So that regulation becomes a quite crucial factor."

APP (March 19, 2021) also stated that regulatory changes are difficult to predict. The changing regulations can become favorable or even the opposite for telemedicine business practice.

"The politics itself will directly impact legality, For the legality of telemedicine itself, it is actually still in the "gray" area, there are no regulations that really bind telemedicine. Currently no law that really supports telemedicine, this will have a bad impact if in the future there is a legal ban on telemedicine. Until now, because there is no clear regulation related telemedicine, it become a blocker to Halodoc, causes many doctors to hesitate to join. For example, there is a doctor who wrongly prescribes a drug in telemedicine, this could impact legality as well because now this matter has not been regulated in detail."

Statement from AAM state that the uncertainty of regulation is high.

"In the next 3 years we cannot predict what the government will be like and what changes in regulations will occur."

Also, the APP and LOH sources mentioned the development of the national insurance policy (BPJS), supporting Halodoc's business.

Economic

Based on the interview results, most of the interviewees stated that economic development could increase people's purchasing power and support the

growth of infrastructure needed by telemedicine. APR (March 16, 2021) also stated that financial literacy has a significant impact on telemedicine; the statement issued by APR is

"Financial Literacy. In general, the health industry involves 3 entities (patients, health service providers, and financial service providers). Telemedicine does not only connect patients and health care providers, but also financial services (eg health insurance). With higher financial literacy, digitalization of health services will more fully develop the telemedicine business."

Social culture

The main driving forces in social culture group is the people education and behavior regarding telemedicine. Telemedicine is a relatively new service in Indonesia, so the knowledge regarding the services is still minimal. This condition has become one of the most significant barriers in telemedicine. The lack of education leads to a lack of awareness, trust, and acceptance. This condition caused people to hesitate to use telemedicine. This condition is extracted from several statements from the interviewee, as follows:

1. "Education to customers related to telemedicine. Because telemedicine itself is a new concept (<5 years in Indonesia). Public education is still minimal related to the existence of telemedicine (an online health consultation method with doctors). People are still not used to using telemedicine. Besides that, there are habits, suggestions, and beliefs related to services (is it true that this service will be the same if we consult directly with a doctor?)." (KSA, March 15, 2021)
2. "There is a positive contribution between the level of education and awareness of health, especially of a medical nature. The higher the level of education tends to choose modern medical services with scientific support including telemedicine rather than traditional medicine. Also, the biggest challenge in telemedicine is about trust, both from the user side and from the doctor's side. The majority of Indonesian people still have the mindset of "go to the doctor" if there is physical contact or face to face with the doctor" (APP, March 19, 2021)
3. "Customer education, if we can educate customers well regarding telemedicine and the products we have, then Halodoc can gain customer's trust and they will become loyal customers" (DDW, March 17, 2021)

Technology

The main barrier in developing Halodoc is the uneven development of infrastructure. Without the adequate infrastructure and good technology penetration, telemedicine cannot develop rapidly. The statement issued by DDW (March 17, 2021) said that:

"Halodoc business was triggered by the unequal distribution of health workers in Indonesia. Doctors are concentrated in the Java area, while the people of

Kalimantan, Sulawesi, Papua also need the same quality of health services as the Javanese. However, to implement telemedicine in the area (undeveloped regions), there is a huge infrastructure and technology barrier. This is the reason why Halodoc is growing in big cities only, in remote areas such as Kalimantan, Halodoc's experience slow growth."

The DDW statement above is also supported by KSA statement (March 15, 2021):

"This business relies heavily on smartphones and the internet. Even though smartphone and internet penetration in Indonesia has a high growth but the distribution is not evenly through all regions."

In addition, several other factors are mentioned by the interviewee, namely the limitations of the types of services that can be provided online; the importance of data security, because medical records are included in the patient's confidential and personal data; and then technology innovation that business players can provide.

Environment

Indonesia's geographic conditions, which are full of separated islands, have resulted in unequal distribution of health facilities and health workers. These facilities and health workers are concentrated in urban areas such as Jakarta, Surabaya, Bandung, Medan, etc. The condition of unequal distribution supports the development of telemedicine. Telemedicine can be a solution to equalize health services in all regions of Indonesia; with telemedicine, everyone can consult a doctor of their choice without being constrained by distance. Besides, the Covid-19 pandemic has also boosted the growth of telemedicine. Because it minimizes the barrier (education related to telemedicine that is still minimal), it is easier for business players to penetrate the market and acquire new customers. Supported by the statement from APP (March 19, 2021)

"This pandemic has become a blessing for telemedicine, for the public to at least try the experience of telemedicine. People who had been hesitant to try telemedicine wanted to try it because of this pandemic."

Competitors

There is a stiff rivalry between competitors, especially between the two most prominent players, namely Halodoc and Alodokter. Also, there was an increase in the number of competitors providing telemedicine during the Covid-19 pandemic. Like the statement issued by SJA (March 1, 2021)

"If it is from the competitor's point of view, in the future there will be more competitors appearing. Especially now, due to Covid-19 a lot of hospitals started to provide telemedicine services."

APR (March 16, 2021) also mentions the company has to maintain the consistency of the services provided to gain consumers' trust and loyalty. DDW also mentions brand awareness as a factor to gain trust from consumers. The statement issued by the APR is

"Consistency of Service. The consistency of telemedicine services is a critical factor for competition in the telemedicine business. Service reliability will give users loyalty in choosing telemedicine services."

E. Questionnaire result

There were 207 valid respondents and 3 invalid respondents from the distributed questionnaires because they were under 21 years of age, which is the legal age to use telemedicine without supervision. The respondents came from Java and Sumatra islands, where Halodoc services are available. The following are the important findings from the questionnaire results:

- The main reason users do not use telemedicine is that they do not need this service (44.2%), the second reason is that they do not know the existence of telemedicine service (23.3%), and the third reason is that there is no telemedicine service in the city they are in (4.7%). Some of the other reasons cited by respondents were that they felt more comfortable and more trusting when they met a doctor face to face (14.0%).
- 28 out of 44 respondents (63.6%) who were over 50 years old stated that they had never used telemedicine services. Telemedicine is a new technology, so its penetration into older people will be more difficult because their ability to adopt technology is lower than younger generations. For respondents aged 21-30 years, 28% stated that they had never used telemedicine, 41.7% for respondents aged 31-40, and 60% for respondents aged 41-50%. This shows that the older the people are, the more difficult telemedicine penetration becomes.
- 83.6% of respondents stated that the telemedicine service platform they had used was Halodoc; 31.1% was Alodokter, and 5.7% was Klikdokter. This data shows that the brand awareness of Halodoc in the eyes of telemedicine service users is already strong.
- If the respondent has used more than one telemedicine service platform, the next question is which platform they use the most. 75.2% of respondents answered Halodoc, 14.2% answered Alodokter, and 4.4% answered Klikdokter. This provides insight related to customer satisfaction in using Halodoc services; if they use Halodoc services more frequently than other telemedicine platforms, they are more satisfied with the services provided by Halodoc.
- 50.8% of respondents stated that they chose to use the platform because they only knew the platform (good brand awareness); 29% stated that the services provided were more comprehensive compared to another platform. 12% stated that the complaints given by the customer are appropriately handled (good customer service). After that, 8.9% of respondents stated that the services provided (consultation) were better; and 8.9% of respondents also stated the platform had more promos. We obtained insight into

what consumers consider important while choosing a telemedicine platform service from this data. The first is brand awareness, then the variety of services they provided, and the last is how the company handles the complaints.

- Since the Covid-19 pandemic occurred, there has been an increase in the use of telemedicine services.
- The services most frequently used were consultation with doctors (49.2%), purchase and delivery of drugs (41.9%), and laboratory examinations, including Covid-19 examinations (4%).
- 87.1% of respondents stated that they would continue to use telemedicine after the Covid-19 pandemic has passed.
- 80.6% of respondents stated that they still wanted to use telemedicine even after Covid-19 had passed because of the efficiency of time, where patients did not need to go directly to the hospital. 38% of respondents stated that telemedicine is helpful in getting a second opinion regarding their symptoms. 13% of respondents stated that they still wanted to use telemedicine because of the lower price the service offered.
- The main complaints that respondents currently have regarding telemedicine are the limited choice of doctors (35.2%), limited choice of drugs that can be purchased (31.5%), high prices (12%), and poor internet connection (12%).
- Some of the services that the respondent expected to present in the future
 1. Home service for vaccines
 2. Doctor of lactation/child development
 3. Homecare visit (doctor, therapist, elderly nurse)
 4. Ambulance on demand
 5. Services related to prescription drugs
 6. Better integration with hospitals
 7. Data integration with hospitals
 8. More choice of doctors
 9. Drive-thru MCU
 10. Integrated with BPJS
 11. Consultation with a pharmacist

Respondents have several suggestions, such as video calls/phone calls with doctors and psychology services that Halodoc has provided. This proves that public education related to the Halodoc available services is still lacking.

- The main reason respondents no longer wanted to use telemedicine after Covid-19 ended was that they already had their doctor (43.8%). 12.5% stated that they received unsatisfactory service. 12.5% stated that there are conditions that still require direct clinical examination by a doctor.
- When respondents were asked about the complaints they had when using telemedicine, the majority of respondents demanded better communication and response from the doctor.

The results of this questionnaire are then used to support internal and external analysis and are used to develop options for each scenario.

IV. DISCUSSION

A. Orientation

The key focal issue that has been identified (based on interview result) are:

1. How will the telemedicine industry look like in the next three years?
2. What kind of strategy should Halodoc take to deal with the conditions after the Covid-19 pandemic is over?

B. Exploration

Eighteen driving forces have been successfully identified based on interview results (Table 1). The identified driving forces are then grouped into 6 major categories, namely: political/legal, economic, social culture, technology, environment, and competitors.

TABLE I
 Identified Driving Forces for Telemedicine Business

Category	Driving Forces
Political/ Legal	Changing of regulation Development of policies related to national insurance (BPJS)
Economic	Economic growth Financial literacy
Social Culture	People's education/behavior related telemedicine Doctor behavior
Technology	Infrastructure development Technology innovation Limitations of the services that can be provided through telemedicine Data security
Environment	Geographical conditions Covid-19 pandemic Uneven distribution of health workers Uneven distribution of health facilities
Competitors	The increasing number of competitors Consistency of service Stiff competition between competitors Brand Awareness

The next step is to determine the critical uncertainty of the identified driving forces. Critical uncertainty is determined based on the results of scoring conducted at the interview stage, where each interviewee is asked to choose several driving forces that they consider having the highest level of impact and uncertainty. The summary result of the interview related to critical uncertainties identification is provided in Table 2. Critical uncertainties are selected from the driving forces that have the highest level of impact and uncertainties.

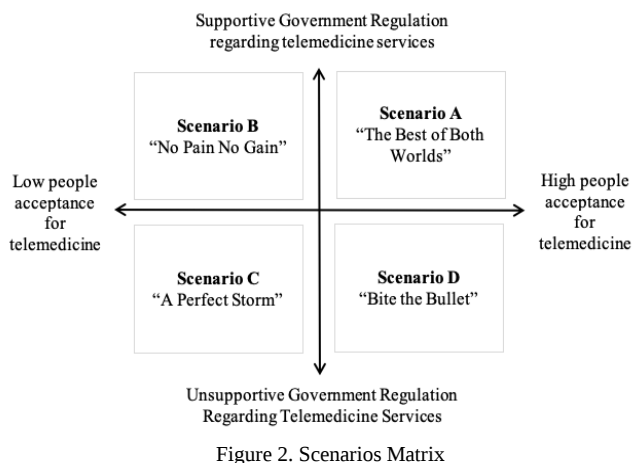
Based on the result presented in Table 2, the driving forces that have the highest level of impact and uncertainty are changing regulations and people's education/behavior related telemedicine. These keys uncertainty will be used in developing scenarios matrix.

TABLE 2
 The Critical Uncertainties Matrix

Category	Driving Forces	Level of Impact	Level of Uncertainty
Political/ Legal	Changing of regulation	High	High
	Development of policies related to national insurance (BPJS)	Low	Low
Economic	Economic growth	Low	Low
	Financial literacy	Low	Low
Social Culture	People's education/behavior related telemedicine	High	Medium
	Doctor behavior	Low	Low
Technology	Infrastructure development	Low	Low
	Technology innovation	High	Low
	Limitations of the services that can be provided through telemedicine	Low	Low
	Data security	Low	Low
Environment	Geographical conditions	Low	Low
	Covid-19 pandemic	Low	Low
	Uneven distribution of health workers	Low	Low
	Uneven distribution of health facilities	Low	Low
Competitors	The increasing number of competitors	Low	Low
	Consistency of service	Low	Low
	Stiff competition between competitors	Low	Low
	Brand Awareness	Low	Low

C. Scenario Creation

The two driving forces used to form the scenario are changing regulation and people's education/behavior regarding telemedicine (the critical uncertainties). These driving forces will be translated into government regulation and people's acceptance of telemedicine



Scenario A: The Best of Both Worlds

Description: The best of both worlds is an idiom used to describe the ideal situation. This scenario is the best possible scenario that might happen for Halodoc. The government regulation is friendly towards telemedicine business, and the people have been well educated and aware about telemedicine. This situation is an ideal situation where the company can thrive the most.

Narratives: The government issued a new regulation related to telemedicine practice. During Covid-19, the government saw a prominent role played by telemedicine providers. One significant advantage the government has observed with telemedicine is the reduction in overhead expenses. The government thinks that telemedicine is one of the solutions in reducing the operational burden of national insurance (BPJS) and decides that telemedicine can be an option to get first aid. The government decided that the BPJS could cover the cost of telemedicine treatment. The government has also expanded the authority of doctors in providing services through telemedicine. For example, doctors can provide referral letters if needed, and this referral letter also applies to patients who use BPJS.

To improve Indonesia's health services, the government has started to initiate a national integrated health system project. The medical records of patients are integrated nationally and can be accessed by authorized parties. The comprehensive patient medical record helps and increases the doctor's accuracy in providing a proper diagnosis. It will minimize the possibility of misdiagnosis.

Due to the government's new regulations, the level of public trust in telemedicine has increased. Previously, if patients wanted to use the BPJS, they have to visit the public health center (PUSKESMAS) first. However, due to new regulations, patients have the option to do so via telemedicine. They can get better services and consult directly with the specialist they want (most PUSKESMAS provide general practitioners and few to no specialist doctors). Health workers carry out socialization at PUSKESMAS to make it easier for people to get health services.

Scenario B: No Pain No Gain

Description: No pain, no gain is an idiom used to describe if you want something, you have to work for it. In this scenario, the government regulation is favorable for the telemedicine business, but people's acceptance of telemedicine is still low. The lack of education and awareness led the people to be reluctant to use telemedicine and trust the services. Halodoc and other players' efforts in spreading awareness and educating the people are not enough. This is something that the company has to overcome; educating many people is not an easy job. If the company cannot overcome this issue, then business growth will be stunted.

Narratives: The government issued new regulations related to telemedicine. The government observed that the benefits offered by telemedicine service during Covid-19 were significant. Therefore, the government is interested

in issuing new regulations to support the implementation of telemedicine in Indonesia. Some of the new regulations issued by the government are:

- The collaboration of BPJS and telemedicine, telemedicine expenses can be covered by BPJS.
- Provide clear guidelines for conducting telemedicine business and practice
- Provide clarity and legal protection for patients and service providers (platform providers, doctors) if a problem occurs
- Expanding the scope of services that can be provided through telemedicine (referral letters, follow up outpatient treatment)

However, due to the lack of socialization carried out by business players and the government, public awareness and education regarding telemedicine services are still minimal. The public is still afraid and doubts diagnose given by doctors during online consultations. Going to the hospital still becomes the public first choice in seeking medical consultation.

Scenario C: A Perfect Storm

Description: A perfect storm is an idiom used to describe the worst possible situation. In this scenario, the government tighten the regulations and become unfavorable towards telemedicine, so it will be difficult for companies to do business. Also, public acceptance of telemedicine is still low, which causes them to hesitate to use telemedicine services. In this condition, the company must be able to do and provide something different to survive.

Narratives: Major obstacles to implementing telemedicine are the absence of a legal framework regulating patient privacy and confidentiality relating to the transfer, storage, and sharing of data between health professionals, the absence of management guidelines, and the risk of medical liability for health professionals in carrying out telemedical services. Also, there is no protection (insurance coverage) for patients in case of malpractice in telemedicine services. This condition causes the low trust of consumers and doctors to participate in telemedicine.

The National Agency of Drug and Food Control (BPOM) has prohibited the practice of circulating drugs online for prescription, narcotics, and psychotropic drugs due to the increased number of drug abuse. Previously, online drug redemption could be done by uploading the original prescription photo to the service provider platform, and the partner pharmacy prepares the prescription drugs. Several problems can occur by only uploading a photo of the prescription, namely the difficulty in distinguishing the originality of the prescription, and the patient can still redeem the prescription because the original copy is still in their possession. This condition compromises consumer safety, increasing the potential for drug abuse, antibiotic and antiviral resistance. This is what underlies the prohibition of the circulation of the above drugs. The lack of legality guarantees and circulating news regarding drug abuse

using telemedicine services made the public more reluctant to use telemedicine.

Scenario D: Bite the Bullet

Description: Bite the bullet is an idiom used to get something over with because it is inevitable. As a company that does telemedicine business, Halodoc must comply with all regulations set by the government, even though these policies unfavorable for the business. In this scenario, the government issues a regulation that makes it difficult to run the telemedicine business, but the public acceptance towards telemedicine is improving (high). In this situation, Halodoc in various must comply with all regulations set by the government because the existing market is ideal and profitable.

Narratives: Due to telemedicine's high public interest, the government has tightened regulations related to telemedicine practice to ensure patient safety. The government and related institutions issued new regulations on telemedicine, namely:

- To practice telemedicine, doctors must attend special training and receive specific certifications, just like the GELS certificate to treat emergency, ATLS certificate to treat trauma.
- Doctors must obtain a special license to practice if they want to practice telemedicine for a specific platform, just like the license they need (SIP) to practice in a particular hospital or clinic.
- To conduct telemedicine practice, there must be specific certifications that service providers must hold. This certificate can be related to data security or special certificates such as "telemedicine certification," which is implemented in the USA.
- To minimize the possibility of drug abuse, after the patient has uploaded a photo of the prescription to the service provider platform, the driver who delivers the medicine to the patient's address must take the original prescription and submit it to the partner pharmacy.

D. Implication and option

TABLE 3
 IMPLICATION AND OPTION FOR EACH SCENARIO

Implication	Options
Scenario A: The best of both worlds	
• People prefer to use online consultation rather than directly go to the hospitals. So, there will be an increasing number of people using telemedicine services. • Lower cost of customer acquisition • Government regulation becomes very supportive regarding telemedicine services.	• Work together with the government (BPJS); telemedicine has become one of the services covered by BPJS. Since BPJS was launched, the company has always suffered losses. Telemedicine has a lower cost structure compared to conventional health services. By making telemedicine one of the standards in treatment, it can reduce the cost. • Based on the survey results, the reason respondents used a telemedicine platform was 50.8% due to brand awareness and 29% because of the platform's various services. Brand awareness of Halodoc is already one of the highest in the industry; 75% of the respondent said that they use Halodoc as a telemedicine service platform. So, the company can develop new kinds of services and widen its

Implication	Options
	business portfolio, making Halodoc a one-stop solution for online health-based services. The services developed can be in the form of, but are not limited to: ☐ Ambulance on demand ☐ Funeral services ☐ Home visit (doctor, therapist)
	- Improvements on existing products. The majority of respondents complained about the doctor's delayed response during consultations, and many respondents asked to provide consultation via voice/video call. Halodoc already has this service. To increase patient awareness regarding this feature, Halodoc can add the option of conducting consultations via chat/voice/video call to choose the type of consultation method they need. - Halodoc should acquire more partner doctors. - Create a feature that can integrate the data from the "internet of things," such as a smartwatch that can detect and record the heart rate, number of steps, water consumption, etc. This data can be used as follow-up examination data or auxiliary data in diagnosing the patients replacing the needs of physical examinations.
Scenario B: No pain, no gain	
- People still reluctant to use telemedicine services and prefer offline consultation with doctors. There will be a slight increase or a stagnant number of active users. - Government regulation becomes very supportive regarding telemedicine services.	- Work together with BPJS. BPJS is the largest and most equitable insurance service used by the people of Indonesia. If BPJS covers telemedicine services' cost, users' doubts about using the service can be minimized. The costs incurred by patients are very minimal. - Provide a home visit from the doctor, so the barrier "they cannot trust the diagnostic result" can be torn down because the doctor can do a physical examination on the patient. This also can be a way of educating the patient that teleconsultation is safe for specific conditions. - Collaborate with hospitals in providing teleconsultation services. For example, to follow up condition, the patient can use telemedicine instead of directly go to the hospital. - Spend more capital on marketing and educating the people - Seek the potential to expand services in remote areas where access to health facilities is still limited but have enough smartphones and internet adoption to support the operation. With this condition, telemedicine can be the right solution for people. It will make the penetration process easier.
Scenario C: A perfect storm	
- People prefer to consult with an offline doctor in the hospital or clinic. The numbers of people using telemedicine platforms are stagnant or experience a slight increase. - Higher customer	- Collaborate with hospitals that want to provide telemedicine services. The hospital already has customer's trust and loyalty. Halodoc can act as a third-party in providing the technological aspect, while the hospital conducts the telemedicine service and the branding. - Provide another type of service that is still not highly regulated but needed by the people. Such as:

Implication	Options
acquisition cost • Government regulations are stringent and unsupportive for telemedicine business.	☐ Ambulance on demand ☐ Funeral services ☐ Drive through vaccination ☐ Consult with pharmacist
Scenario D: Bite the bullet	
- The government regulation becomes very strict and unsupportive related to telemedicine services. - People prefer to use online consultation with doctors rather than directly go to the hospitals. There will be an increasing number of telemedicine users.	- Keep on doing the current business while focusing on meeting the legal requirements issued by the government. - Improvements on existing products. Add the option of conducting consultations via chat/voice/video call so the customer can choose the type of consultation method that they need. - Developed a new kind of online health services that are not tightly regulated. Such as: ☐ Ambulance on demand ☐ Funeral services ☐ Drive through vaccination ☐ Home visit doctor, nurses, therapist

E. Integration

Options that have been developed will only be effective if they are executed in the intended scenario. Therefore, it is necessary to develop an early warning signal indicating what scenario is most likely to occur. Below are the early warning signals for each possible scenario:

TABLE 4
EARLY WARNING SIGNALS

Indicators	Measurement	Signpost
Scenario A: The best of both worlds		
Regulations	Government support	- Updated regulation that favorable for telemedicine practice - News related to the cooperation between BPJS and telemedicine
	Number partnering doctors	The increasing number of doctor partners who cooperate with the telemedicine service provider
Customers' Behavior	Number of telemedicine users	The steady or exponential growth of new users in telemedicine
	Circulating news	The increasing number of people who choose telemedicine for outpatient treatment. The number of outpatients in the hospital decreases.
Scenario B: No pain, no gain		
Regulations	Government support	Updated regulation that favorable for telemedicine practice
	Number partnering doctors	The increasing number of doctor partners who cooperate with the telemedicine service provider
Customers' Behavior	Number of telemedicine users	The decreasing number of telemedicine users
	Circulating news	Even after the Covid-19 pandemic, most people did not know about telemedicine services.
Scenario C: A perfect storm		

Indicators	Measurement	Signpost
Regulations	Government support	Updated regulation regarding telemedicine that unfavorable for telemedicine practice
	Number partnering doctors	The decreasing number of doctor partners who cooperate with the telemedicine service provider
Customers' Behavior	Number of telemedicine users	The decreasing number of telemedicine users
	Circulating news	• Circulating news regarding malpractice on telemedicine • Increased drug abuse through telemedicine services
Scenario D: Bite the bullet		
Regulations	Government support	Updated regulation regarding telemedicine that unfavorable for telemedicine practice
	Number partnering doctors	The decreasing number of doctor partners who cooperate with the telemedicine service provider
Customers' Behavior	Number of telemedicine users	The increasing number of telemedicine user
	Circulating news	The level of public interest in telemedicine services increased after the Covid-19 pandemic passed. Therefore, the government issued several new regulations to ensure the safety of the community.

V. CONCLUSION

Telemedicine is one of the businesses that has been positively affected by the Covid-19 pandemic. Halodoc is one of many health-tech startups that provides telemedicine services in Indonesia. The company is experiencing exponential growth during the pandemic. The big question is, "what is the condition of telemedicine business after the Covid-19 pandemic has passed?" The company must prepare a strategy suitable for all the possibilities that occur in the future. One method that can be used to prepared for future uncertainty is scenario planning.

Based on the results of external and internal analyzes that have been carried out through literature studies, interviews, and questionnaires, several essential points can be concluded as follow:

The key focal issue is an important aspect of scenario planning. The key focal issue for the Halodoc company is "How will telemedicine industry look like in the next 3 years?" and "What kind of strategy should Halodoc take to deal with the conditions after the Covid-19 pandemic is over?"

Driving forces are factors that can affect the company and the identified key focal issues. Based on the results of interviews with experts, 18 driving forces were identified, which were divided into six major categories, namely: Politic/legal, Economic, Social culture, Technology, Environment, and Competitor.

Of the 18 identified driving forces, two driving forces have a high impact and uncertainty on the identified key focal issues. The two driving forces are government

regulation and people's knowledge/behavior. These two driving forces are called critical uncertainty.

Based on the critical uncertainties that have been identified, four possible scenarios were developed, namely: The best of both worlds, No pain no gain, The perfect storm, and Bite the bullet.

Implications and options are developed for each scenario that is formed. The best of both worlds: the implications are the people prefer to use online consultation rather than directly go to the hospitals, so there will be an increasing number of people using telemedicine services, lower cost of customer acquisition, and the government regulation become very supportive regarding telemedicine services. This scenario's options are to create a partnership with BPJS, develop new kinds of services, improve the current product based on customer input, and acquire more doctors as partners.

No pain, no gain: the implications are people still reluctant to use telemedicine services and prefer offline consultation with the doctors, so there will be a slight increase or a stagnant number of active users. Government regulation becomes very supportive regarding telemedicine services. This scenario's options are to focus on marketing and promoting activity, provide home service products, acquire more partnerships with hospitals, seek the potential to expand service coverage to remote areas, and create partnerships with BPJS.

The perfect storm: the implications are people still prefer to consult with an offline doctor in the hospital or clinic, so the numbers of people using telemedicine platform is stagnant or experience slight increase, higher customer acquisition cost, and government regulations are very strict and unsupportive for telemedicine business. This scenario's options are to provide a new kind of service and collaborate with hospitals in providing telemedicine services.

Bite the bullet: the implications are that government regulation becomes very strict and unsupportive related to telemedicine services. People prefer to use online consultation with doctors rather than directly go to the hospitals, so there will be an increasing number of telemedicine users. This scenario's options are to provide new kinds of services, Improve the current product based on customer input, and fulfill all the regulatory requirements.

The strategic imperatives that can be synthesized from the options of each scenario are developed new features other than telemedicine services (ambulance on demand, home care visit) and collaborate more with hospitals.

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