BABYCART: A CONCEPTUAL BUSINESS MODEL WITH BENEFITS FOR PARENTS AND THE B40 COMMUNITY

SITI NUR AISHAH BINTI SULAIMAN1, NURUL JANNAH BINTI HUSSAIN2, NUR AIN BINTI ISHAK3, NUR MAISARA BINTI AHMAD RASID4, ABDUL RAHMAN BIN AHMAD DAHLAN5

1,4 Department of Computer Science, 2,3,5 Department of Information Systems, Kulliyyah of Information and Communication Technology, International Islamic University Malaysia

*Corresponding author: nuruljannahhussain98@gmail.com

ABSTRACT: The objective of this paper is to propose a conceptual BabyCart business model including a digital platform/apps that is aligned with United Nations Sustainable Development Goals (SDGs). The BabyCart business concept and platform offer potential benefits to its consumers given the new life advancement, new standards that people must adopt during this pandemic, and the rapid growth of technology. The intended users known as Customer Segments in this paper of this platform are low-income families or B40, single mothers, busy parents, and sellers. BabyCart offers a wide selection of baby products at a reasonable price as well as babysitting services. This paper identifies a few major issues and severe pain points for the customer segments and offers solutions for those issues. The key problems include poverty among Malaysians (SDG 1 - No Poverty), unemployment issues (SDG 8 - Decent Work and Economic Growth) and ensuring sustainable consumption (SDG 12 - Responsible Consumption and Production). This paper adapts the Design Thinking (DT) methodology in identifying key problems and developing possible viable solutions. This methodology includes conducting a literature review, benchmarking, and surveys/interviews to understand and define customer segments’ problem space; as well as ideating, prototyping, and testing possible solution space. The business modeling tools namely the Environmental Map (EM), Business Model Canvas (BMC), Value Proposition Design Canvas (VPC), and Strategy Canvas (SC) were used both in the customers’ problem space as well as the solution space. An initial business model prototype was formulated – in the form of EM, BMC, VPC and low fidelity BabyCart prototype; tested and validated by various customer segments. Hence, the main contribution of this paper is to offer a validated or enhanced conceptual BabyCart business model as a conceptual solution in solving the unemployment issues for B40, increase sales for sellers and to give parents a digital platform where they can buy baby products.

Keywords: Business Model Canvas; Value Proposition Design Canvas; Strategy Canvas; ECommerce; Sustainable Development Goals
1. INTRODUCTION

IR4.0 technologies play an important role in business, especially in e-commerce. Business concepts and models were revolutionized due to technological advancement and COVID-19. Technology has brought new and better ways to do business. The advantages of using technology in business are it is more convenient than physical stores, as it offers a wider selection of products, and it provides a faster response to buyer or market demands. Some of the actions of technology in business include accounting systems, management information systems, point of sales systems, and other simpler or more complicated tools.

Electronic commerce or e-commerce is a business model that lets firms and individuals buy and sell things over the internet (Bloomenthal, 2020). With the existence of e-commerce, people can avoid the hassle of going out just to get the things that they need. The key problems and extreme pains are finding a digital platform that sells baby products at a lower and affordable price and unemployment issues. One of the possible future solutions is BabyCart. The targeted group for BabyCart is single mothers, busy parents, and low-income families as they can easily purchase their baby items at their fingertips at a really affordable price and we also provide babysitting services. This platform also offers job opportunities and high commissions to B40. BabyCart also helps baby shops in increasing their sales during this pandemic time as they can attract more customers and promote their products in BabyCart. Other than that, parents can sell their preloved baby products on this platform to ensure sustainable consumption. This paper discusses and outlines the benefits of the business model canvas remodeling for mothers and the community.

2. BACKGROUND

We can see that there are many successful e-commerce sites such as Shopee and Lazada. To ensure that we accomplish the purposes of this project, the nine components in Business Model Canvas (BMC) are amended. The components of BMC are customer segments, customer relationships, channels, value propositions, key activities, key resources, key partners, cost structures, and revenue streams. Moreover, design thinking methodologies are to be executed to have a remodeled business model and to have an improvised version of e-commerce sites. The impact of COVID-19 on business is companies rapidly shifting to online channels and unemployment has increased to 100,000 in Malaysia since the implementation of MCO (27 Group, 2021). On 19th February 2021, the Prime Minister of Malaysia Tan Sri Muhyiddin Yassin launched the MyDIGITAL initiative—a new and comprehensive approach designed to anchor the country’s digital economy by 2030. This initiative serves as part of the government’s plans to “transform Malaysia into a digitally driven, high income nation and a regional leader in the digital economy (Syahirah, 2020).

3. PROBLEM STATEMENT

The recent Covid-19 outbreak has affected the world in many ways, including public health, the food supply system, and how people work. The Malaysian government advises its citizens to stay inside and only leave if absolutely
necessary. More than two-thirds of Malaysians polled by Standard Chartered (StanChart) said that the outbreak of the Covid-19 pandemic has made them more positive about online shopping (Tan et al., 2020). We can see that all businesses including baby care businesses have shifted their way of business to the online platform to ensure continuity in economic activities during this outbreak. BabyCart serves as a platform for physical baby stores to sell their products. Other than that, parents can sell their used baby items on this platform. The restricted movement order makes it hard for parents to go out and buy things for their babies. Some of the parents could not afford to purchase new born essentials because these items are not cheap. Parents can buy items online on BabyCart at a lower and more affordable price as they can compare the prices between sellers. Parents juggling work and taking care of their kids can have someone to babysit their kids whereas platforms like BabyCart offer babysitting services. As the Covid-19 pandemic continues to ravage the economy, the Human Resources Ministry reveals that 99,696 Malaysians have lost their jobs since the implementation of the movement control order (MCO) (27 Group, 2021). The extreme pain and key problems for B40 are the loss of jobs and low income. Job opportunities will be offered through this platform to B40 and Asnaf groups as they can register as runners and babysitters. This would tackle the unemployment issue and indirectly help them in ensuring a better life.

4. METHODOLOGY

This paper adopts the Design Thinking Methodology. It is to empathize, understand the key problems, ideation of possible solution options, validation of options by customer segments, and to suggest a conceptual solution (Voltage Control, 2021). At the empathize phase, the customer segments are studied by reading of current articles and the latest issues from the news. This paper includes conducting a literature review and benchmarking, conducting an online survey using the business modeling tools such as the nine blocks of Business Model Canvas (BMC), Value Proposition Canvas (VPC), Environment Map (EM), and Strategy Canvas. A BMC is a strategic management template for developing a new business, a VPC is a tool that can help ensure that a product or service is positioned around what the customer values and needs (B2B International, 2020), an EM consist of market forces, key trends, industry forces, and macroeconomic forces that will affect the business model and are constantly changing and evolving (Imke, 2015). The Strategy Canvas is essential to formulate a competitive strategy against other similar businesses in the same industry as BabyCart (Strategy Canvas, 2014). A literature review examines books, scholarly articles, and any other sources relevant to a specific issue, area of research, or theory, and provides a description, summary, and critical evaluation of these works in relation to the research problem under consideration (Research Guides, 2022). Benchmarking is done to identify the best performances achieved by other competitors. This information can then be used to identify gaps in our business processes in order to achieve a competitive advantage. A survey is a method to collect data from a group of respondents to gain insight into various topics. The initial BMC is validated by conducting an online survey to the customer segments which are the buyers and sellers. In addition to that, the initial VPC is validated by conducting an online survey of various customer segments to clarify the pains and gains of each subject.
The Business Model Canvas is used to communicate and introduce our business model. It comprises 9 blocks of framework which are Customer Segment, Customer Relationship, Channel, Value Proposition, Key Activities, Key Resources, Key Partners, Cost Structure, and Revenue (Hemmer, 2016). The Value Proposition Canvas is a tool which can help identify customer Gains and Pains and to be able to lay out Gain Creator and Pain Reliever (Imke, 2015). The Strategy Canvas is essential to formulate a competitive strategy against other similar businesses in the same industry as BabyCart (Strategy Canvas, 2014). The business will also apply the global Sustainable Development Goals in its business activities and management.

5. LITERATURE REVIEW

For the literature review, two studies related to babysitting and preloved products are discussed.

A. CHILDCARE INDUSTRY

At present, the childcare business is regarded as essential. If babysitters or staff in childcare do not take it seriously in their daily work routine, a safer environment in childcare centres for children is impossible to achieve. There is a need to pay serious attention to their personal trait and self-discipline in performing the tasks while serving the children. Therefore, childcare centres’ safety elements are crucial and need to be taken seriously by childcare providers to monitor and train their staff, especially the teachers or babysitters who are dealing with children on a daily basis (Abashah & Taib, 2012)

B. SELLING ANG BUYING USED CHILDREN’S CLOTHING

According to Ritch (2019), consumers deliberate and incorporate concerns for sustainability in their consumption behaviour of children’s clothing. Some mothers obtain used goods at reduced prices, as well as sell products they no longer require to recoup their expenses on websites such as eBay and Gumtree. Another respondent believes that the lifespan of nappies could be extended and it is ‘tangible’ for her to resell her children’s nappies and not to purchase disposable nappies for her children as it is expensive.

C. BENCHMARKING

Benchmarking is an essential element in developing BabyCart. It helps us identify the features that could be enhanced in our business. Furthermore, thorough research will assist us in identifying existing strengths and weaknesses. Furthermore, this study will assist us in avoiding any implementation mistakes as well as offering alternate strategies for the future. As a result, the literature review will spark new and innovative ideas for features and functions that can be incorporated into BabyCart business model.
Mothercare plc is a British retailer which specializes in products for expectant mothers and in general merchandise for children up to eight years of age (Mothercare, 2021). The mobile application however is not available for the Malaysia version so only the website is the only online platform available for us Malaysian. Mothercare sells baby products from various brands. If customers spend more than RM400, Mothercare will deliver it to them for free. They also sell coupons, but only in their physical store or via offline purchases (Mothercare, n.d).

Mothercare has launched a more sustainable and less capital-intensive business model with effect from the autumn/winter 2020 season. This followed a closed discussion with both Mothercare Global Brand's international franchise and manufacturing partners to modernize and improve their commercial relationships to mutual benefit, with the objective of improving pricing and quality for their franchise partners and reducing financial and operational risk for their manufacturing partners. Their new business model is fully integrated across 40 countries. Mothercare markets operate on a franchise model, which means store operations are managed by partners who are experienced retailers in each their own local territories (Business Model, n.d).
Babyshop is a children’s retail store that focuses on children’s products for ages 0 to 16 which range from major brands including Barbie, Disney, Philips AVENT, Fisher-Price, Chicco, Juniors, Giggles, Graco, Lego, Joie, Hauck, and Ferrari. Babyshop also sells about 20,000 items online via its e-commerce website and mobile application for IOS and Android, which was launched on November 24, 2016, and serves users in the United Arab Emirates, Saudi Arabia, Bahrain, and Kuwait (Babyshop, 2021). Babyshop has evolved into a trusted one-stop shop for children aged 0 to 10 years old, offering stylish clothes, nursery furniture, toys, feeding necessities, and travel systems (Babyshop, 2020).
Babyish is Australia's go-to online marketplace for buying and selling new and used baby goods, and it is only available in the country. The babyish platform allows you to purchase, sell, and promote baby and children's goods all in one place. People in Australia can communicate with parents or small businesses to find the best baby items at low prices (Babyish, n.d). They have some features that are similar to BabyCart, which is why it is regarded as a benchmark.

Babydash is a website run by a community of mothers and soon-to-be parents who are committed to making it easier for other parents to shop and buy baby items. Lavinie, the company's founder, began as a one-woman operation with a simple website and stocked all of the supplies in her home. Initially, Babydash had to bear all of the low-margin products that parents often ran out of, such as diapers and milk. They've established partnerships with manufacturers over time and extended to include toys, car seats, strollers, baby cots, baby carriers, lactation cookies, baby food, baby skincare, and much more (Babydash, n.d).
6. INITIAL CONCEPTUAL BUSINESS MODEL

The initial Value Proposition Canvas was developed by Dr. Alexander Osterwalder as a framework to ensure that there is a fit between the products and the market. There are two parts to the Value Proposition canvas which are the Customer Segments and Value Propositions. By using this canvas, we may gain a better understanding of the beliefs and demands of our clients. Therefore, we use this canvas to establish the value of BabyCart for sellers, buyers, and B40 people which consists of runners and babysitters. The figure below shows the value proposition canvas for our business model BabyCart which is based on the Validated Conceptual Business Model Canvas.

**Fig. 7. Initial business model**

**A. INITIAL VALUE PROPOSITION CANVAS**
**B. ENVIRONMENTAL MAP**

- Want to buy or sell preloved baby products.
- Convenience of shopping and selling things online.
- Get their children to be babysit.
- Get employed.
- Many baby stores are turning to the internet to sell their products.
- Spending a lot of time searching at an offline store.
- Product out of stock or too expensive.
- The ability an convenience of being able to buy and pay digitally.

![Fig. 11. Environmental map](image-url)
7. VALIDATION OF INITIAL BUSINESS MODEL

We have conducted an online survey using Google Forms to validate our BabyCart initial business canvas. We have prepared six questions for 30 respondents to answer in order to validate our business model canvas and make an analysis based on their responses to each question. There were 20 respondents among the B40 parents who have a household income below RM5000 per month. Figure 12 shows the percentage scores for all 6 questions in the survey form. The red bar represents the answer ‘Yes’, the blue represents ‘No’ and the yellow bar represents the answer ‘Sometimes’ by the respondents.

The first question being asked to the users is if they do face some difficulties in finding baby stuff at a lower price. Results show that most people sometimes face difficulties in finding baby stuff at a lower price while 40% do face difficulties and the rest never face difficulties in finding a place that sells a variety of baby stuff at a lower price.

The second question was to ask the users if they have ever experienced buying baby stuff through an online platform. The results below show that about 66.7% of the users have experienced buying baby stuff through an online platform while 33.3% of the users have never experienced it.

The third question being asked to the user in the survey was to analyze whether they prefer to buy a preloved baby item, or a new one, or maybe both. The graph above shows that 56.7% of the people prefer to buy both items while another 43.3% prefer to buy new baby items. There is no data being analyzed for those who prefer to buy preloved baby items only.

The fourth question being asked in the survey was to identify whether they agree with the idea of delivery services offered with free and fastest shipping by BabyCart or not. Results showed that 100% of the respondents agree that our
BabyCart business provides our own delivery services to customers with the free and fastest shipping.

The fifth question to be asked was to identify whether they agree with the idea of trained babysitting services offered by BabyCart or not. Figure 12 shows that approximately 96.7% of all users agree with the idea of delivery services offered by BabyCart while another 3.3% do not agree with this idea.

Last but not least, the final question to be asked was whether they agree with the idea of BabyCart Business Model and want to use the application if it exists in the future and overall we can say that all users agree with it and want to use it in the future.

Therefore, based on this survey, we can conclude that our new business model canvas is aligned with the customer’s needs and demands.

8. VALIDATED CONCEPTUAL BUSINESS MODEL

Following our study, we have determined that our customers are satisfied with the business model and that no improvements are needed. As a result, the following is the business model canvas for BabyCart's conceptual solution:

![Figure 13. Validated business model canvas](image-url)
A. CUSTOMER SEGMENT

There are three potential customers for BabyCart under the customer segment. The customers are sellers, customers, the B40 group, and donors. The sellers are people who own physical baby product stores that want to sell their product online. The sellers are also parents who intend to sell their preloved baby products. These sellers are also trained B40 and want to look for a way to increase their income. While the customers are parents that want to look for cheap and affordable baby products online. Buyers are also people looking for a babysitter for their children. The B40 people are those who will gain job opportunities through delivery or babysitting service. The donors are individuals or corporations that willingly donate to help our business. This is aligned with the 8th and 12th goals from the 17 Sustainable Development Goals (SDG) which is to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. The 12th goal is to ensure sustainable consumption and production patterns (Business Model, n.d).

A. VALUE PROPOSITION

The value proposition section will lay out BabyCart’s values and benefits for the customer segments. From the seller’s point of view, BabyCart gives the opportunity for selected physical stores to sell their baby products online. It gives them the ability to reach customers better. BabyCart also provides the ideal sale option for parents trying to make some cash while their children outgrow their toys and clothing. From the buyer’s point of view, it helps people who want to find cheap and affordable items. For the parents it might be convenient to buy baby products without getting out of their comfort zone especially during the pandemic. They might also look for a babysitter to look after their children. From B40’s point of view, they will earn money by applying for delivery jobs or babysitting. However, the babysitting job is only available to women between the ages of 40 and 60. They are the unemployed B40 individuals who are attempting to find work in order to support their families. From the donor’s point of view, they will donate to assist the B40 who are unemployed and also support the 12th goal of the SDG and to use the donation to train babysitters.

A. CHANNELS

This section describes the medium that will be used to engage our service or product with customer segments. BabyCart will utilize the website and BabyCart’s very own application to interact with the customer segments. We also have social media accounts for customers to reach us either at Facebook or Instagram.

B. CUSTOMER RELATIONSHIP

The customer relationships section explains how to improve the relationship between customer segments and our business. In order to provide the best service for our customer, we will need customer review, rating and feedback. The sellers and store owners will receive membership points for their active participation in BabyCart business. Moreover, for reskilling and upskilling we will provide training to enhance the babysitters skills. When they complete training, they will receive certification as evidence that they are well-trained and prepared for the position.
The runners can receive an extra incentive of RM10 based on their performance and customer feedback. We will encourage the donors to participate by giving donations to the B40 and helping with the training of the babysitters. We will also invite the donors to connect with us through our social media to stay updated and related to any future event.

**C. KEY RESOURCES**

This block describes the most critical and essential assets of our business that are required to run BabyCart. Our primary resources include technology software, skilled customer service specialists, digital platforms such as websites and social media, and skilled employees as we trained them before.

**D. KEY ACTIVITIES**

Our principal activities will depict what it will need to do to make our business work as intended. The primary activities include providing a platform for trading preloved baby products between the sellers and customers, branding and marketing products, application improvement and development, advertising, providing job opportunities to the unemployed individuals and b40 group, reskilling / upskilling the workers as well as provide an office for interviewing employees purpose by our company.

**E. KEY PARTNERS**

Our key partners are collaborators of our business that will ensure that our principal activities are working correctly as planned. The key partners are sellers, buyers, investors, payment processors, runners for delivering customer orders, and babysitters that are trained by childcare industry experts and office rentals.

**F. COST STRUCTURE**

The cost structure of BabyCart includes technology infrastructure cost for the website as well as website maintenance, cost of labour from the delivery and babysitter, training for the babysitter to provide the best services for the b40 group to apply and also office rental and utilities. I. Revenue Stream:

BabyCart will make money through paid ads from the selected baby store, commission from sellers, babysitting revenue through the customer, and also donations from the donor.

**G. ENVIRONMENTAL MAP**

1) Market forces: Baby and child-specific products recorded increasing demand and current value growth in 2019 (MarketResearch, 2020). The baby product industry could be a major key player in sustaining a thriving nation as it could help to stimulate the country’s economy (Zukri, 2021).

2) Key trends: COVID-19 has increased the consumption of mobile and digital media. This has led to increased demand from consumers for personalized shopping experiences online (Bakshi, 2011).

3) Industry forces: BabyCart has the potential to expand its business around the nation as it caters exclusively to the B40 and asnaf in the country.
4) Macroeconomic forces: BabyCart has the potential to attract consumers among the B40 and the Asnaf group as it sells affordable preloved baby products. It could also provide job opportunities to them and grow baby products businesses that were affected by the Covid-19 pandemic (Poo, 2020).

B. STRATEGY CANVAS

The strategy canvas is a visual representation of the differences in strategies between companies. In this way, the strategy canvas is used to compare BabyCart with other key players in the market. It can help us to understand when and why customers are likely to choose one product over the others. Therefore, we have used some approaches to building a strategy canvas. Firstly, we have to identify the factors that customers consider when choosing among different options of products which are known as product attributes or customer criteria, and then rate the performance of companies on each of these factors.

By using this strategy canvas, we would like to develop a website application that can help to ease customer pains. We want to create an application that helps people easily find various kinds and brands of baby stuff at a lower price including new or used baby items, easy payments for user satisfaction, gives faster and lower price of shipping services as well as provides the best and most friendly babysitting services. In addition, our business is unique as we also provide babysitting services and offer various packages of babysitting services such as low-cost package, medium cost package, and higher cost package that includes using our own baby products for babysitting.

Other than that, many potential customers can be found online and we can attract them to use our business based on their needs and problems. Therefore, we should focus more on the digital platform so that we can reach an enormous audience in a way that is both cost-effective and measurable. Nowadays, many customers are already online, and they would do online research to find our business (Digital Marketing Institute, 2021). Therefore, digital marketing is crucial to make the customers see and be confident to use our products. We will be using social media, websites and posting a lot of videos and graphics promoting BabyCart store and babysitting services frequently to show that our business is actively operating. Finally, BabyCart also provides membership discounts to our regular customers to give benefits for their loyalty.

9. CONCLUSION AND FUTURE WORKS

To conclude, BabyCart's conceptual digital platform business model with the digital platform gives benefits to all of its users, especially parents. BabyCart not only gives benefits to parents, but this platform also helps in improving the lives of B40 as they can apply for jobs as runners and babysitters and manage physical baby stores to increase their sales during this hard time. The goal of this platform is to ease parents in searching for baby products with an affordable price and to provide babysitting services with a flexible system.

In the future, we shall develop a business plan by implementing the V2MOM (Vision, Values, Methods, Obstacles, and Measures) model. Having a well organized business plan is important to develop BabyCart’s website so users can
easily access the website and the operation of BabyCart can be efficiently sustained.

REFERENCES


to-organizational-innovation#:~:text=The%20Business%20Model%20Canvas%20breaks,Cost%20Structure%20and%20Revenue%20Streams.&text=It%20helps%20communicate%20to%20clients%20why%20they%20should%20do%20business%20with%20you..


Zukri. (5 March 2021). Rakyatpreneur programme for asnaf and B40. The Malaysian Reserve. themalaysianreserve.com/2021/03/05/rakyatpreneur-programme-for-asnaf-and-b40/.