A Service Feasibility Study of MedDash: An Android Mobile Application to order Ethical Medicines in Indonesia

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Abstract

The influence behind the concept of the MedDash, an application designed to help drugstore units, is the ongoing COVID-19 pandemic that has disrupted almost all aspects of life, including how people access goods. While Indonesia's most prominent delivery hailing applications garnered triple revenue with an estimate of $500 million collectively on the second and third quarter of the pandemic as home deliveries have been viewed as a solution to attend to the needs of families and senior citizens brought by the COVID-19 pandemic (Unnikrishnan, A., & Figliozzi, M. A.,2020). Given this situation, the proponents came up with MedDash, an Android mobile application. The platform aims to give drugstores an online avenue to sell their products, such as medicine and other essential medical equipment, and help them generate additional sales during and after the pandemic, and simplify control in one place. The primary targets on the list are the retail pharmacy companies in Jakarta, while the secondary target markets are medical clinics and hospitals with drugstore units. The framework used for the study is Porter's Five to understand the forces that shape the competition within an industry. The Porter's Five can help MedDash adjust its strategy to suit its competitive environment and yield gains that sustain the business.

Additionally, the service blueprint is used to portray how the business model works and show the flow of the business operations. It can visually help the proponents and readers clarify how the components included in the blueprint interact. Also, it can point out the possible sources of dissatisfaction within a service experience. To check whether the service is suitable for the target market, the researchers conducted a market demand analysis to identify if there is a promising market that is profitable and worth venturing in, calculated the projected sales of a prospective client, and held a focus group discussion with a group of individuals working in the pharmaceutical industry.

Keywords: Pharmacies/Drugstores, Online platform, Mobile Application, COVID-19, Indonesia

Introduction

The ongoing COVID-19 pandemic has disrupted almost all aspects of life in Indonesia, including how people access goods, specifically prescription medicine. The demand for prescribed

drugs, including both generic and patented, was low throughout 2020 due to the reduced number of trips to hospitals and pharmacies caused by COVID-19 (Medina, 2020). However, the ease in the community lockdown measures has dramatically increased the foot traffic for the pharmacy stores and increased average revenue per pharmacy. Indonesia's most prominent delivery hailing applications garnered triple revenue with an estimate of $500 million collectively on the second and third quarter of the pandemic as home deliveries have been viewed as a solution to attend to the needs of families and senior citizens brought by the COVID-19 (Unnikrishnan, A., & Figliozzi, M. A.,2020).

In addition, according to Frost and Sullivan (2019), online sales channels are the future and could account for most of the retail sales volume. Since the buying preference of consumers is expected to become online, which means drugstore chains are also expected to gradually switch from brick-and-mortar physical store set-ups to online sales channels, such as e-commerce platforms, because it requires less capital investment and operational costs and levels the playing field for new market entrants.

With this, the concept of the MedDash mobile application is proposed. MedDash is a health-service-based platform that helps businesses drive forward and fuel results. It gives drugstores an online avenue to sell their products, such as medicine and other essential medical equipment, and helps them generate additional sales during and after the pandemic, and simplify control in one place.

The primary target market is the retail pharmacy companies in Jakarta that are privately and locally owned and do not have online platforms yet where the public can avail of their products; some of the primary targets on the list are Apotek Roxy, Apotek Senopati, and Guardian Pharmacy. While the secondary target markets are the medical clinics and hospitals with drug stores, as they compose 26% of the pharmacy retail industry, included on the list are the drugstores inside Rumah Sakit General Hospital, Siloam Pasar Baru General Hospital, and Hermina Hospital Group

Framework

Considering that this is a feasibility study, aside from showing the operational framework, the researchers also include the B2B and B2C service blueprint of MedDash and the Porter's Five Forces Model.

Porter's 5 Forces Model

The researchers used Porter's 5 Forces Model to survey the attractiveness of health-tech service platforms in Indonesia. The Porter's 5 Forces Model will help MedDash determine its required plans of actions and strategies to keep up with the industry trend and help the service grow/develop in the future.

The Threat of New Entrants (High)

Due to the moderate government policies on developing mobile applications in Indonesia, a high level of attractiveness in the healthcare app industry, and high economies of scale, it is ideal for offering a healthcare platform/application to the pharmacies and drugstores in Indonesia. The only significant factor that will be a barrier to entry is the high capital requirements; however, access to distribution channels is easy as long as sufficient research and execution are done. Thus, companies will be able to divide their fixed costs and lower the capital costs. As a result, the threat of new entrants is considered high, implying that more enterprises may be entering this industry in the future.

Bargaining Power of Suppliers (Moderate)

Given that Google Play and App Store are the most famous distributors of mobile applications, with millions of applications available, it shows how distinct these two are. It gives Google Play and App store a high bargaining power, especially for Google Play Store, since Android users account for 91.7% in Indonesia (Statista, 2021); without using the platform of Google Play, mobile applications like MedDash will struggle to reach out to its potential users. Strong bargaining power indicates that Google Play can increase prices and demand for other trade advantages. Before uploading an app in Google Play, they must first pay a one-time registration fee of 25$.

Bargaining Power of Buyers (Moderate)

With a limited substitute available and a high number of customers available, it weakened the healthcare application industry's consumers' bargaining power. Because when a business has a significant number of customers, it will not be affected by the customers who refuse to acquire the product or service. Similar to MedDash, since there are already over 35,000 pharmacies and drugstores throughout Indonesia (KenResearch, 2018), thus if some pharmacies/drug stores do not wish to partner with MedDash, they still have a lot of pharmacies/drug stores to choose from. The lower bargaining power pharmacies/drugstores have, the better for the company, as this will reduce their power to potentially argue with the company regarding the price of the application, making the industry more appealing while also increasing the revenue for the company.

The Threat of Substitutes (Moderate)

Apart from using readymade pharmacy delivery applications like MedDash, drugstores/pharmacies have the option to switch to other substitutes, such as sticking to traditional shopping, developing their digital application, or using other big telemedicine applications. However, the switching costs will be high since sticking to traditional shopping will reduce its sales, while developing its application will be expensive and time-consuming. Thus, this makes the threat of substitute services to be moderate.

Intense Competition Rivalry (Moderate)

There are only a small number of rivals in the industry so far. However, there is a possibility

that this could result in the future because it is easy for other companies to copy this innovation. However, note that the exit barriers are also low, which means businesses can diversify into other mobile applications if the industry gets overly competitive in the future. Thus, the competitiveness among existing competitors is considered moderate.

Based on the analysis of the five forces, the industry that MedDash's plans to enter is desirable because for the following reasons: it is easy to enter and exit the market, the bargaining power of its clients (drugstores/pharmacies) is low, and even though healthcare applications are already available on the market, the market is not yet very competitive as there is still a difference between what the company offers and what others offer. However, there are also challenges in the industry with only a few suppliers on the market. The bargaining power of MedDash will be restricted, and given that the market is easy to enter, the competition is likely to increase in the future.
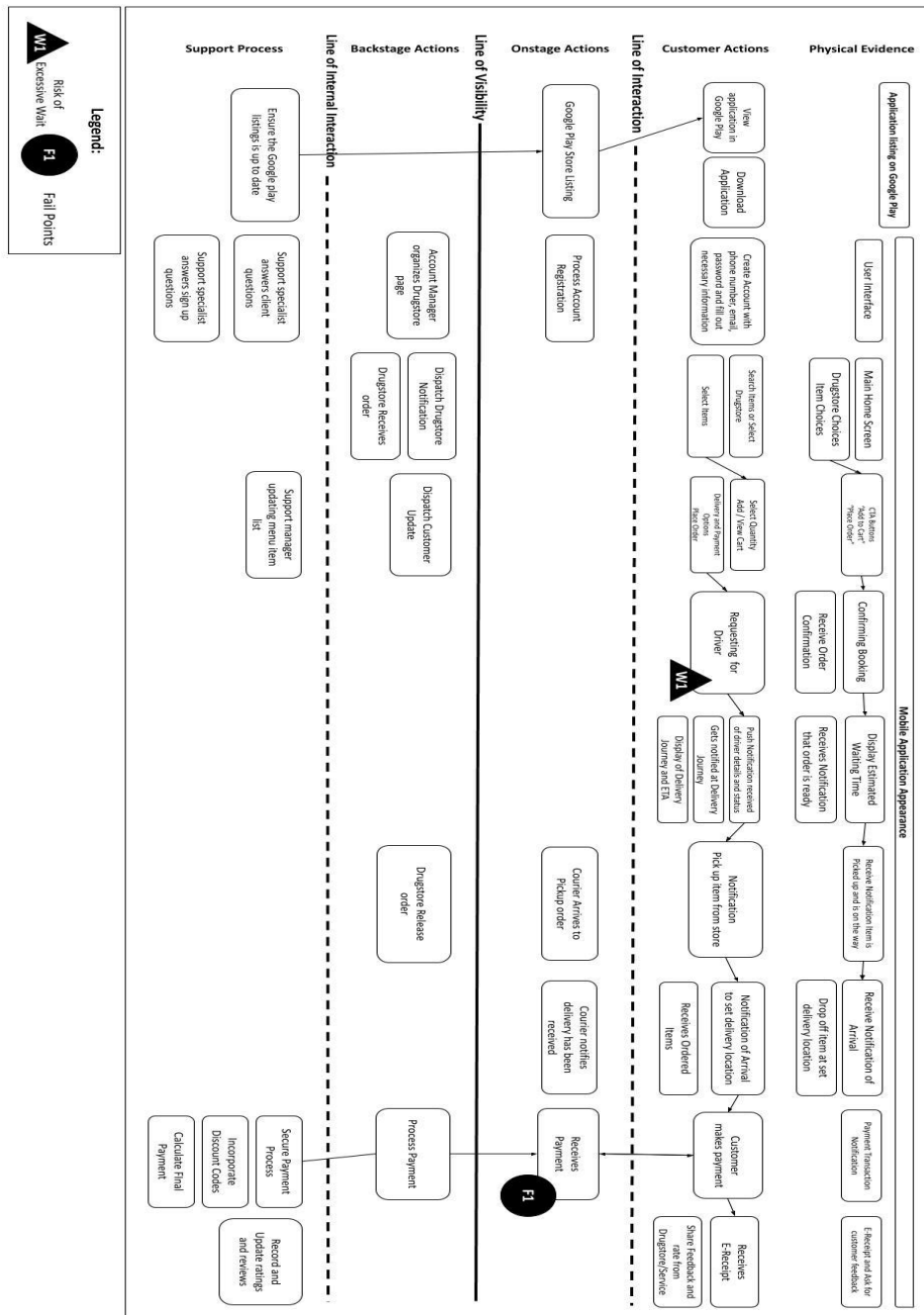
Service Blueprint

Figure 1
B2B Service Blueprint
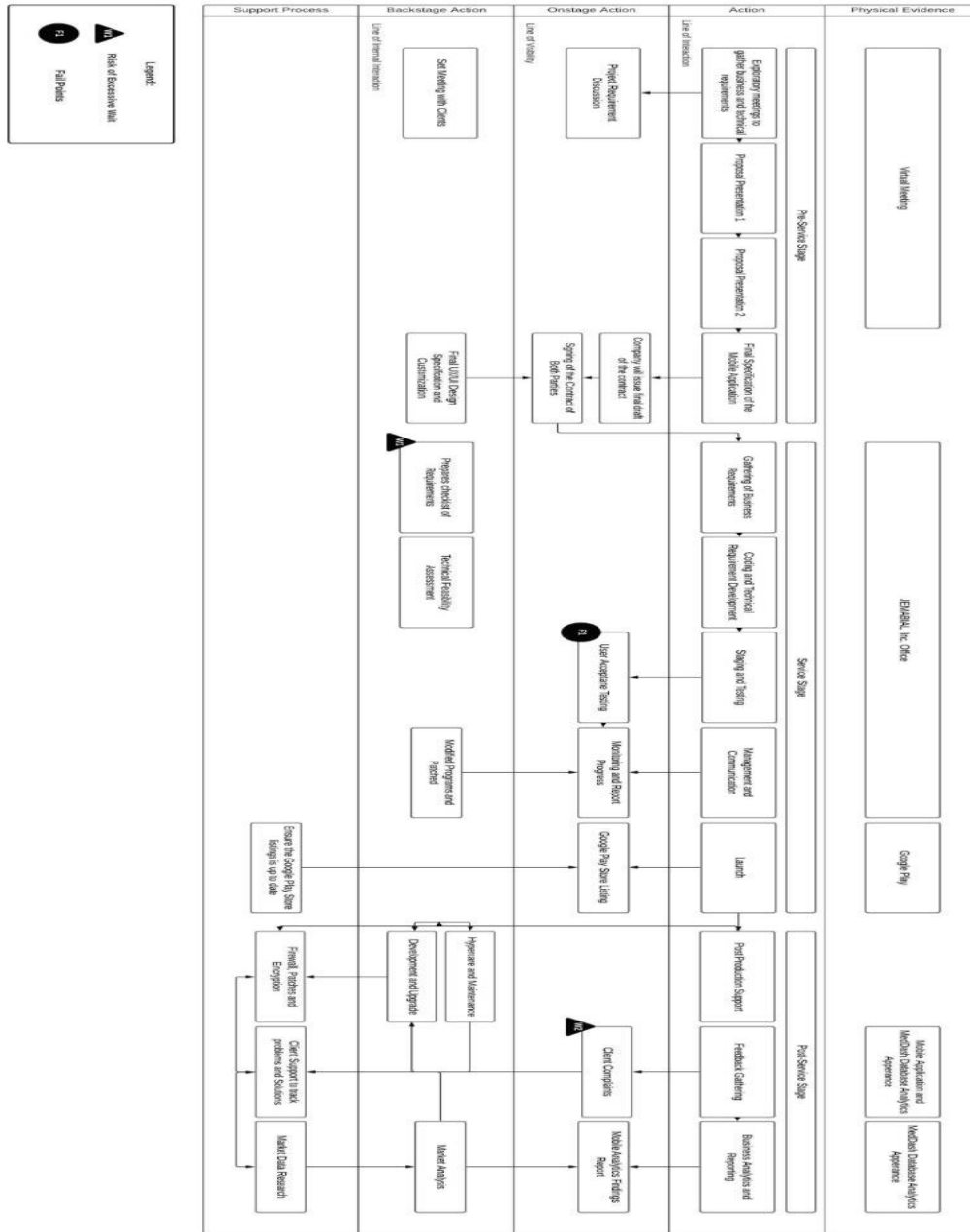
The following figure shows the business-to-business service blueprint of MedDash. It illustrates the process sequence of how MedDash will render its services to its customers and clients. This blueprint is used to understand the business and its operation, including the pre-service, service, and post-service stages.

Figure 2
B2C Service Blueprint

The business-to-customer service blueprint presented is the totality of MedDash service as a process. This illustrates the service and simplifies the service complexities by showing the sequence of phases of how the proponents' clients will utilize it to its end users. The blueprint also indicates the connections and interactions of the company's application and employees with the customers. Service gaps such as W1 may be due to high demand time of booking in the user's area

or unstable connection. In addressing this gap, the application will alert drivers nearby the area to come down, and a pop-up notification will be flashed to make sure that the user's device has stable access to a Wi-Fi connection or mobile data for the booking to push through. In F1, this service gap may be due, or internet connectivity and the app freezes/ not responding. A pop-up notification will address poor connectivity, indicating that the user's device has an unstable connection. In-app freezes and not responding errors will be addressed by clearing cache and notification of new app version or updates.

Operational Framework

Figure 3
Operational Framework
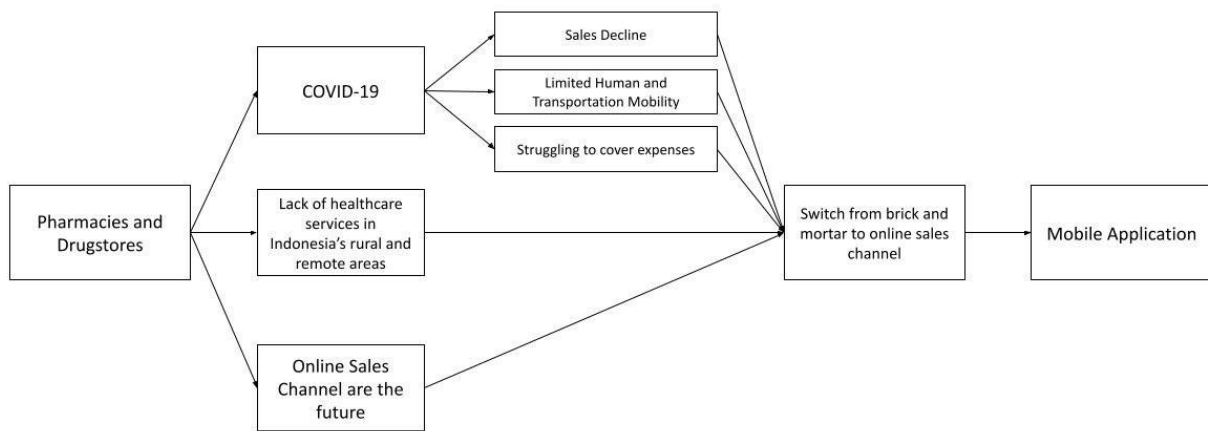
The diagram shows the increasing demand for online sales channels for over-the-counter and prescription drugs. With that, drugstores and pharmacies in Indonesia are gradually switching from brick-and-mortar structures to online platforms, given the circumstance that most Indonesians are rampantly buying their essentials online. Due to COVID-19, transportation mobility became limited, and also, in provincial areas, healthcare infrastructure became subnormal. Despite that, drugstores and pharmacies strongly believe that having a sales platform will enable the business to reach its target market during the pandemic; more so, having an online platform can help address the declining sales and cover operational expenses. The platform they will avail for their business is a mobile application that is the most accessible and versatile to its market.

Methodology

In order to determine whether the MedDash application is feasible in Indonesia, the researchers conducted a market demand analysis to understand how much consumer demand exists. The data found were Indonesia's Pharmacy Retail Sector and the forecasted E-Commerce Value in Indonesia for 2016-2024. In addition, the researchers calculated the project sales for a particular company by using the data (e-commerce sales) from Watsons and benchmark it to Guardian, a company that does not have an online platform yet. The purpose of this is to give

pharmacies an idea of how their sales will grow when using an online platform like a mobile application. Furthermore, a focus group discussion was also done through the zoom conference with individuals working in the pharmaceutical industry, including pharmacists, pharmacy managers, business owners, and office staff.

Discussion of Results

Demand Analysis

Indonesia's Pharmacy Retail Sector
Indonesia's pharmacy retail sector is in the growing phase with over 40,105 drug stores and pharmacies and a revenue CAGR-(Compound Annual Growth Rate) of 8.1% during 2014-2019. The rising incidence of lifestyle-related diseases such as diabetes, obesity, hypertension, and various heart-related diseases and the prevalence of communicable diseases such as tuberculosis and influenza among the growing population are the primary drivers of growth in pharmacy retail revenue due to increased sales of private-label goods. The aging population is another key factor. According to the United Nations, by 2050, the percentage of Indonesians aged 60 and more would reach 25%, or almost 74 million older persons.
Indonesia's E-Commerce Value

Figure 3
E-Commerce Value in Indonesia 2016-2024 Forecasted
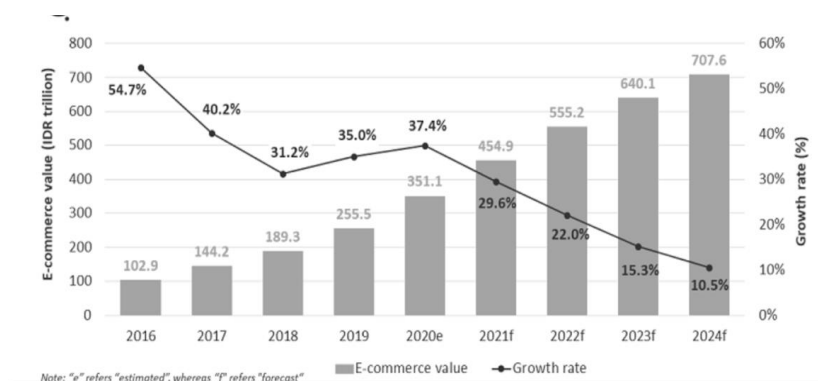
Source: www.globaldata.com

According to figure 3 by GlobalData Analytics, e-commerce sales are estimated to grow by 37.4% to reach IDR351.1 trillion (US$25.3bn) in 2020, compared to the pre-COVID-19 estimate of 22.2% for the same year. The figure is expected to rise at a compound annual growth rate (CAGR) of 19.2% between 2020 and 2024, to reach IDR707.6 trillion (US$51.0bn) in 2024.

Projected Sales

Table 1
Watsons Net Revenue from E-Commerce 2017-2025

Year	Net Revenue (in thousands IDR)	Revenue from E-Commerce in Percentage	Revenue from E-Commerce (in thousands IDR)	Compound Annual Growth Rate (CAGR)
2017	363,682,824		*E-commerce has not been established.*	
2018	547,324,968		*E-commerce has not been established.*	
2019	1,094,836,588		*E-commerce has not been established.*	
2020	886,244,543	5.33%	47,236,834	39.37%
2021*	1,251,821,425*	6.25%	78,238,839	
2022*	1,463,341,103*	7.33%	107,262,903	
2023*	1,674,860,780*	8.60%	144,038,027	
2024*	1,886,380,458*	10.09%	190,335,788	
2025*	2,097,900,136*	11.84%	248,391,376	

*forecasted using linear regression
Source: Watsons Annual Report

Watsons, a flagship health and beauty brand of A.S. Watson Group, has its e-commerce platform in Indonesia, which they started in 2020. A 5.33% of their net revenue from 2020 came from e-commerce sales, and the percentages for the years 2021-2025 were extrapolated from the CAGR (compound annual growth rate) of 17.3% of the global e-Pharmacy market, according to Fortune Business Insights using the formula: Future Amount (FA) = SA*(CAGR/100 + 1)^n; FA = 5.33% (17.3%/100 + 1)^1. The value of 11.84% is forecasted for 2025, and with a value of 5.33% for 2020, a 39.37% CAGR was calculated. Net revenue from years 2017-2020 was collected

from Watson Annual Report, while net revenue from years 2021-2025 was forecasted using linear regression.

Table 2

Guardian Pharmacy Projected Net Revenue from E-Commerce 2020-2025

Year	Net Revenue (in thousands IDR)	Revenue from E-Commerce in Percentage	Revenue from E-Commerce(in thousands IDR)	Compound Annual Growth Rate (CAGR)
2020	152,783,942	5.33%	8,143,384	37.71%
2021*	179,353,070	6.25%	11,209,567	
2022*	210,542,568	7.33%	15,432,770	
2023*	247,155,921	8.60%	21,255,409	
2024*	290,136,336	10.09%	29,274,756	
2025*	340,591,044	11.84%	40,325,980	

Source: ecommerceDB

Table 2 shows the net revenue of Guardian, with a value of 10,500,000 USD or an estimated value of 152,783,942 (in thousands IDR) for the year 2020 according to ecommerceDB. Guardian does not have a mobile application as of the date in writing. Net revenue in years 2021-2025, was computed using the CAGR of global-e-pharmacy in Indonesia with the value of 17.39% using the following formula of Future Amount (FA) = SA*(CAGR/100 + 1)^n; FA = 152,783,942 (17.39%/100 + 1)^1. With the use of the application MedDash and benchmarking from Watsons' *Revenue from E-commerce in Percentage* from table 1, a revenue of 8,143,384 (in thousands IDR) is the amount Guardian would receive if 5.33% of their 2020 net revenue is gathered from e-commerce. The results from table 2 show that Guardian has a projected increasing net revenue with a compound annual growth rate of 37.71% for the years 2020-2025.

Focus Group Discussion

Through the conducted focus group discussion (transcript can be seen in the appendix), the researchers defined a problem faced by the participants during this pandemic. The majority of them mentioned that the pandemic and the government restrictions had a significant impact on their store's sales, with some having to close the store for a period and others having to lay off their employees. Furthermore, when they asked how they could keep their business afloat, most of them believed that shifting to online platforms like Tokopedia and Shopee Store Mall would help as online platforms are becoming increasingly popular and could be the future. It allows the researchers to come up with the idea of MedDash. When they asked participants if they would be

willing to adopt an independent e-pharmacy platform that could reach millions of mobile application users in Jakarta, where delivery is taken care of, and the merchant inputs the products up for sale, the majority of them became interested in the service and would like to know more about the details.

Conclusions

Given the information above, including the numerical data, MedDash, an Android mobile health application that simplifies access to medicine, is a potential export business. It is a convenient service that can cater to the Indonesian market considering the blueprint, demand forecast, porter's five forces, and the value of the e-commerce market in Indonesia. MedDash is one of the digital solutions that could help drugstore units keep their businesses afloat despite the pandemic. It enables over-the-counter medicine to be purchased digitally and prescription medications as well as essential medical equipment. The researchers have made a contingency plan if Lalamove is not willing to enter a partnership agreement with MedDash to become the official partner courier. The first course of action is to reach out to another courier which is Mr. Speedy since they also have an affordable rate and allowance for the insurance of lost or damaged goods while in transit. Another option is to hire a fleet of most costly riders and has a different type of market approach but will benefit the company in the long run as it will generate additional sales. The other contingency plan is about how the company will manage to counter cyber-attacks. It will be executed following the procedures in a chronological sequence, with Alert, Transition, and Recovery phases. After detecting the attack, the leader will begin to deploy the plan by mobilizing technological devices (servers, databases, computer centers, and quality control) to carry out actions to halt production and migrate operations. Subsequently, the database information will be ensured by upgrading and testing operating system performance in virtual machines to migrate from the primary data center to the virtual data center in the lowest time possible.

Limitations and Recommendations for Future Research

This study only focused on the technical aspect as well as the business concept of MedDash. Some unanswered questions have been exposed in this endeavor, such as how potential errors will be addressed as well as bugs while running the application. Additionally, the researchers were not able to delve into market research and market behavior. With adequate time, a survey could have been conducted. Researchers' access to technological and financial resources is limited, so they were not able to produce and run the actual application program.

Based on the data analysis, the researchers recommend that future studies tap on Business to Consumer (B2C) as the study focused on the Business to Business (B2B) market type of approach. Hopefully, future researchers can also look into Indonesians' market behavior that can help generate a more concrete conclusion regarding the demand and market trend.

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Appendix A - Focus Group Discussion

The participants in the study are 25–42-year-old Indonesian pharmacists, drugstore managers, business owners, and office personnel. Below is the transcript of the focus group discussion. However, the researchers only indicated in this paper the response of 4 respondents out of 13 individuals who participated.

1. How long have you been working under the company where you are currently working? Or if you are the business owner, how many years have you been running your business?

Participant # 1: 5 years already
Participant # 2: a year and a half
Participant # 3: 2 years and 6 months
Participant # 4: I think almost 7 years

2. How was the sales of the store affected during the peak of the pandemic where mobility was restricted by the government?

Participant # 1: It was down. Besides the fact that our store is located at the end of the street, very few went to the store for 4 months straight.
Participant # 2: We were barely surviving. My boss decided to close the store until November 2020.
Participant # 3: The place where I work is situated in the Mall Taman Anggrek. Sales were average. Our problem was we were short in vitamins supply
Participant # 4: It was low. We weren't able to replenish certain drugs because our supplier from India was not taking in any orders until the end of June. Our store was 50% empty plus a lot of my coworkers catched the covid virus so the *Camat* suspended our daily operations

3. How did the store react during the pandemic to keep the sales afloat?

Participant # 1: Have you heard of Tokopedia? It is an online store with other sellers. We launched our store on Tokopedia last January.
Participant # 2: The management closed for some time and my co-employees had no choice but to look for other jobs for the time being
Participant # 3: The Company focused on its Shopee Mall store but not all medicine was available for purchase online because of fragility and exposure to warm temperature that could result to the drug losing its essential composition
Participant # 4: I had to lay-off 50% of my employees and I had to work as cashier too on weekends. The head of managers decided to only open from Wednesday to Sunday while every Monday and Tuesday, the store was closed.

4. Have you/the company ever considered utilizing an online platform to sell its products/services? Explain.

Participant # 1: No. I haven't really thought about it until now, but from what I've observed, online platforms are quite popular these days.
Participant # 2: Yes. The company considered it. I heard that e-commerce is the future, and I believe that it would give our store a head start from our competitors.
Participant # 3: Yes. From watching the news, I believe that having an online platform to accommodate customers would greatly help our sales now that staying indoors is highly encouraged by the government

Participant # 4: Hmmm yes. I have considered using an online platform for my store, but I think hiring motorcycle delivery riders would be costly. Also, with our current situation right now, I don't think we can afford to hire programmers.

5. Is the company willing to adapt to have an independent e-pharmacy platform that could reach millions of mobile application users in Jakarta considering the estimated price of IDR 235 million where delivery is taken care of and the merchant will just simply input the products up for sale?

Participant # 1: That sounds promising. I need to know more about the details and maybe I will consider it.

Participant # 2: I am in no position to answer that. From my perspective, it is nice. I'd love to know more about it and I will relay the message to my higher ups.

Participant # 3: I'm only an employee but will it be a one lump sum payment?

Participant # 4: Yeah. That is a great idea I think that is somehow similar to Halodoc. If the return of investment will be worth it then why not.