

# Mobile-Based Plus-Size Fashion and Custom Online Marketplace Prototype

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**Abstract**—Based on Central Bureau of Statistics' (BPS) data released in 2019, there have been increases in the numbers of overweight and obese people in Indonesia, followed by the increase of demands and searching of plus-size clothing to meet their needs. The purpose of this paper is to analyze and build a design of an e-business in form of a platform that integrates plus-size and custom market where sellers, buyers, tailors, and other active market players can be connected for the ease in obtaining plus-size needs and the economic activities in this market can be improved. The methodologies used in the market research are questionnaire, interviews, observation, and literature study; while Object-Oriented Analysis and Design (OOAD) is used for the system analysis and design. For the business and industry analysis, the methodologies used are the Business Model Canvas. The final result of this paper is the prototype design Mobile Based, which is an m-commerce platform for integration and execution of the market activities in the plus-size and custom market. It is expected that the presence of this platform would help every stakeholder involved in it, either in fulfilling their needs or improving their business performance and the economic of plus-size and custom market.

**Keywords:** *plus-size, online marketplace, m-commerce, e-business startup*

## I. INTRODUCTION

Based on Central Bureau of Statistics' (BPS) data released in 2019, recent development and easiness of technology and communications bring impacts on society lifestyle, particularly on food, by having various online applications that offer simplicity in getting food. Based on Basic Health Research (Riskesdas) and National Health Research (Riskesnas) studies held by the Ministry of Health of Indonesia and various news (Darmayana, 2017; Rossa & Nodia, 2018; cnnindonesia.com, 2019) show that number of obese and overweight people rises significantly from 2007 to 2018.

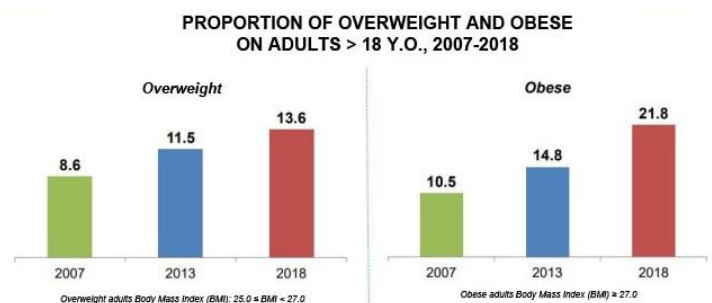


Figure 1. Overweight and obese people in Indonesia in the past 10 years

There is an increase from 8.6 percent in 2007 to 13.6 percent in 2018 for the overweight group, and a double increase from 10.5 percent in 2007 to 21.8 percent in 2018 for the obese group. The biggest obese percentage is in North Sumatra province, and as the country's capitol, DKI Jakarta is on the second place with 29.8 percent of its population, while the national rate is 21.8 percent. Macedo et al. (2015) conducted a research on obese people's perception towards themselves, where one of the result is the difficulty in finding a suitable size of clothes, whether it looked too tight or oversized on them. This issue finally brought emotional impacts to them that affected their confidence. Similar opinion was put forward by numbers of women to Wolipop (2014) that they found themselves not feel confident in wearing tight or loose cloth, and finally led them buying men's clothes, such as t-shirts and baggy jeans, or tailoring custom size of clothes because of having an issue in finding the big size in Indonesia. In the recent decade, we see how startups have developed in Indonesia. Based on research by a non-profit organization MIKTI (Indonesian Society of Information Technology Creative Industry) and Teknopreneur Indonesia, supported by BEKRAF (Indonesian Agency for Creative Economy) on 2018, there were 992 registered startups nationwide where 604 among them (60.89 percent) were established in the past five years (2013-2018) and 552 startups domiciled in Jabodetabek. We recently are getting familiar with the term of *unicorn startup*. It is a

category for startups worth for more than USD 1 billion. When four major Indonesian unicorn startups were established in 2009-2012, namely Go-Jek, Tokopedia, Bukalapak and Traveloka, digital startups started getting bigger attention.



Figure 2. Percentage of Startup Business Field in Indonesia  
Source: MIKTI & Teknopreneur Indonesia (2018)

From the survey result above, e-commerce can be seen as the biggest percentage in specific field of business, 35.48 percent among all startup business field in Indonesia. The increasing rate of internet usage affects the rising of e-commerce in Indonesia.

A global survey held by Hootsuite, a social media management platform, and We are Social, global media corporation on January 31, 2019 shows that based on device used by Indonesian people, 60 percent adults (16-64 y.o.) use smartphones, while laptop or desktop computer users is about 22 percent. Thus, the study found that 76 percent of e-commerce transactions were conducted through mobile phones, while only 3 percent through computers.



Figure 3. Activities of E-Commerce Usage in Indonesia  
Source: Hootsuite & We Are Social (2019)

This research at creating a platform design that facilitates customers to meet custom size garment sellers, tailors, and garment factories to address this particular segment of society, analyzing business feasibility and opportunity, and identifying the needs of big size clothing in a particular segment of customers.

## II. METHOD

### A. Population and Sample

Population of this research is divided into two, they are overweight-obese customers and product providers (merchants or tailors). Purposive sampling method is used to get samples of customers by choosing respondents that meet the criteria, and snowball sampling method by using respondents' assistance to get another respondents through their network. Minimum target sample is 100 respondents for

big and unrecognized population (Hair, Black, Babin, Anderson, 2014).

### B. Data Collection Method

#### 1) Questionnaire

Questionnaire is required to recognize and learn customers' characteristics and preferences, identifying their needs and its compatibility with recommended solutions, as well as to identify habits and lifestyle in the segmented customers. Google Form is used as a tool for the questionnaires and it's spreaded both directly and through social media to the targeted community.

#### 2) Observation

This stage is conducted by observing social media online shops and marketplaces, as well as observing offline merchants to see customers' preferences and market trend in purchasing big size clothing.

#### 3) Interview

Direct interview related to customers habits and promotion techniques is conducted to merchant owners and tailors.

#### 4) Literature Review

Literature review is conducted by collecting, reading, and analyzing available and relevant resources, e.g. books, journals, and articles as references and theoretical basis for this study.

### C. Design Method and System Analysis

Object Oriented Analysis and Design (OOAD) is used for designing and analyzing the system. The OOAD considers everything as an object and considers a system as interactions between objects. This object oriented design method is modeled in Unified Modelling Language (UML).

UML is a standardized diagram to develop object oriented softwares. There are many types of UML diagrams. Use Case Diagram, Class Diagram and Sequence Diagram are three types among others that will be used in this study.

### D. Business and Industry Analysis Methods

#### 1) Business Model Canvas (BMC)

This is method that is used in this study. BMC is purposed for providing a comprehensive view on business processes and strategies that will be developed, and also for documenting ongoing business processes and strategies. BMC could be used as a tool to make decision for launching products, startups, or new process by illustrating company's main values and activities. BMC is comprised of 9 business activities area blocks. Regarding to Osterwalder Pigneur (2013), 9 blocks: Customers Segments, Value Proposition Channels, Customer Relationships, Revenue Streams, Customer Segment, Key Resources, Key Activities, Key Partnerships, Cost Structure.

## III. RESULT AND DISCUSSION

### A. Data Analysis

In this research we analyzed the needs of Plus Size and Custom for 110 participants in the Jakarta and surrounding

areas. Participant's personal data can be seen in the following table:

TABLE 1. PARTICIPANT PERSONALIZATION.

|                 | Description     | Percentage |
|-----------------|-----------------|------------|
| Age (years old) | – 17            | 3,60 %     |
|                 | 18 – 25         | 74,50 %    |
|                 | 26 – 35         | 15,50 %    |
|                 | 36 – 45         | 6,40 %     |
|                 | 46 -            | 3,6%       |
| Domicilie       | West Jakarta    | 34,50%     |
|                 | Central Jakarta | 10 %       |
|                 | South Jakarta   | 18,20 %    |
|                 | East Jakarta    | 30,90 %    |
|                 | North Jakarta   | 6,4 %      |
| Category        | Overweight      | 46,42 %    |
|                 | Obesity         | 64,48 %    |

The activities of participants related to the needs of

Marketplace plus size can be shown as

Below is the result summary of primary research conducted towards plus-size clothing consumers:

- 1) Respondents are mostly 18-25 years old, with ratio between women and men is 5:4. All respondents meet the criteria, e.g. cloth size and body mass index, where there are more obese respondents than the overweight.
- 2) Most respondents seldomly buy clothes, i.e. from once or twice per month to once or twice per several months. One of the factors that makes this phenomenon occurs is the difficulties in finding the suitable size for them beside the clothing design, the fabrics, and the price.
- 3) Despite the difficulty in finding the size, most respondents buy their clothes at the malls or regular clothing merchants. Only few of them tailormade their clothes at tailors, yet the demand of tailoring custom-made clothes is still high. Thus, it is potential for tailors to create a good and more modern marketing strategy to spread out their services.
- 4) The most wanted and needed type of clothes is casuals with the range of price from Rp100.000 to Rp250.000.
- 5) Most respondents prefer making transactions through online marketplaces rather than social media. Transaction security is the main factor. In purchasing clothes online, quality is the top priority, then delivery duration and seller's location come after that.
- 6) Respondents show high interest in custom size clothing business concept.

Result of interviews with plus size clothes sellers and tailors is as below:

- Conservative and manual service that used to be very identic with tailors are recently improved. Tailors have started using technologies in running their business, e.g. social media and offering service online. This trend is

potential to persuade tailors to develop custom-made clothing business utilizing technologies.

- More and more tailors are switching profession as it has been more difficult to grab customers. Consumers' lifestyle is changing. Going to a tailor is considered effortful. Thus, many experienced small tailors have difficulties to grab more and maintain customers.
- The idea of creating a platform that could connect tailors with customers gets positive response from tailors as it possibly increase their income by grabbing more customers.
- Custom tailor service costs from Rp130.000 to millions, depending on type of fabrics and designs.
- To finish a custom-made cloth, most tailors require 7 days of work, or less if their customers ask for shorter time.
- One of issues in selling plus size clothes is providing ready stock. Having more stock of plus size clothes takes a bigger risk compared having more standard size because plus size clothes have more specific segment of customers. For clothes sellers that sell specifically big size clothes, their ready stock are mostly too big.
- Plus size clothes price is ranging from Rp160.000 to Rp300.000 for daily purpose or regular design clothes. The sellers tend to specifically mention the size of chest or arm instead of XL, XXL, etc. as each cloth has different details. Therefore, specific size is very important for customers.
- The interview and questionnaire results show that custom-made or plus size clothes price is still affordable for the customers. So it can be concluded that the business still have potentials to grow.
- Issues like stock and size readiness, size details, and connection between sellers and consumers could be addressed by the CustomSize.

## B. Future Business

CustomSize is an online mall application to facilitate plus-size and custom-made clothes sellers in delivering their products to broader consumers. The idea of creating this application is based on difficulties found by plus-size consumers in finding a suitable size of clothes where Indonesian body size is not considered too big. In this application, customers are able to order custom-made or made-by-order clothes.

CustomSize is developed by considering social and community aspects of a particular segment of market, plus-size consumers. Beside offering marketing strategy, CustomSize also encourage interactions among this particular segment of consumers to exchange information regarding plus-size clothes, e.g. where to find such clothes, etc. This also might reduce selling traffic in instant messaging service groups where there is no legal foundation in making transaction through instant messaging service.





#### IV. CONCLUSION

Information integration is essential for business in this era. E-commerce and marketplace platform are commonly used to make businesses available online. In 2019, fashion is the most purchased item online, while plus-size consumers still find difficulties in finding their size of clothes. Meanwhile, there are a lot of plus-size clothes sellers and custom-made tailors that still operate offline and find difficulties in grabbing customers. This gap is something that CustomSize is trying to address by creating standardized online platform service that offers unique features and simplicity.

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