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## **E-Commerce Dynamic Attraction via Hybrid Value Chain to Boost Supply and Fulfil Demand: Companion and Hospitality Services Platform**

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### **ABSTRACT**

*Survival and rise up again are critical after we have experienced Covid-19 pandemic which has affected life of the world population and demolished economy. Living in restriction of physical movement has slowed down many daily activities and common practices including to buy groceries and needs. Alternatively, e-commerce growth has emerged as unprecedented phenomenal in giving hope to the world to fulfil their needs and have better impact to economy and social. This paper introduces a framework of e-commerce dynamic attraction through hybrid value chain to boost supply and fulfil demand. The important framework highlights eight elements; impactful innovation, niche market, disrupt industry, product-market fit, sustainable business model, supply-driven, e-commerce platform and demand-oriented. This contribution is to inspire e-commerce stakeholders to achieve more in sustaining business with better plan, wise strategy and clever business decision. Implication of Covid-19 to lifestyle and economy, e-commerce as the solutions to boost daily activities and economy also being discussed. As a case study, we developed an e-commerce platform that provide solution of providing companion and hospitality services to our targeted early adopters, they are elderly who frequently go to hospital and handy housewives to go for shopping.*

**Keywords:** *Dynamic attraction for e-commerce, e-commerce hybrid value chain, e-commerce companion service, e-commerce hospitality service*

### **INTRODUCTION**

Adopting new normal and living in Covid-19 endemic has transformed daily life activities in many different application domains. Utilising new technology in improving quality of life including to fulfil needs is essential. Operating business is not as usual for betterment in supporting business partners and matching demands from targeted market. The first Movement Control Order (MCO) in Malaysia was on the 18<sup>th</sup> March 2020 due to the Coronavirus Disease 2019 (Covid-19) pandemic as declared by the World Health

Organization (WHO). During the implementation of the MCO, people must comply to Standard Operating Procedure (SOP) such as crowd number limit in normal physical daily activities. MCO has transformed way of doing, engaging and transacting in order to keep up going to support the essential needs and activities. This has restricted access between supply and demand flows which affected mainly people in need and shortage supply from businesses.

Stakeholders in critical industry value chain have to find practical alternatives as the solution for their nature of work to keep it up despite of the restrictions. There were many different e-commerce dimensions in practice by various businesses. Although we are currently in the era of digital economy where most transactions are online, there are still some businesses that operate in click-and-mortar and some are still stuck in the traditional brick-and-mortar. Businesses that practice click-and-mortar utilises e-commerce and social media platform as their main stream marketing channel. This is quite common because businesses need a boost in terms of introducing and promoting their brands or shops to the public. On the other hand, businesses that practice brick-and-mortar still exist where they stick to the traditional commerce in offline mode of operation. However, the pandemic has caused things to change for a more promising future.

In the early pandemic, businesses had to close their physical stores. As the consequence, businesses had to strategise in order to find a better alternative for them. This has forced a number of businesses to make a shift to an e-commerce platform where transactions are all made online. Since movements were quite restricted, consumers find it to be more helpful and easier when products were accessible through online platforms. It helped to fulfil consumers' needs because the pandemic is no longer a barrier that stops them from getting all the things they could possibly need. Nowadays, our lifestyle has changed including adapting new normal and living in Covid-19 endemic. The Covid-19 pandemic in 2020 has affected mainly people health and world economy. Lockdown, physical movement control and other restrictions have led to risen of e-commerce usage among Malaysian

netizens. Percentage of individuals using the Internet to find information about goods or services in Malaysia has increased to 89.4% in 2021 from 85.4% in 2020 [1].

Living in MCO, Covid-19 has transformed our lifestyle to optimise the utilisation of Internet to continue our important physical daily activities and fulfil all necessitate. Alternatively, we are conducting online activities such as working, study, commerce and trade, etc. in various sectors including government, private, manufacturing and services. An example of e-commerce platform which rose since the pandemic was Shopee. Malaysians shopping behaviours during MCO, 88% of Malaysians use Shopee as their preferred e-commerce and 53% use Lazada [2]. According to Lim, "88% of the total Malaysian population are digital population today versus Southeast Asia (SEA) average of 78%. In addition, there is an increase of online shoppers for about 47% since 2020 and will continue to increase even after the pandemic ends. She attributes Malaysia's lead to the burst in the adoption of e-payment, better logistics and the improved role of e-commerce players" [3]. E-commerce uses an electronic network or the Internet to buy and sell goods and services [4]. E-commerce as services becoming more popular and it is in trending as there are needs for different types of services. There are many e-commerce platform offering matching services and markets, for example Grab which allow customer to book for transportation online then the driver will pick up the customer and send them to the destination.

As the MCO restriction was lifted, people's lives have gradually returned to normal. Some might want to account for their losses during MCO and would work day and night to provide for their family.

This hectic life would sometimes cause they could not spend time with their family anymore. This limitation of busy working people makes them unavailable to take their parents for medical check-up and hospital appointments. Another scenario, they might not be able to send their loved ones to tuition class, grocery shop, etc. It is not easy as well to find volunteers to assist during critical time. There is no available and reliable solution like e-commerce platform focuses on servicing these people in need. This study has conducted problem interview to learn about the real problems and limitations by this targeted market segment. We managed to interview 15 people in order to validate their problems regarding hospital appointment and shopping experience. The interviewees range from teens to middle-aged adults as we would like to know everyone's inputs and opinion of their problems.

We have validated the top three problems including they feel lonely when going to hospital alone or uncomfortable when meeting the opposite gender such as doctors and nurses alone. Some even mentioned their tiredness when bringing their baby to their monthly or weekly appointment while needing to take care of their other children. Most of the respondents mentioned that since the one who goes to hospital appointments are usually their elderly parents, they would have a hard time understanding the pharmacist's instructions to consume their prescribed medicine. This clearly shows that they do face problems during their hospital appointments and need someone to rely on. Other than that, for people shopping alone category, we validated that some respondents are unable to multitask during shopping such as they could not shop while taking care of their children alone as children sometimes would wander around when parents are not looking. Some even complained about the amount

of groceries that they have to carry alone and their incapability in doing so.

Therefore, TemanMu was proposed to provide a suitable solution for the stated problems. TemanMu is an e-commerce platform that offers companion and hospitality services for those in need, especially for people who would like to be accompanied to their hospital appointments or for people who do not like doing activities alone such as shopping. TemanMu application offers to customers their companion's help and knowledge in handling their appointments or giving a hand during shopping. This paper is organised as follows; Section 2 discussed the implication of Covid-19 to lifestyle and economy. Section 3 reviewed related works on the contribution of e-commerce as the solution to boost daily activities and economy. Section 4 reviewed previous works related to e-commerce companion related services. Section 5 highlighted dynamic attraction via hybrid value chain as an alternative to distribute product and service to reach out the targeted market. Section 6 described the software development methodology including the important activities and processes in the cycle. Section 7 highlighted our proposed e-commerce platform for companion and hospitality services. Lastly, Section 8 concluded the e-commerce is the best practice that offer dynamic attraction via hybrid value chain and the important of the proposed e-commerce application to the stakeholders.

### **IMPLICATION OF COVID-19 TO LIFESTYLE AND ECONOMY**

People experienced to live within restriction and limitation during Covid-19 pandemic which have affected in slowing down, stopping or declining businesses and economies worldwide. The implementation of worldwide lockdown, physical movement control and quarantine

have hit businesses badly. These included mainly tourism, aviation, restaurant dine-in service, hotel and accommodation. Drastic reduction in demand has caused significantly lower annual and economic growth in the industry sectors [5]. Furthermore, many companies affected due to business slowed down and they have to reduce operational cost including labour salary. It became worse when those companies have to fire their workers to survive and many have to close down. “Estimates released by the OECD in September 2020 indicate that real global GDP is projected to decline by 4.5% in 2020 before picking up by 5% in 2021. OECD unemployment is projected to rise to 9.4% in Q4 2020 from 5.4% in 2019” [6].

In addition, broken value chain mainly because of supply chain difficulties and challenges have made the situation even more worse. For example, in the early stage of MCO, many farmers could not supply their commodities such as vegetables and fruits to the markets. As the consequences, foods have been wasted, the supply been delayed, farmers have suffered from the loss and on the other side this caused the shortage of supply. Food industry especially restaurants experience difficulty as they could not accommodate a lot of customers to dine in at their place at a particular time. This is because restaurants too have to adhere to the SOP where physical distancing, table arrangements and the number of customers on the premise are some of the factors to be taken into account. Small business that does not have online platform suffer from this situation. They cannot sell their products and their regular customer started to find another option which can get and accessed easier through the online platform than going out to the physical store to buy some products.

In contrary, there are some businesses or services enjoying roaring business as a result of Covid-19. As Covid-19 cases rose, the need for medical supplies including vitamins, face masks, plastic gloves, face shields and hand sanitizers has dramatically increased. In addition, due to MCO, household needs delivery service more than before. Other critical industry supply chain is food. The limitation for physical activities also has caused more people to use e-commerce platform to fulfil their needs. Consequently, delivery service such as foodpanda and GrabFood are becoming more important. Increasing in demand for delivery and logistic services has increased demand for manpower resources and directly it has created more job opportunities in GIG economy.

This experience has changed the usual business workflow and people activities in order to solve the restriction problems. The limitation has transformed many important processes and activities to be sustainable. E-commerce as a digital platform to connect people between supplier and customer were necessary more than ever. Employees from different sectors and industries faced a situation where they are required to adjust and find their ideal style of working. Travelling to the office used to be a part of the routine for almost all employees but when the ideal way of working has been redefined, remote working has been considered as a significant option compared to the traditional style of working in the office that everyone is familiar and comfortable with. This is when the issues of remote collaborative work start to appear and be taken more seriously as it affects both the organization and the employees. The case varies for each organization and each employee since not everyone is equipped with the ideal work from home environment. Employees are required to

unlearn the old way of doing things and reskill themselves by learning new, fast and effective ways of completing the task given by their organization as most of them are working from home. It also appears that this is how the future will look like for most of them.

The pandemic has transformed the way we do and handle many things that matter to achieve better quality of life. Most of the day-to-day activities should adhere to the basic rules of being physically distanced, safe and protected from any direct contact. This has caused the routine to be much more challenging as people are required to adapt to these new experiences. Previously, home schooling and online learning was merely an option. It is not a choice to opt for everyone because the classroom learning experience is a far better way to learn and teach as well. But today, teachers and students are exposed to the new and ideal way of learning and teaching. Although the experience is incomparable to a classroom learning environment, it opens up opportunities for teachers and students for a whole new world of discovery and self-learning. While teacher got to explore different online teaching tools to make learning more interactive, students on the other hand got to search on the available collaborative tools to allow them to work with their group member on a given project easily to reach project goals.

### **E-COMMERCE AS THE SOLUTION TO BOOST DAILY ACTIVITIES AND ECONOMY**

Covid-19 crisis on the other hand has opening up for more industry disruption where e-commerce has become a phenomenal and its growth tremendously. In addition, e-commerce expansion and adoption towards new market segments, more customer volumes, unique product and/or service offerings and business

entity formations are promising. Moreover, the advantages of e-commerce including to provide customers with access to significant variety of products/services at their pace, safely and conveniently from their homes. Besides, e-commerce allows for more freedom to businesses to continue their operation despite of physical contact restrictions and physical location limitations. Survival of businesses mainly focus and give priority to daily needs such as food stock and supply, as well as medicine and health products and services.

Indirectly, cash flow for example demand and supply can be conducted online and it enhances the local economic sector. Surviving life of people and sustaining businesses has encouraged many individuals sellers and merchants to sell their products using e-commerce platforms and e-marketplaces. On the other hand, shoppers have been motivated to continue their shopping online via e-commerce for examples LAZADA and Shopee. This also has caused severe losses to traditional distribution channels / brick-and-mortar stores. In contradict for digital services, power outages are counterproductive. Internet-based companies are seeing unprecedented revenue growth, which not only benefits them now, but also attracts customers in the long term. Pandemic Covid-19 has boosted the adoption of e-commerce including more frequent usage and busier traffics than usual. The faceless medium is the best solution especially during the MCO.

Significant benefits of e-commerce particularly during pandemic Covid-19 are to boost business and increase in market size. This growth has been driven by the pandemic as new customers find it easy to order online from the comfort of their homes. With the avenue of an e-commerce as the platform, seller can develop potential market effortlessly. When people

search for the products that seller sell, they are more likely to find the seller's website. Sellers are no longer limited to geographic location but can sell products on a global scale. Merchants and service providers are more visible and accessible through their websites or applications and e-commerce transactions. E-commerce growth in East Asia region corresponded to a change in the composition of goods sold online where the pandemic has increased online sales of grocery and fresh produce compared to fashion, cosmetics, computer, communication and consumer electronics [7]. Moreover, e-commerce accelerates job creation and opportunity worldwide.

Surviving life during pandemic Covid-19 has transformed and accelerated digitalisation process and adoption worldwide. There are pros and cons adapting with digitalisation and automation as fast shifting needed well preparation for technology infrastructure, facility, policy and regulation, and many more. Digitalisation has boosted worldwide economies through e-commerce growth. Reality of e-commerce has open for cross-border businesses which contribute to the international trade. Moreover, Covid-19 boosts online sales and consequently global e-commerce reaches to \$26.7 trillion [8]. "Malaysia ranked 18 in the top 20 economies with US\$19 billion in business-to-consumer (B2C) e-commerce sales contributing to 6% of GDP, with a staggering 15 million online shoppers, with 53% of Internet users shopping online" [9]. Malaysia netizens have contributed to the largest LAZADA in Southeast Asia with millions of transactions which increased 80% on average compared to pre-pandemic [9].

E-commerce solutions to organisation and business are great such as to increase their visibility in the public by giving a boost in marketing and exposure to a wide range of

potential customers, markets and business partners, and also to create new business opportunities. This platform has shine new light not only for businesses but also for consumers where they are served with more choices and options which are faster, easier and safer, especially during Covid-19. It can be observed on how the spike of e-commerce platforms have contributed to business in various sectors such as agriculture, manufacturing and services. More to the points, logistic service especially delivery has offered tremendous services to make ease of movement restriction during the pandemic. Great impact from this, many people benefited from logistic services with more workforce being created for the delivery service such as food rider, personal shopper, courier and online customer service. In addition, more employment in warehousing, packaging and labelling services as well.

Great business impact for logistic service and it is a growing service sector with more disruption brands such as Pos Laju, J&T Express and City-Link Express. Pos Malaysia has profitable from the increment of its sending parcel services due to positive trending for e-commerce demands [10]. Even though many lost their job during the pandemic, the e-commerce platforms have allowed for the creation of many new job opportunities that have helped to boost the economy during the difficult period when many were busy searching for other alternatives. The pandemic has allowed this platform to expand its possibilities and explore all the available options there can ever be. Due to the restrictions of MCO, the economic activity could not be continued, and more people are struggling to continue their livelihood. Luckily with the e-commerce as the solution, many unemployed people could find alternatives to gain income and regain.

## PREVIOUS WORK RELATED TO COMPANION SERVICE

Several previous works related to companion apps were analyzed to get a clear idea of how they being developed and deployed. The “companion app” keyword was used in Google Scholar search to find a list of suitable research articles. Few articles were reviewed and analysed to figure it out if it is really fits with the companion concept and has similarities. In the end, three articles were used as references to previous works.

For the first article, during ITS world congress - Vienna 2012, a multimodal travel platform (MMT) guide named **Instant Mobility** application was created. This application helps users to use public or personal transport when they travel. If the user uses public transportation, this application will show which station the user needs to stop by before reaching the desired destination and pay through their smartphone for services provided without the need to buy the physical tickets [11]. As for the personal drivers, it will give suggestions for the best path. This application is an individual travel companion service specialising for travellers to ease their movement when travelling and it is a flexible application as it can follow according to the itinerary that has been planned by travellers before starting the journey or it still can be changed while the user is on travel. This shows that the app is customer-oriented because it tries to adapt to changes in the itinerary plan according to the client’s preferences. All of the existing databases related to vehicle mode administrator will be combined and controlled together in this app. The deliverables consist of where a visual machine was demonstrated to investigate the personal tour that is currently happening besides the presentation of the final prototype.

Second companion app was the **travel diary** app where the users can write their experience while travelling in the form of an entry in the app. Firstly, they created the diary in the form of a website as a survey with the aim it can be completed at a fast pace, simple, can be edited anytime and anywhere, and can record casual activities. It used the daily email notification to remind users to keep updating entries every day. All of the data entries were saved into the database. A unique link will be given to users to access their own diary instead of accessing other people’s diaries. This will ensure safety and individual privacy as the diary is a private thing that cannot be exposed to other parties without the owner’s permission. After some time, the app version of this project was developed to look back on previous trips. The usage of GPS and internet-connected location service might produce precise location, however, it consumed too much energy because it needed to always run the service in the background to view the map. This project recorded high participation from users where 76% of participants managed to record a week's worth of entries [12].

Lastly, in 2020, **Emma** app was created by contextualising the changing intention to commit suicide and how it is being translated into the suicidal act and used to evaluate suicidal patients to predict their suicidal act and avoid it from happening in their life. The patients used this app for six months and all of the data gained were used to foresee suicidal risk by creating the algorithm [13]. During the starting of this project, the developer team consulted the patients carefully by using focus groups, did user test and received their feedback about the prototype, and interviewed the patients qualitatively to construct the app. The reason for being careful because suicidal patients are very vulnerable and a wrong question being asked might put the

patient into trigger mode which is not good. It recorded a high rate of participation which was 88%. This is another form of successful companion app where the user can confess their feelings truthfully in the app without being stigmatized by anyone and if needed, it can offer precise assistance [14]. However, this research did not report in detail how the app was developed perhaps because they focused more on how this app can help suicidal patients as a self-help prevention tool from committing suicide.

Besides, we found three notable competitors in the market which are MakCik Travels, Riding Pink, and Teman Malaysia which offer similar services to customers. These companies provide services where customers can ask for a companion and caring service especially for ageing communities, women, and people that need special care. We studied and analysed these available alternatives in the market to determine the key strength, limitations and gaps of each.

Looking deeper into each company, MakCik Travels [15] provides driving service from customer's current place to customer's desired destination, transportation for children to go to school during school days, being a personal runner to buy groceries or picking up medicine at a hospital, and even offering a private tour ride with customer's special people. In addition to these exceptionally excellent services, they also provide companion service for people who need to do dialysis and chemotherapy at special places, accompany people at home and accompany people to do Hajj and Umrah. It can be seen that MakCik Travels offers various types of services involving companionship which can attract customers' attention. One interesting fact about this company is that during the early stage of making this business, they used

their personal phone number to receive a booking for a ride. After a while, they started to implement Booking Management System which is programmed to do service management. This is a good example for a new start-up company to implement online services as their new business. Previously MakCik Travels did not have any app as of today, *Whatsapp* is the only platform available to book for their service. Today MakCik Travels is accessible via <https://makciktravels.com/>. Having an app is a vital element in doing e-business because every information can be accessed easily in the app by using a smartphone.

On the other hand, Riding Pink [16] offers a driving service for children to go to school or for an adult to go to work on a daily, weekly, or monthly basis, being a personal shopper, and helping mother-to-be to prepare for baby birthing or those who need post-natal massages to relieve pain after giving birth. The drivers are all women making female passengers be more comfortable and feel safer. Riding Pink was created with the idea of a working woman needing to quit her office work to take care of her child. Thus, Riding Pink has provided numerous job opportunities for women to the female drivers in this company, besides ensuring top safety for female passengers. The iconic soft pink colour on the website and app can attract more female customers and later will affect positively towards the company's financial flow as claimed by [17]. Riding Pink has limited location of their service, in which they only cover areas in Klang Valley and Johor Bahru. This could be a disadvantage for people living in other states especially in areas where many elderlies are residing.

While Teman Malaysia [18] offers companionship for customers to go to appointments, do dialysis at health



facilities, receive vaccine shots at PPV centre, care for people at home and any custom activities at any place. Examples of custom activities are runner service, travelling to a place for the short or long term, and doing recreational activities. Teman Malaysia focuses more on taking care of golden age people who need special attention as their health condition is not as good as when they were young. The companions are carefully selected by the company as ageing people's needs are quite unique and hard to meet, compared to younger people. The website provides clearly information such as price to be paid according to total hour service that will be provided to their customers. They also provide long term companion service for their customers. Teman Malaysia can be very costly as they provide the best care for the elderly. The price starts from RM27 up to RM3,500 depending on type of service requested. The pricier it is, the harder task that needs to be done by the companion which requires more commitment from the companion provider. This could be disadvantageous for families with low and middle income but have many children because they cannot afford to pay expensive cost to take care of their loved ones.

One same strength that all of the three companies possess is that they provide safe, reliable and trustable companions and drivers for their services. The companion providers must have gone through strict interviews and training to make sure they can produce competent companion that can give top-notch service to their customers.

### **DYNAMIC ATTRACTION VIA HYBRID VALUE CHAIN AS THE SOLUTION**

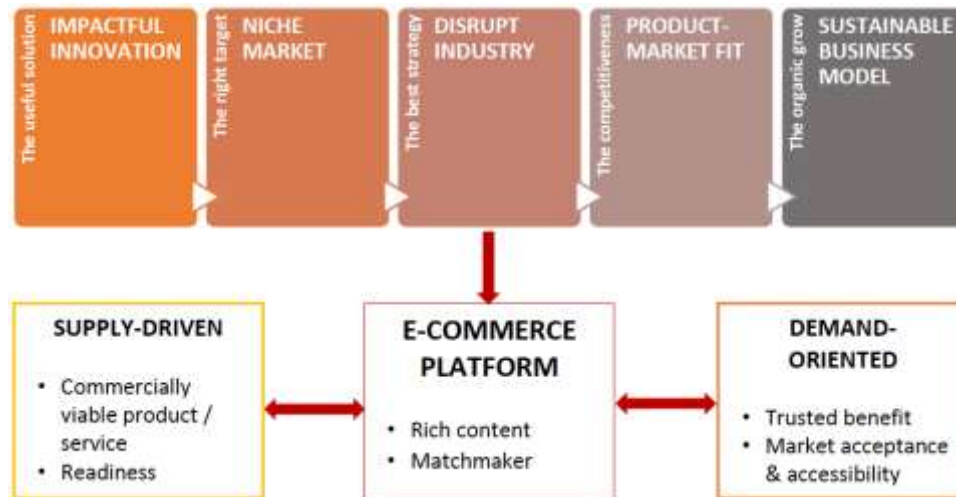
E-commerce offers a great solution to increase organisations, companies and businesses visibility to the public by

giving a boost marketing exposure and reach out a wide range of potential consumers and targeted customers worldwide. Moreover, e-commerce also open huge opportunities for new businesses and disruptors in the industry to give better solutions to their targeted early adopters and market segmentations. This platform has benefited not only to service providers or merchants but also to consumers with more options which are faster, easier and safer, especially during pandemic and endemic Covid-19. It can be observed how the spike of e-commerce platform has contributed to different application domains including logistic, courier, warehouse, packaging and labelling services. In addition, this has created more employability which can help out many people especially those who have been very much effected during pandemic Covid-19. Even though many have lost their jobs during the pandemic, the e-commerce platform has given alternatives for new job creations that have helped to boost the economy during the difficult time when many were busy searching for other alternatives.

This study introduce an e-commerce dynamic attraction via hybrid value chain to boost supply and fulfil demand as a framework as shown in Figure 1. The purpose of the framework is to contribute in enhancing business value chain via e-commerce platform to best match offer and demand. This generic framework consists of enriched elements as the best practices in order to connect and to make it successful e-commerce transactions. Gaining to rise up in doing and experiencing better e-commerce for both parties seller and buyer, also other stakeholders is considerably important. Therefore, this framework can be referred as a guideline to prepare, provide and execute a competitive and sustainable e-commerce by design. Apart from that, e-

commerce as the solutions to create successful implementation that smartly match the supply and demand must

comply with supporting factors which will be described next, the eight elements.



*Fig. 1: A framework of e-commerce dynamic attraction via hybrid value chain to boost supply and fulfil demand.*

Referring to Figure 1, the important elements as the key successful factors for dynamic attraction via hybrid value chain in order to boost supply and fulfil demand including the following:-

1. **Impactful innovation** is to provide the important and totally useful solution that solve the real validated problem of the targeted early adopter and customer based on customer-centric approach.
2. **Niche market** is the right targeted market segmentation that is the most lucrative market which the seller can make the most.
3. **Disrupt industry** is the best strategy to enter the targeted market by pioneering in creating new and unique value to customer with market-driven approach.
4. **Product-market fit** is the validated perfect match between offer and need with unique value or key feature and benefit to remain competitive in terms of including high quality product/service, affordable price, right channel to distribute and fastest market access.
5. **Sustainable business model** is the core business activity that must be

performed by the industry in order to generate profitable and multi revenues, also to expand business growth organically.

6. **Supply-driven** is the avenue to take commercially viable product and/or service to the targeted market at the right time. The readiness of the product/service must always be guaranteed by the product/service provider to fit the market demand with the right industry positioning and sustainable operation.
7. **E-commerce platform** is the rich content matching channel for the supply/offer to reach out the demand/need, and vice versa. The matchmaker is the focal point to allow interaction between the supply and the demand. The rich content consist of data, information and knowledge which is important to be communicated and integrated between the supply and the demand.
8. **Demand-oriented** is the gain of trust from the targeted market for key benefits being offered (trusted benefit) which is effective to solve the validated problem as the pain point of the early

adopter and customer. The most important is the market acceptance and accessibility are always at the stakeholders pace at anytime and anywhere.

These eight elements of the key successful factors can be generated in hybrid modification which involve the advancement of Internet Communication Technology (ICT), Web technology, Artificial Intelligent technology, business and e-commerce and yet still with human touch. The complimentary between Industrial Revolution (IR4.0) and Society 5.0 must be smartly blended for the successful implementation of this enhanced value chain to boost e-commerce. In addition, it is important to highlight that customer-centric and market-driven approach is parallel with this implementation of the proposed framework. Moreover, the framework is necessary from the perspective of e-commerce application developers in order for them to provide the best solution to their targeted users. On the other hand, from the users' perspective, they are expecting to have the ultimate benefits from the developed e-commerce application.

Providing good quality e-commerce as solution is critical and this can be realised by taking into consideration of all the stated elements in the proposed framework. These elements being introduced to guide e-commerce developers throughout their development activities and processes. The framework covers the big picture of the development phases. Starting from the initial planning phase, next data collection and analysis, then requirement validation, design and mock-up, development and testing, launching, and maintenance and scale-up. Following and adopting the framework require the solution providers to conduct

strategic activities and proactive processes. These include market validation research and engagement with the targeted early adopters. The right approach must be taken from the very beginning of the development so that the e-commerce solution provider do not waste many resources and the most important is to understand the real and correct translation of data and information collected towards the development.

The awareness of the importance of providing the impactful innovation is critical for e-commerce solution provider at various levels such as requirement, design and development. The right technique to gather all the right data and information also being emphasized. Another, important element which is the targeted niche market must be explored in advanced. The e-commerce solution provider must have a clear vision and mission in order to strategically position its e-commerce by disrupting in the right industry. The acceptance of the targeted market segmentation is critical to validate the product-market fit. This product-market fit is a reflection from problem-solution fit which is the earlier phase of gathering data for the provider to validate the real pain points of the targeted market.

More to that, developing a sustainable business model is necessary in order for the e-commerce solution provider to remain competitive and conquering its targeted market segmentation. This core activity can be done by knowing their targeted early adopter and market, benchmarking it with their competitions, validating the real requirements and providing the best solution as to fill in the gap. Previous activities and processes have highlighted on strategic engagement with the targeted early adopters as this is important in order to get feedbacks from them. In addition, this will allow the

provider to improve their product or service continuously. Meeting different people and stakeholder for example early adopter, customer, business partner, investor, etc. will give valuable inputs from time to time.

The e-commerce platform is to match between supply-driven and demand-oriented as the strategy by design. Proactive and dynamic approach via supply-driven will guide the e-commerce solution provider to create new value to the targeted market. This is important to creatively pioneering the solution that can disrupt the related industry through advancing the supply, supply-driven. The initial step of understanding and validating the real problems of the targeted market will lead to this supply-driven where the readiness of the innovations as product / service being well translated into very useful solutions that the targeted market especially the early adopters can trust and rely the most at anytime, anywhere.

This again will create unique value proposition for product/services via demand-oriented approach. In another word, the proposed framework also will guide the e-commerce solution provider to create demand by design, demand-oriented. The necessitate of fulfilling the needs of the targeted market is critical in order to make them happy and satisfy with the provided solutions. Happy customers means a lot, meaning there is a business in the market and industry that can be sustained. The key unique of this demand-oriented will spontaneously encourage the targeted market to open for this demand without passively waiting for buying activity like in traditional product-centric approach. Building trust is crucial to acquire, create, retain and grow the customer volume and market expansion.

In overall, this will create new market via the e-commerce platform which has big commercialisation potential as it is customer-centric, as well as market-driven. In addition, market validation research has been done prior running an e-commerce as a business. New pioneered e-commerce solutions must be competitively disrupt the industry with its right product / service positioning. The unique value proposition must be wisely and strategically shared on the e-commerce platform to the targeted early adopters and niche market. The e-commerce platform as the medium to matchmake by design of supply and demand. Useful, trusted and accepted solutions are important to be sustainable in business for long run. The platform must provide rich content that can speak with one voice of the new value as benefits to the targeted market. Reliable and fresh contents must be there on the e-commerce platform anytime, anywhere. The selection and decision in content creation and management must be carefully designed and developed by considering all the necessary quality factors for the contents, for example the information architecture, relevant multimedia, professionalism for the look and feel. More to the points, good taste of the user interface and user experience must be created for the e-commerce platform in order to better serve the targeted market.

### **METHODOLOGY**

By referring to the guideline of the best practices in the proposed framework of e-commerce dynamic attraction via hybrid value chain to boost supply and fulfil demand, we continue with the following activities and processes in this section. The framework guided us to focus on the targeted users' critical problems as the driven factor in order to come out with the real solution that fit the problem. We learn that understand the persona of the targeted users is important because we are offering

them benefits from our solution. In another word, it must be product-market fit. Besides, we have conducted activities and processes following software engineering development methodology in order to develop our prototype, TemanMu application. These included ideation and planning, requirement and analysis, design, development and testing.

We highlighted that it is important for people to have companion and hospitality services, especially to our elderly and housewives. Even though, there are alternatives solutions in the market but we found there are still gaps in this application domain. We have analysed data of 15 respondents from problem interview conducted. They are our potential early adopters who frequently go to hospital and stay-at-home mother that need to take care of their children. We validated their pain point which include feel lonely at the hospital alone and unable to multitask during their grocery shopping. We also analysed our competitors' strengths and weaknesses to make sure that our e-commerce platform has our unique value proposition. This report is about our proposed solutions to bridge the gap and fulfil the market needs, namely TemanMu. It is a matching e-commerce platform for companion and hospitality services.

### **IDEATION**

First step was the ideation where our team brainstormed ideas to have such an e-commerce application based on customer-centric approach. These included the needs of having the application from the real problems facing by the targeted early adopters, the solution approach that we will propose, the benefits it will give, and also comparison with the key competitors. At this initial stage, we focused to people who are having difficulties and problems to attend their hospital appointments and go for grocery shopping. From our

observation, we noticed that elderly people always go for hospital appointments and mothers always go for grocery shopping with their kids, and they really need helping hands for them to better manage. Other than that, we also observed that there will be an increasing target market size for this companion service in Southeast Asia. This is because in Europe, this type of service is widely used and people are aware of such service. However, in Southeast Asia, this service is still growing and there is room and opportunity for us to start up with such type of service in Malaysia, also noting the fact of the age population as our target market.

### **REQUIREMENT**

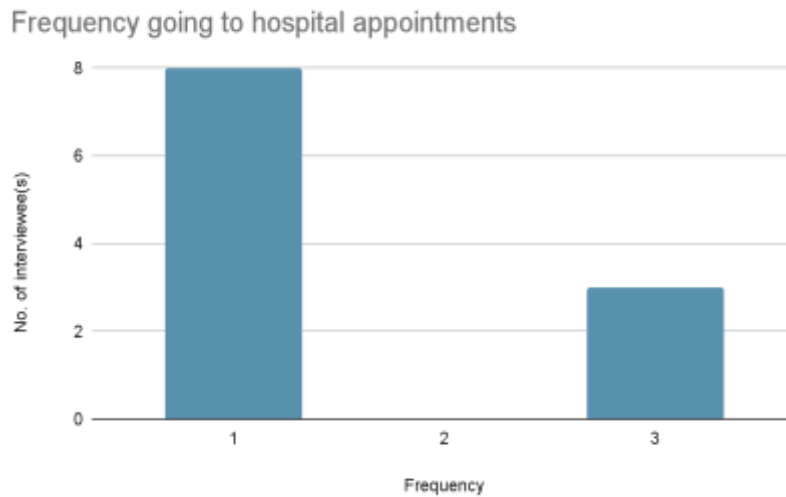
Once the idea, the value proposition and the targeted market has been identified, we moved on to the second stage which is the requirement gathering and analysis. At this stage, we validated the proposed idea that we have to our potential target market by conducting problem interviews with them. We have decided to do an open-ended interview to 15 respondents, they are our potential early adopters from our targeted market. The demographic of the respondents varies from students who need to attend their hospital appointment and working adults with parents went for hospital appointments and mothers in need of extra hands while shopping groceries. Our scope for problem interview and among the questions asked are as follows:

1. The frequency of going to the hospitals/grocery stores
2. Hours spend at the hospital per appointment/grocery stores
3. The difficulties faced when attending the appointment/grocery stores
4. The presence of people accompanying the patient to the appointment/grocery stores

5. Their feelings of attending hospital appointments/grocery stores alone.

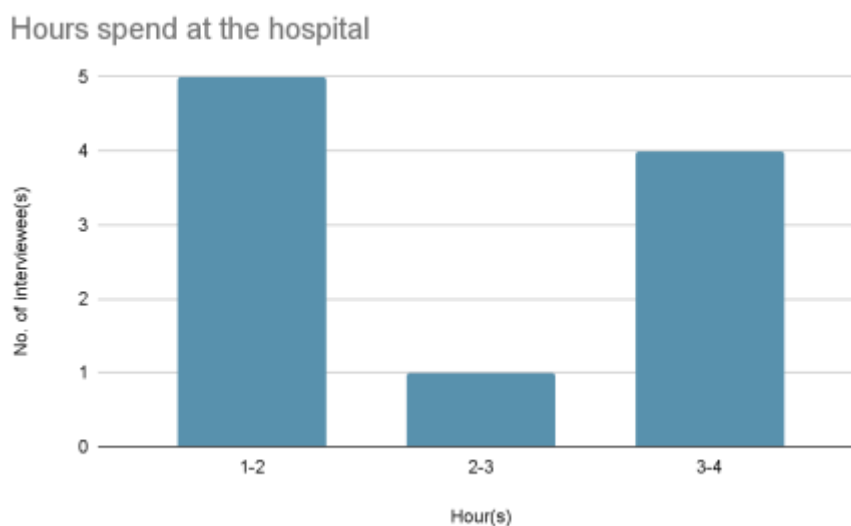
All of the respondents needed to go for hospital appointments, 53% once in a month and 20% for three times in a month as shown in Figure 2.

We summarised feedback from the respondents as in the following graphical representation of the frequency of each of the subjects asked:



*Fig 2: Frequency going to the hospital*

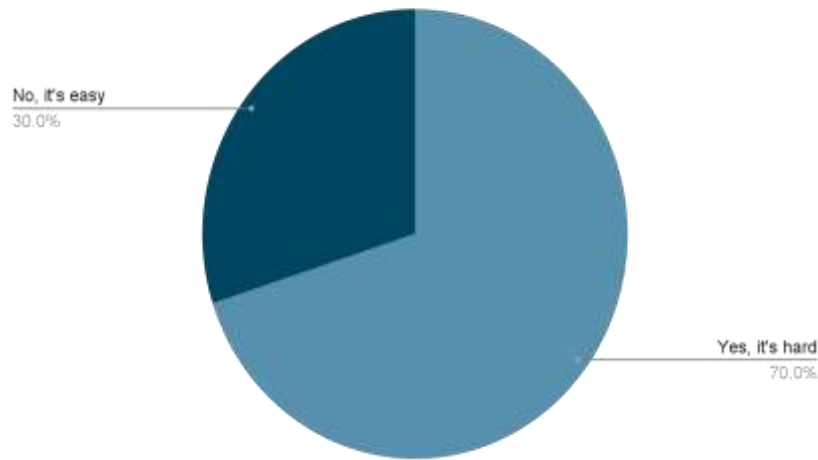
The respondents spent these few hours at the hospital, 33% spent 1-2 hours, 27% spent 3-4 hours and 7% spent 2-3 hours as in Figure 3.



*Fig 3: Hours spend at hospital*

Majority of 70% respondents have agreed that they had difficulties to go to hospital as shown in Figure 4.

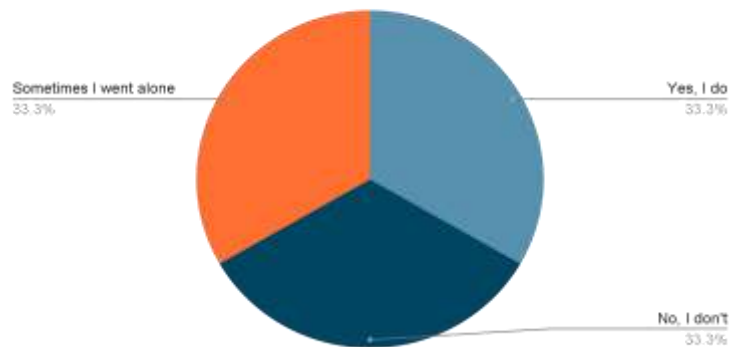
Is it hard to go to hospital?



*Fig 4: Difficulty going to hospital*

Just 33% respondents had accompany going for their appointments, another 33% had sometimes to go alone and the other 33% did not have accompany as shown in Figure 5.

Do you have a company when going to appointments or shopping?



*Fig 5: Companion going to hospital*

During the problem interview, they mentioned their limitations and problems went alone for hospital appointments or to grocery store as summarised in Table 1:

*Table 1: Difficulties going to hospital*

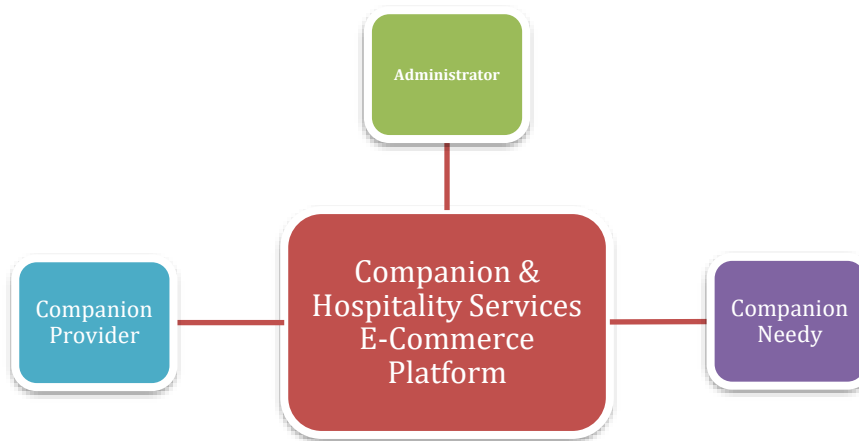
| <b>Hospital Appointments</b>  | <b>Grocery Store</b>   |
|---|--|
| <ul style="list-style-type: none"> <li>• They feel lonely when they go to hospital alone</li> <li>• They feel uncomfortable to meet opposite gender doctor alone</li> <li>• Feel tired bring sick baby to go to the appointment alone</li> <li>• Could not understand pharmacist's instructions on how to eat medicine</li> </ul> | <ul style="list-style-type: none"> <li>• They cannot multitask (shopping &amp; take care of young children) alone.</li> <li>• Hard to carry heavy stuff alone</li> </ul> |

These data were then analysed and there it was proven that there is a need for this companion service to be introduced to the targeted market.

Most of the respondents stated that they were having problems with going to or accompanying elderly for hospital appointments. Besides that, mothers with children also pointed out their difficulties.

### **DESIGN**

We have referred to the proposed framework in order to design such platform in order to develop the best solutions to the validated problems of the targeted early adopters. It is as a matching e-commerce platform consists of companionship and hospitality services from companion individuals to be matched with the targeted market needs, people in need of companion mainly elderly/children to elderly and housewives as illustrated in Figure 6.



*Fig 6: E-commerce platform for companion and hospitality services*

### **DEVELOPMENT AND TESTING**

We develop this solution as an initial prototype which to fulfil its main objectives to solve the validated problems of the targeted market segment. It is a client-server accessible web application with simple user interface and workflow.

We adopt free website builder software, “nicepage” (<https://nicepage.com>) to prototype it. We translate the design consists of three modules for the administrator, companion provider and companion needy following the best practices for e-commerce application

transaction. We concern about the usability for this application as well as human computer interaction principles to give good user experience. We discuss the implementation for this solution in section 4.

We managed to conduct user acceptance testing with 33% of previous respondents (same people for previous problem interview). Their feedbacks covering functionality, usability and the accessibility of the developed prototype as summarized in Table 2.



*Table 2: Testimonies feedback summaries*

|  | Totally Agreed | Partially Agreed | Disagreed |
|--|----------------|------------------|-----------|
| 1. Overall, I am satisfied with how easy it is to use this application.  | 80%            | 20%              |           |
| 2. I am able to book appointments on the website.  | 100%           |                  |           |
| 3. I am able to see the details of the services provided.  | 100%           |                  |           |
| 4. I am able to look for contact details on the website.   | 60%            | 40%              |           |
| 5. I found the booking appointment and the services are secured.   | 80%            | 20%              |           |
| 6. I find the organisation of information on the website screen is clear.  | 80%            |                  | 20%       |
| 7. I find the interface of the website pleasant.   | 80%            |                  | 20%       |
| <p>8. Open ended comments:</p> <p>80% left a positive impression which include comments such as “the website is colourful and easy to interact with”, “good”, “might be useful” and “the best!”.</p> <p>20% left an impactful comment which is “there are too many parallel position errors such as buttons and phrases not in the same line”.</p> <p>(NOTE: This happened because the respondent might view the website used smartphone instead of laptop, which might have caused multiple buttons or information overlapped.)</p> |                |                  |           |

### **TEMANMU: COMPANION AND HOSPITALITY SERVICES**

We propose an e-commerce platform for companion and hospitality services to family people who have elderly and children. This targeted potential early adopters they have problems to accompany their elderly to go out, for example for hospital appointment, also they as a mother with children to buy their needs like groceries. Many people especially elderly and housewives are not capable of or do not like going anywhere alone, they need companion. Our proposed solution is to solve these validated top three problems as the pain points faced by the targeted market as follows:

1. Feeling lonely going for appointments alone.
2. Unable to multitask during the day out.
3. Feeling uncomfortable and unsecured going out.

This solution, TemanMu is an e-commerce platform for companion and hospitality services, the landing page as shown in Figure 7. This platform serves to match between the one who need companion and the one who can be the companion. Therefore, there will be someone to accompany especially elderly patient for hospital appointments and a handful mother to buy groceries. TemanMu offers these companion and hospitality services as follows:

1. Pick up customer to relieve loneliness
2. Accompany customer to assist as personal assistant at hospital / shop without hassle
3. Drop off customer to make it to appointment on time
4. Provide transportation as car rental
5. Live location while onboard for security tracking



*Fig 7: TemanMu landing page*

Users are able to log in into their registered account for them to see details of their bookings. Simple log in steps with username and password yet to have a secure transaction as shown in Figure 8.



*Fig 8: Log in page*

These companion individuals are considered as key partner to TemanMu platform and will be divided into two types of companions as in Figure 9. All the companions are required to register with TemanMu management in order to qualify them as a “Companion” and as a member of TemanMu. Companions who will be accompanying customers for hospital appointments will have to go through first aid, Cardiopulmonary Resuscitation (CPR), Automated External Defibrillator (AED) training and obtain related certificates so that they will be able to assist in case of emergency. Driving license is required as they need to drive

their customers. The main tasks that the companions will be doing are accompanying customer for hospital appointments and taking care of the customer during the appointment. Besides, another type of companion is for shopping companion or going to grocery store. Companions in this category are also required to obtain the mentioned certificates in case of emergency happens. In the shopping category, the companion is required to accompany customers during their shopping and to assist customers with their needs such as carrying the customers’ groceries.

Hospital Visit Companion



Accompany to health appointment

- Medical appointments
- Pharmacy
- Any related activities

LEARN MORE

Shopping Companion



Accompany to shop

- Shopping
- Hold bags
- Look after children

LEARN MORE

*Fig 9: Two types of companion services*

In this page, users can view the overall information needed for the whole services that we provide. There are also functions such as buttons to be clicked that will direct them to the other page for further

information. Prices for each of the services are provided in this interface so that users will have more insight of the details as in Figure 10.

**Pricing for Services**

| Service            | Description  | First 2 hours | Subsequent hours |
|--------------------|--|---------------|------------------|
| Hospital Visit     | Our Temanion will accompany your treasured one through their monthly medical checkups and treatments.    | RM60          | RM35 / Hour      |
| Shopping Companion | Our Temanion will facilitate you or your loved ones anywhere and everywhere they wish to go for shopping | RM60          | RM35 / Hour      |

- price above excluded transportation cost  
\* Transportation cost based on e-halling fare or RM0.60 / KM.

BOOK NOW

*Fig 10: Price details page*

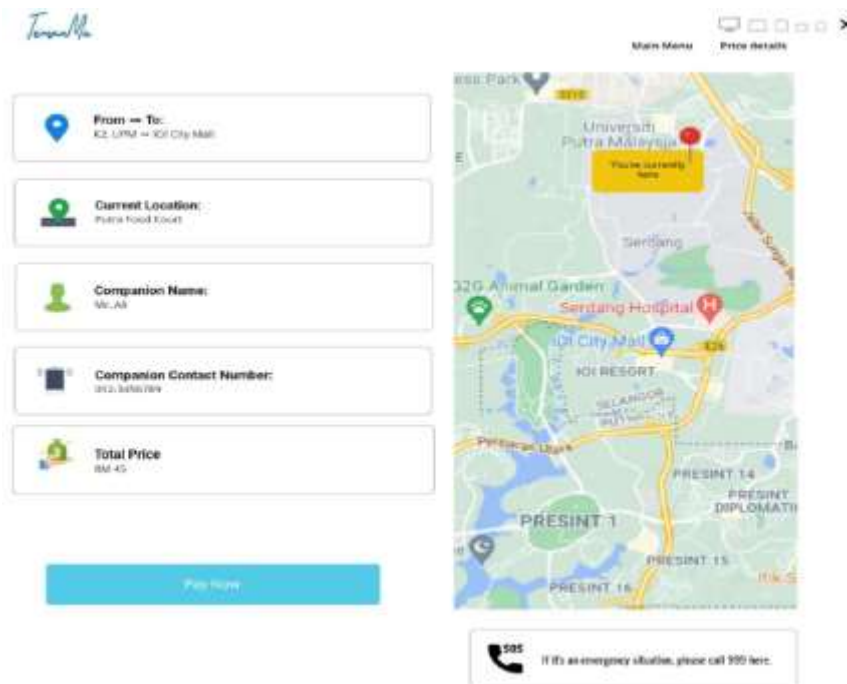
Companion needly needs to fill in their details in order to book for their desired companion service such as type of companion service, name, email, contact

number, address, date, time, request of things to do and preferences for companion as shown in Figure 11.



*Fig 11: Booking page*

Once the booking has been made, the confirmation page of the destination, current location, companion name and contact number, and the total price need to be paid. The users are able to see their live location and call for emergency during their booking session as shown in Figure 12.



*Fig 12: Live location page*




In addition, we share here TemanMu business model canvas as a case study and

reference as in Table 3. As the platform provider, the activities that we will be

doing are divided into two parts which are primary and supporting activities. The primary activities include services provided, operations, marketing and sales, and technology development. Inbound logistics include the transportation that will be included as part of our collaborators. The services that TemanMu will provide includes picking up, accompanying customers, dropping off, providing transportation, and providing live location function while on-board. Our operations will start in Klang Valley as the first target area and will be expanding to other areas soon. In terms of marketing and sales, TemanMu is committed to

invest in superior quality services in order to enhance and improve TemanMu visibility. TemanMu will also employ a high level of technology by hiring an experienced team of developers and getting the latest trend of software and technologies. Other than that, the supporting activities that are included in developing TemanMu are in terms of infrastructure and human resource management. The infrastructure can be explained by having hiring managers in our corporate offices. These managers in each department will assist in overseeing the performance and customer service by the dedicated team of TemanMu.

**Table 3: TemanMu business model canvas**

|   |   |  |   |   |
|---|---|--|---|---|
| <b>Key Partners</b>  <ul style="list-style-type: none"> <li>- Transportation (SoCar, Trevo)</li> <li>- Institution (Darul Insyirah)</li> <li>- Training (Cert Academy)</li> </ul> | <b>Key Activities</b>  <ul style="list-style-type: none"> <li>- Accompany patients &amp; housewife</li> <li>- Market Research</li> <li>- Service Promotion</li> </ul> | <b>Value Propositions</b>  <ul style="list-style-type: none"> <li>- Comfortable companion</li> <li>- Safety</li> <li>- Availability</li> <li>- Fast service</li> </ul> | <b>Customer Relationships</b>  <ul style="list-style-type: none"> <li>- Self-service</li> <li>- Customer service (review, rating, feedback system)</li> <li>- Promo code for loyal customers</li> </ul> | <b>Customer Segments</b>  <ul style="list-style-type: none"> <li>- Housewife</li> <li>- Patient</li> <li>- Elderly</li> </ul> |
|   | <b>Key Resources</b>  <ul style="list-style-type: none"> <li>- Technology platform</li> <li>- Human</li> <li>- Financial (Online Transaction)</li> </ul>             |  | <b>Channels</b>  <ul style="list-style-type: none"> <li>- Social media (Instagram, Facebook)</li> <li>- Email</li> <li>- Temanmu app, website</li> </ul>   |   |
| <b>Cost Structure</b>  <ul style="list-style-type: none"> <li>- Employee</li> <li>- Software</li> <li>- Marketing</li> <li>- First Aid, CPR, AED Training</li> </ul>             |   |  | <b>Revenue Streams</b>  <ul style="list-style-type: none"> <li>- First 2 hours : RM 60</li> <li>- After 2 hours: RM 35 per hour</li> <li>- 30% per companion</li> </ul>                                |   |

We focused on the early adopters' problems in order to decide for the unique value proposition to benefit the targeted market. An effective value proposition tells the ideal customer why they should engage with our service besides the competitors and it could improve users' understanding and participation.

TemanMu is committed in creating unique value proposition as follows:

1. Comfortable companions to relieve their loneliness.
2. Safety with live updates on passenger's location status.
3. Availability to be ready in 24 hours.
4. Fast service for convenient ride.

## CONCLUSION

Covid-19 has affected health, economy and lifestyle of the world population including Malaysia. The pandemic can be seen as a window of opportunity for promoting sustainable business model through e-commerce platform. E-commerce transaction has sky-rocketed since the beginning of pandemic. Countries should come out with the right policies where e-commerce usually involves cross-border sales and therefore contributes to international trade. Meanwhile, firms and companies must work toward digitalising their business process to stay afloat and being competitive. It is a game of survival in this new era of technology where virtual business are done at our fingers' tip.

Alternatively, e-commerce has advantages which are proven to offer for a better economic growth with cross-border e-commerce worldwide. This e-commerce application and platform are covered different domains such as business and trade, health and medical, education and training, and etc. For example, e-marketplace has gathered various stakeholders to communicate, collaborate and cooperate. These critical and necessary actions and activities have transformed physical face-to-face routines into online faceless mode engagements. We are adopting the new normal and doing business not as usual with e-commerce. Positive transition and smooth movement of many operations by different entities not only can back-up the traditional brick-and-mortar commerce but also create new values and opportunities for better lifestyle nowadays.

The framework of dynamic attraction via hybrid value chain to boost supply and fulfil demand is introduced here to gather the critical successful key elements for the purpose. The e-commerce multi-sided

platform is to boost business value chain with good matching of supply and demand. The eight elements in the framework including (1) impactful innovation, (2) niche market, (3) disrupt industry, (4) product-market fit, (5) sustainable business model, (6) supply-driven, (7) e-commerce platform and (8) demand-oriented. It is aimed for this framework to contribute towards e-commerce for more new job creation, creativity-driven industry and advancing offer-demand fit.

As our case study, we have proposed e-commerce platform for companion and hospitality services, TemanMu has its key features compared to other stated available similar applications in the previous works. If TemanMu were to be compared with the other competitor, in this case, MakCik Travels is that our service will allow the customers to choose their preferred companions that are provided regardless of gender. This solely be based on the customers' preferences on who they may feel secured with by looking at our companions profile data. Furthermore, the other competitor known as Riding Pink, which is also a companion service in Malaysia, specialized in recurring type of bookings is one of the biggest competitors.

The downside of this service is it does not have a fixed rate because it depends on the distance and the hours utilized. This feature of Riding Pink makes it hard for their customers to estimate the cost that they will spend over the service. However, TemanMu provides a fixed rate that shows the price for the first two hours and the subsequent hours. TemanMu also has its strength compared to Riding Pink as TemanMu offers a service to accompany customers for shopping or grocery shopping. Additionally, Teman Malaysia was also included in the list of our competitors. Teman Malaysia offers only

long hours of companion service. The starting price is as low as RM27 and it can reach up to RM1500++ for people living in Lembah Klang. However, our service provides a flexible booking duration and the minimum hours of booking duration is 2 hours and TemanMu will be able to cater to people outside of Klang Valley as well as there were plans to expand the service to other hotspot areas.

TemanMu also believes that companion and hospitality services will have its own superiority over time. This is due to the fact that the market value of companion service in Southeast Asia is expected to increase by 11.48% from \$67.3 billion in 2021 to \$115.9 billion in 2026 [18]. The reason for such an increase is due to the fast growing acceptance of advanced technology and due to the advanced technology such as gadgets that were being introduced. Other than that, the growing number of elderly needed for help and assistance fuels the companion service to improve its standing in the market hence validating it into the market.

We hope TemanMu can accomplish to ease our customers' experience in making reservation for their desired companions. As for long term, we foresee TemanMu has bright future to grow with more services that will bring impact to community. Bigger collaboration and networking with many different entities including investors and NGOs would also help in expanding TemanMu. TemanMu reaching community will allow us to offer cutting-edge companion and hospitality services to more people who need companions. Using this service gives us the opportunity to produce a better service to all the customers. We have the unique ability to change lives and expect various to create more jobs in the community and transform the companion service industry. TemanMu as the e-commerce solution

being developed based on the introduced framework of the e-commerce dynamic attraction via hybrid value chain to boost supply and fulfil demand.

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