Opinion Mining and Interview to Analyze Factors Influencing Consumers in Choosing Foundation (Case Study: Female Daily Network’s Users)

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ABSTRACT
The growth of cosmetics industry in Indonesia shows a good increase align with country’s thriving number of middle-class consumers in 2017. Cosmetics industry reached an impressive growth of 11.99% in 2017. The problem is local brand foundations are still facing difficulties to compete and gain bigger market share. Big global brands like Unilever still wins overall market share since they grab 70% market share of Indonesia’s cosmetics market. This research aims to find the factors influencing consumers in choosing foundation. This research used opinion mining and in-depth interview to collect the data from Female Daily Network users opinion. The result indicates that keywords that have been written by users on Female Daily Platform are appeared to be different with respondent’s relevant keywords from in-depth interview. The findings of this research are expected to give an insightful knowledge of consumers’ preference towards foundation to be useful information generating the right decision making in marketing and new product development.

1. INTRODUCTION
The growth of cosmetics and toiletries industry in Indonesia shows a good increase align with country’s thriving number of middle class and affluent consumers in 2017. It is recorded that the growth of both cosmetics and toiletries industry in 2017 is reaching higher number than the previous year, even if it is compared to the industry’s average annual growth rate in these past six years. For numerical speaking, cosmetics and toiletries industry reached an impressive growth of 11.99% in 2017 with 19 billion rupiah of total sales values. Meanwhile industry average annual growth rate in the last six years is around 10% only (Global Business Guide Indonesia, 2018).

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The raise of cosmetics and toiletries industry is not only giving impact to global brands. In fact, for personal care category, Wardah as Indonesia’s local cosmetics brand has doubled its market share within 5 years (Harvard Business Review, 2019). However, big global brands like what Unilever and P&G have still wins overall market share since they are able to grab approximately 70% market share of Indonesia’s cosmetics and toiletries market. On the other hand, Local brands are still facing difficulties to compete and gain bigger market share (Markplus, 2016).

Consumers’ acceptance of imported products specifically cosmetics and skincare from other countries is pretty high. When we talk about imported products from United State such as Clinique, Estee Lauder, MAC, Revlon, Bath & Body Work, and Victoria’s Secret, they are already well positioned in Indonesian market (U.S Department of Commerce, 2016). Premium cosmetics and skincare product from US, Japan, and France are the most popular. In line with that, according to Global Data Consumer Survey (US Departement of Commerce, 2016). L’oreal, as world’s one of the biggest cosmetics groups, is currently maintaining 15 different brands available in Indonesia. L’oreal as one of the brand under L’oreal group recorded that Indonesia is the fastest growing Asian market for this firm since they captured 30% significant growth of Indonesia’s sales in 2012 (Reuters, 2012). This brand also observed that Indonesia’s market has been increasing rapidly in size for the last ten years and shows no sign of slowing down (L’oreal, 2018).

Foundation was chosen to be the object of this research. The reason choosing foundation to be researched is because researcher observed that product specification of foundation is more complicated compare to any other cosmetics product such as lipstick or eye shadow. So, the outcome is this research gives more impact if each product specification of foundation could be explained and elaborated. In the other hand, the growth of new product development of local foundation in Indonesia is slower than lipstick, lipcream, and blush. The findings of this research might be a good catalystor of local foundation creation and help local foundation brand grab more market share.

To explore more insight regarding some facts that were mentioned above, preliminary research had been conducted. All respondents are aged between 18 until 27 years old who are currently living in Surabaya, Jakarta, Bandung, Sidoarjo, Malang, and Jogja. In fact, 89% of 210 respondent prefer to choose global brand for their foundation rather than local brand. Followed by 131 respondents said that they are facing difficulties to find the perfect shade of local foundation for their skin tone in local cosmetics brands. In total, 77% of 210 respondents prefer purchasing foundation from global brands such as Maybelline, Loreal, Too Faced, and Estee Lauder to local ones like Make Over, Wardah, and Emi

This trend of beauty industry in Indonesia is not only giving spaces for beauty brands. Indonesia’s cosmetics consumer also provides a big room for digital beauty platform in order to fulfill their needs and wants through technology since it is becoming consumers’ best friend in seeking for beauty suggestions lately. Responding to consumers’ needs of digitized beauty information, in 2009 Female Daily Network finally decided to open an online platform. Female Daily is formerly known as Jakarta based woman community which regularly conducted offline meetups and events. In its beginning, Female Daily Network provided online threads and forum that grant users to share their knowledge, opinions, and experiences toward some topics that had been chosen by moderator. As their number of users exponentially increased over time, they decided to add mobile application that helped users to gain more specific information in an easier way. Their mobile application enables users to read and give specific review, price, and rating towards makeup, skincare, hair, fragrance, and body products.

There are over 465.000 members registered on their digital platform in total. They are able to grade and give rate to beauty and personal products listed on the platform. From the set of data gathered from Female Daily web and mobile application, useful information to help decision making in marketing can be generated through some techniques, one of them is opinion mining. Opinion mining is widely known as the ability of a machine to analyze, understand, and generate text (Feldman & Sanger, 2007)

In this study, researcher also used in-depth interview to collect insightful opinion from respondents. In-depth interview was conducted to enrich the data from opinion mining in order to trigger different findings or deeper understanding of factors chosen with one-on-one communication. With in-depth interview, respondents can be more elaborated to explain the underlying factors that influence them in purchasing foundation.

The insightful findings from opinion mining technique on Female Daily Network platform as well as additional in-depth interview would give deeper understanding on what Indonesia’s cosmetics consumer are actually need in a beauty product specifically foundation. The data
gained from Female Daily Network platform and in-depth interview are able to find consumers’ review and rate towards products features of cosmetics that they prefer. It provides useful information and facilitate local cosmetics brand decision making of consumers’ product preferences with relevant data. From Female Daily Network’s side, this valuable insight of cosmetics’ consumers can generate more revenue by selling the findings to cosmetics brands. This research directs effort to attempt using opinion mining and in-depth interview to interpret consumers’ product specification preferences reported through platform as the basis of data management in Female Daily Network and based on in-depth interview that has been conducted for Female Daily Network users. In conclusion, this research use qualitative study in order to explore more insights regarding foundation, its specification, and attributes those are considered by consumers and successfully made consumers to choose the foundation.

Nationwide sales of cosmetics increased by almost 15% from 8.5 trillion rupiah in 2013 to 9.76 trillion rupiah in 2014. Cosmetics industry is expected to grow 10 to 15 percent annually (Cekindo Business Group, n.d.). As explained in previous background, the growth of purchasing cosmetics seems take side on global brands since they are preferable because of their ability to provide a broad range of product type with different prices that are suitable for all segments. If local brands continue to be less preferable because they are not able to fulfill what market wants, the growth of cosmetics consumption in Indonesia will be beneficial for global brands and give less impact to Indonesian local cosmetics industry. At the same time, the usage of open source data from user-generated content like what Female Daily Network has, would be useful and insightful if it is utilized as databases to help company decide and improve their business.

For that reason, it is important to utilize unused user-generated product review in Female Daily Network platform to analyze factors that influence consumers in choosing foundation. It is also important to understand relevant keywords of favorable foundation specification from consumers to find weakness of local brand foundation and increase local brand foundation’s competitive advantage in beauty industry. Moreover, the results of this study can facilitate local cosmetic brands on how to improve their business to fulfill their consumer needs. It possibly helps local cosmetics brands to grab profitable market in today’s rapid growth of cosmetics industry as well as emerging trend of data. Based on the background and problem statement that has been stated above, this re-search aims to know:

1. What are the category of favorable foundation specification based on relevant words that occurs in the examined users data gathered from Female Daily Network forum?

2. What are the category of favorable foundation specification based on relevant keywords that occurs in the examined users data gathered from in-depth interview with Female Daily Network’s users?

This research has two main objectives to be achieved. First, this research aims to seek the product specification of the best foundation in 2018 that is chosen by consumers and reported through Female Daily Network platform. The favorable cosmetics specification is illustrated by the product specification category that can be useful information to be adjusted by cosmetics brand. By using data from Female Daily Network, this research intends to explain the cosmetics specification that is frequently chosen by the consumers.

The second objective is to seek the factor that influence consumers in purchasing foundation by conducting in-depth interview with Female Daily Network’s users. This is done to give deeper understanding by analyzing relevant keywords from different data collecting methods. As conclusion, the findings of the research that gathered from registered users on Female Daily Network platform and in-depth interview is expected to give an insightful knowledge of consumers’ preference towards foundation to be useful information generating the right decision making in marketing and new product development.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

According to Hawkins et al (2001), attitude is process of motivational, emotional, perceptual, and cognitive towards some aspect of surroundings. This means that attitudes is a result of external factors for example how attract consumer towards products and how to initiate the communication between them (Ikechukwu F, Daubry, & Chijindu H., 2012). Attitude can be defined as emotion that individual possessed towards object (Kotler & Keller, 2006). It can also be seen as a formation whether individual is accepting or reject particular object (Christina, 2013). According to Solomon (2013), the focus of attitude as a way to express favorable or unfavorable way towards product, brand, and advertisement. Consumer has been evaluating their preferences towards product as the implication of attitude behaviour (Petrovici & Marinov, 2007). Attitude can be used as prediction of their buying behaviour in terms of individual as the impact of consumer decision making (Fill, 2009).

Attitudes are consist of three main component: a cognitive component, an affective component, and a conative component (Sinthamrong & Rompho, 2015).

1. The cognitive component is directly impact on attitudes because it is based on their interpretation of information and their past
2. The affective component reflects the consumer’s emotions or feeling toward a certain particular product or brand.

3. The conative component reflects the tendency consumers that an individual will undertake as their attitudes towards object. In marketing, this refers to consumers intention to buy.

Social factors can also affect changes in attitudes which influence the consumer decision making. It can affect the decision making through subjective norms that the individual belief. (Sinthamrong & Rompho, 2015). For instance, when an individual contains positive believe about something, their attitudes will become more positive. According to Homer and Kahle (1988), value attitude behavior model shown that values affected both behavior and attitudes. Values is considered as social cognitions that reflects the basic of adaptation on individual (Homer & Kahle, 1998). This cognition serves as a basis of attitudes and behavior. Also cognition serve as guide on individual to do something in certain situation (Kahle, Kulka, & Klingel, 1980).

There are three variables in VAB model which are values, attitude, and behavior. VAB model mainly state that the influence in situation will flow from values to attitudes to behavior outcomes (Homer & Kahle, 1998).

This model indicates that value in people perceptions will affected their attitudes and affect their behavior towards something (Homer & Kahle, 1998). Likewise, attitudes and behaviors are the result of abstract values (Rajani, 2010). Value is essentails behind people mind that drives people’s action (Clawson & Vinson, 1978). The nature of value is subjective and grow as a long way with social and psychological (Teng, Wu, & Huang, 2014). Which means it will differ through each person perceptions.

One of the basic factors shaping person behavior is attitudes (Ajzen, 2005). Previous research indicates that attitude have a similar social cognition than values but still values are more fundamental (Rokeach, 1973). Attitudes is a way that individual express positive and negative reactions towards an object, situation, or organization. Attitude is a tendency to respond positively or negatively to an object, person, institution or state (Ajzen, 1991). In the early research about attitudes, researchers stated that human behavior is affected by social attitudes (Ajzen, 2005)

Understand consumer behavior is an important thing to determine and break down consumers decision-making process in purchase behavior (Man, Patwardhan, Flore, & Gupta, 2010). By identifying consumers segments, it gives a bridge analysis of what consumer seeks, because consumer seek for benefits or a problem solver, not only products (Rowley, 1997). Consumers are actually conduct an information search regarding the products they want to purchase, what makes consumers do the search is uncertainty. Consumer’s purchasing decision are normally based on their own perception and representations of quality (Man, Patwardhan, Flore, & Gupta, 2010). Socioeconomic condition of the markets, income, mobility, and media access are some factors that is affected consumers behavior (Tse, Belk, & Zhou, 1989). At the same time, personal values are found to be determinants if numerous aspects of consumers attitude and behavior (Homer & Kahle, 1988). All values mentioned are some influential factors that affect the type of needs consumer tries to satisfy through purchase and consumption behavior (Tse, Belk, & Zhou, 1989). Qualitative interviews have been categorized in a variety of ways, with many contemporary texts loosely differentiating qualitative interviews as unstructured semi-structured, and structured (Frey J, 2005). Each type of interview has their own purpose and chosen by considering certain things that need to be fulfilled in the research. For example, Malinowski (1932) only used unstructured interview with local key informants and never conducted any focus groups or in-depth interviews. Compare to what Edmund Husserl (1931) were done, his research used in-depth interview as the source of data to seek a new or current phenomenon. Whereas the unstructured interview is conducted in conjunction with the collection of observational data, semi-structured interviews are often the sole data source of a qualitative research project (Adams & Mcvillan, 2002). Semi-structured interview are generally organized around a set of predetermined open-ended questions, with other questions emerging from the dialogue between interviewer and interviewee. Semi-structured in-depth interviews are most widely used interviewing format for qualitative research and can occur either with an individual or in groups. Most commonly they are only conducted once for an individual or group and take between 30 minutes to several hours to complete.

Text mining is a field of study that combining information retrieval, text analysis, information extraction, clustering, categorization, visualization, database technology, machine learning, and data mining (Feldman & Dagan, 1995). The most natural information form is text. In the growth and development of current ICT, it is possible to extract unstructured information based on text and reform it into any knowledge that is more structured and valuable. As the most natural form of storing information is text, text mining is believed to have a commercial potential higher than that of data mining. In fact, a recent study indicated that 80% of a company’s information is contained in text documents. Text mining, however, is also a much more complex task (than data mining) as it involves dealing with text data that are
inherently unstructured and fuzzy. Text mining is a multidisciplinary field, involving information retrieval, text analysis, information extraction, clustering, categorization, visualization, database technology, machine learning, and data mining (Fayyad & Saphiro, 1996).

Text mining can be visualized as consisting of two phases: Text refining that transforms free-form text documents into a chosen intermediate form, and knowledge distillation that deduces patterns or knowledge from the intermediate form (Feldman & Dagan, 1995). Intermediate form (IF) can be semi-structured such as the conceptual graph representation, or structured such as the relational data representation. Intermediate form can be document-based wherein each entity represents a document, or concept-based wherein each entity represents an object or concept of interests in a specific domain. Mining a document-based IF deduces patterns and relationship across documents. Document clustering/visualization and categorization are examples of mining from a document-based IF. Mining a concept-based IF derives pattern and relationship across objects or concepts. Data mining operations, such as predictive modeling and associative discovery, fall into this category (Hearts, 1997). A document-based IF can be transformed into a concept-based IF by realigning or extracting the relevant information according to the objects of interests in a specific domain. It follows that document-based IF is usually domain-independent and concept-based IF is domain-dependent.

3. RESEARCH METHOD

Research Design

The figure 3.1. describe the research design of this research:

- **Problem Identification**
- **Literature Review**
- **Data Collecting**
- **Opinion Mining**
- **In-depth Interview**

The researcher uses a judgement sampling to decide and eliminate respondents into the required ones. According to (Saunders, Lewis, & Thornhill, 2009) judgement sampl-

**Problem Identification**

After conducted a preliminary research in the beginning, the next step in assessing research is detecting problems. The main problem that the researcher found is about the preferences of cosmetic consumers in Indonesia who prefer imported product from global brands, specifically for foundation. The objective of this research is to seek some factors that influences consumers in choosing foundation using opinion mining from Female Daily Network, as the biggest beauty platform in Indonesia and in-depth interview.

**Literature Review**

Literature review was done by researcher in order to obtain several concepts those are in line with the topic. Other than that, secondary data such as report, website, and journal are also used to give broad and deeper understanding. Last but not least, findings from previous studies are involved in this research as a meaningful insight.

**Data Collection**

In collecting data for this research, the researcher uses opinion mining from Female Daily Network platform and in-depth interview. In conducting in-depth interview, the researcher using a semi-structured way.

The flowchart as a guidance for semi-structured way is shows in Figure 3.2. This flowchart is question and answers’ chain for interview to seek information from consumers:
pling technique aims to specify targeted elements that are related to the objectives or research problem. For this research, interviewees are decided into two groups based on the frequency of using foundation. The first group is the interviewees who are using foundation every day and the second group is the interviewees who are using foundation occasionally, or at least 3 days a week. Then respondents will be asked several questions that lead them to explain the reason they choose foundation.

From the flowchart above, researcher firstly start with respondents who have already fulfilled all the requirements that has been set before the interview starts. There are some mandatory requirements that have to be fulfilled by all respondents. The requirements are those who have been using foundation for more than 2 years, use foundation at least 3 days a week, and have joined as Female Daily Network users.

Researchers firstly classify respondents based on their frequency in using foundation. Classification of frequency are divided into two which are those who use foundation everyday and those who do not use foundation everyday. This classification is made to enrich the findings from different behavior in using foundation and favorable foundation features from those two different types of respondents. For respondents who said no, researcher continued to ask what product do respondents use to substitute the foundation and why do they choose that product. After that question, researcher asked when do respondents use foundation.

The next question is applied to both type of respondents, which is what brand do respondents have. This question is a bridging to the next question which aims uncover the reason of respondents choosing brands of foundation. In the interview, respondents were asked whether local foundation brands are more preferable or not compare to global foundation brands. Researcher firstly asked whether respondents have local foundation brands or not, followed with why respondents have or do not have local brands and asked which one do respondents prefer, global foundation brands or local ones. After that, researcher asked respondents to explain why do they prefer their option and mention top 5 priority reason of why they choose foundation.

Figure 0.1 User’s impression towards foundation on Female Daily Network forum

For the data collection from opinion mining method, data gathered are comments on foundation review on Female Daily Network platform specifically on The Best Foundation in 2018 page which is Estee Lauder Double Wear Stay-in-Place 24h Foundation, spanning from July 2014 to July 2019. Data are exhibited on Female Daily Network forum amounted to 288 total product reviews from different users that will be used in this research. All the data are all public review from users consisting of review, impression, and opinion towards Estee Lauder Double Wear Stay-in-Place 24h Foundation.

Data Analysis
This research focused to explore all factors that influences consumers in choosing foundation. To explore all of the considerations, the researcher had found some literature that explained about the considerations that should be considered, so it can be used to strengthen this research. This research consists of two major processes to analyze the data that had been collected from the respondents which are transcript and coding.

Transcript
The initial process to analyze the data from qualitative approach is by doing a transcript. The purpose of this activity is to transform the audio conversation between the interviewer and the respondents or informants to a text. The audio conversation need to be transformed into texts since it will be used for the next step in data analysis which is coding process.

Coding
Coding is the process that the researcher did after finishing the transcript process. According to Charmaz (2008) coding is the most important link between the data collection and the meaning of the data. (Smith, 2010) also added that coding is the method where the researcher organize the data, so the message that researcher got from the informants can be clearer. The coding technique itself consists of three phases to analyze the text data and also used to do this research. Those phases are open coding, axial coding and selective coding (Saldaña, 2009)

The first steps which is the open coding is the phase where the researcher needs to give tentative labels or create some keywords that can summarize the important data that was gathered from the informants. After doing the open coding, then the researchers did the axial coding. The aim of the axial coding is to identify and analyze the relationship between the open codes, to resemble the data that had been divided while doing the axial coding and also to discover key analytic group. The final phase is the selective coding. The aim of this phase is to find the core variable which can cover all the codes and categories (Sekaran, 2003)

Validation
To know and measure the validation of the results from this research, the researcher does a triangulation. The
objective to do the triangulations is because the researcher wants to increase the confidence in the findings and also avoid the potential biases because only use a single methodology and also subjectivity that may occur in qualitative approach (Heale, 2013). The triangulation that was done by the researcher was by asking about the findings and results that the researcher got from the opinion mining and interview to other researchers who have same interest in makeup, but have different backgrounds.

Data Mapping

Data mapping is the process where the researcher formulates the results from the selective coding that has been done in data analysis. The formulation of the results is formed into some models or matrices that will be used by the researcher to create the recommendation.

4. DATA ANALYSIS AND DISCUSSION

Data Processing

This research is combining 2 different methods of analysis which are opinion mining and qualitative. Researcher firstly mined data from Female Daily Network and analyze it. As addition, in-depth interview was conducted to strengthen the analysis and enrich the findings of this research.

4.1 Data Collecting

Figure 0.2 The Anatomy of Product Review on Female Daily Network

The first thing that researcher need to do to collect data from Female Daily Network platform is mined product reviews from selected landing page. In this case, researcher choose product review page from Estee Lauder Double Wear Stay-in-Place Foundation that is awarded as The Best Foundation in 2018 by Female Daily Network users. This landing page of product review is chosen because researcher want to seek favorable foundation features that is liked by most users on that platform. In this process, the body text, user’s age, user’s skin tones, user’s undertones, and user’s skin concern are collected. However, the main valuable data that researcher want to analyze are the product review written in body text.

4.1.1 Data Scraping

Using ParseHub as data scraper, this data scraping stage had to deal with some boundaries that should be underlined and adjusted which is the bilingual reviews those are commonly found on the body text. The first step that researcher have to do is to visit the web page which is https://reviews.femaledaily.com/products/foundation/liquid/estee-lauder/double-wear-stay-in-place-foundation-34?tab=reviews&cat=&cat_id=0&age_range=&skin_type=&skin_undertone=&hair_type=&order=newest&page=1. Figure 4.1.1.1 shows how the landing page of the link looks like. Figure 0.3 Landing Page of Estee Lauder Double Wear Stay-in-Place Foundation on Female Daily Network

In data scraping steps, researcher have to select some data on page which are useful and valuable for further data analysis. The system on ParseHub automatically mined all selected data and collect all of them in Microsofts excel format (Data is attached in Appendix B). Figure 4.3 shows how the result of scraping from ParseHub are. The total data count by this process is 288 reviews.

Figure 0.4 The Result of Data Scraping From ParseHub
4.1.2 Sentiment Analysis
From scraped data, researcher divided some keywords into 3 types of sentiments which are negative sentiment, neutral sentiment, and positive sentiment. How researcher decide which keywords grouped to which sentiments are based on the context and adjective that is paired with valuable keywords. Those keywords are something that is related to the foundation itself.

After distributed keywords into 3 different sentiments, investigator or researcher triangulation were conducted to test the validity and prevent personal bias from the researcher (Refers to Appendix C). Table 4.1 shows the result of researcher triangulation that has been done by 5 researchers who have knowledge of makeup and come from different background.

<table>
<thead>
<tr>
<th>Negative Sentiments</th>
<th>Qty</th>
<th>Neutral Sentiments</th>
<th>Qty</th>
<th>Positive Sentiments</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>glass bottle</td>
<td>3</td>
<td>sticky feeling</td>
<td>2</td>
<td>comfortable</td>
<td>2</td>
</tr>
<tr>
<td>strange fragrance</td>
<td>3</td>
<td>long lasting</td>
<td>2</td>
<td>not causing breakout</td>
<td>2</td>
</tr>
<tr>
<td>powdery finish</td>
<td>3</td>
<td>shade options</td>
<td>3</td>
<td>a bit sticky</td>
<td>2</td>
</tr>
<tr>
<td>causing acne</td>
<td>3</td>
<td>thick feeling</td>
<td>3</td>
<td>smooth</td>
<td>2</td>
</tr>
<tr>
<td>not hygiene</td>
<td>4</td>
<td>satin finish</td>
<td>3</td>
<td>perfect match for skin tones</td>
<td>2</td>
</tr>
<tr>
<td>oxidized</td>
<td>4</td>
<td>light weight</td>
<td>3</td>
<td>cover dark spots</td>
<td>4</td>
</tr>
<tr>
<td>shade options</td>
<td>6</td>
<td>dry quickly</td>
<td>5</td>
<td>many shade options</td>
<td>5</td>
</tr>
<tr>
<td>dead mate</td>
<td>8</td>
<td>matte finish</td>
<td>7</td>
<td>suitable for oily skin</td>
<td>5</td>
</tr>
<tr>
<td>dry quickly</td>
<td>9</td>
<td>expensive price</td>
<td>12</td>
<td>matte finish</td>
<td>10</td>
</tr>
<tr>
<td>matte</td>
<td>10</td>
<td>demi matte</td>
<td>12</td>
<td>buildable</td>
<td>10</td>
</tr>
<tr>
<td>cracking</td>
<td>11</td>
<td>medium to full coverage</td>
<td>19</td>
<td>full coverage</td>
<td>11</td>
</tr>
<tr>
<td>thick feeling</td>
<td>12</td>
<td>full coverage</td>
<td>28</td>
<td>good oil control</td>
<td>12</td>
</tr>
<tr>
<td>no pump</td>
<td>42</td>
<td>medium to full coverage</td>
<td>16</td>
<td>blendable</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>not oxidized</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>good coverage</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>long lasting</td>
<td>90</td>
</tr>
</tbody>
</table>

As shown in Table 4.1 on positive sentiments table, the most frequent favorable keyword that is found on user’s product review is long lasting. Long lasting as positive sentiment is mentioned by 90 users from 288 reviews, which represents 31% of users who contributed on Estee Lauder Double Wear Stay-in-Place Foundation’s product review. Those 31% of users agree that long lasting is one of their most favorable foundation’s specification. Based on the product review, users like the staying power of Estee Lauder Double Wear Stay-in-Place foundation because the product lasts more than 6 hours on their face without any oiliness and greasiness.

Good coverage is sitting on the second place of the most frequent keywords that is occurred on the page. As much as 42 users or 14.5% of total users on the page have said that Estee Lauder Double Wear Stay-in-Place Foundation gives good coverage to their face. Good coverage is still related with some other factors on positive sentiment’s table which are medium to full coverage, full coverage, and covers dark spot. Based on the review, Estee Lauder Double Wear Stay-in-Place Foundation has medium coverage that is able to covers dark spot. Its coverage is actually can be built until full coverage. From buildable ability that Estee Lauder Double Wear Stay-in-Place Foundation can do, this high end brand claims theirself as medium to full coverage foundation. In line with that, Estee Lauder Double Wear Stay-in-Place Foundation’s consumers are approved it.

In-depth Interview

Frequency of Using Foundation
When the researcher wants to seek the factors that influencing respondents in choosing the foundation they have already had, there were several questions that researcher ask at the beginning to seek whether the respondents fulfill some requirements that researcher has set or not. The questions are also asked to categorize the respondents based on their frequency of using foundation. Questions that were asked by the researcher to the respondents are “How long have you been using foundation?” and “How frequent do you use foundation in a week?”

Researcher found 2 category of consumers based on the frequency of using foundation Figure 4.1. shows what researcher got from the respondents regarding how frequent respondents use foundation is a week and what brands of foundation do the respondents have. Before conducting the interview, researcher has set some requirements or characteristics that are used to decide who would be the respondents. The requirements are respondents are those who are using foundation everyday, have been using foundation for more than 2 years, have more than 1 foundation brand, and has joined as Female Daily Network users. There are 7 respondents
who fulfill all of those requirements. According to the coding that has been done by the researcher, the final result that the researcher got are all of the respondents use foundation everyday because foundation can cover facial imperfections such as acne, acne scars, tired faces, and puffy eyes. Table 4.2 shows that respondents stated that foundation make their face fresh, make them look well dressed and professional. Respondents also stated that since they have been using foundation everyday for more than 3 years, they are able to rate each foundation that they have tried and decide what kind of product feature and formulation that match with their skin concern.

Researcher also set some characteristics and requirements to decide who would be the respondents of consumers who use foundation occasionally. The requirements consist of respondents who have been using foundation for more than 2 years, respondents are those who are using foundation at least 3 days a week, those who have more than one foundation brand, and already registered as Female Daily Network users. From that requirements, there are 3 respondents who fulfill all of it. The result that are found after coding has been done by researcher are respondents prefer to use foundation occasionally because they feel that foundation is used every single day, once they use it on a special day, they are not going to look special. Respondent stated that foundation is too heavy for daily use. How foundation dynamically react to facial oil and humidity make it gets greasy and oily after 3 hours of usage. Table 4.3 shows what respondents stated that explain why they only use foundation occasionally.

Based on the interview when all respondents were asked about how frequent they usually use foundation in a week, researcher found that respondents behavior in using foundation daily and occasionally are both related with how they want to look in front of others. Both characters of respondents want to look good, proper, and professional, but respondents who are using foundation occasionally are more sensitive and have lower tolerance of how foundation give thick feeling to their face, create oil and make their face feel greasy after 3 hours of usage. Table 4.3 shows what respondents stated that explain why they only use foundation occasionally.

Figure 0.5 Summary of Consumers Different Perception and Behavior based on their frequency of using foundation

**Foundation Brands Chosen by Consumers**

After knowing the frequency of respondents using foundation, researcher want to know what foundation brands did respondents use to have and respondents have been using. Consumer preferences and loyalty towards certain foundation brands can help researcher to seek the factor of why respondents choose that brands as their foundation. To know about what foundation brands did respondents use to have and respondents have been using, researcher use several questions to be asked. All of those questions are: (1) “What foundation brands have you been using from the very first time you use foundation until now?” and (2) “Mention your all-time favorite foundation and why do you choose it as your all-time favorite foundation?”.

**Foundation Brands**

Researcher asked question regarding what foundation brands have respondents been using from the very first time they use foundation until now to seek the variant of foundation brands and analyze if consumers tend to create some patterns of their more preferable foundation brands.

The first question regarding foundation brand that respondent currently use and used to have, only 1 respondent who said that she is currently use local brand which is cushion from Rollover Reaction. Cushion itself is not considered as foundation, but it’s more like tinted moisturizer with adjustable coverage and added SPF. Rollover Reaction has also claimed this product as tinted moisturizer in a cushion package rather than a cushion foundation. Figure 4.2.1 shows the key visual of Rollover Reaction face cushion tinted moisturizer.

Researcher found this grouping of foundation brands those are chosen by respondents are very interesting. To uncover what are the underlying reason of each respondent choose drugstore and high-end foundation brands
and create this pattern, researcher decided to ask several questions which were (1) “Why do you purchase foundation from that brand?”; (2) “Do you have different factor when you are choosing high-end and drugstore brands foundation?”. From this question researcher want to dig deeper whether respondent have some purpose in choosing those brands or coincidentally choosing it.

Table 0.1 Reason in Choosing Foundation Brands

Based on the interview that is showed by Table 4.5, respondents purchased drugstore and high-end foundation from those brands because they got a repetitive exposure saying that foundation from those brands are that good virtually on social media like Instagram and youtube and from their friend’s recommendation. Respondents also interest to purchase when they see a person is able to make an impressive facial complexion with that foundation. Impressive facial complexion that respondents meant are poreless face, smooth complexion, demi-matte and not giving powdery finish.

Table 0.2 Consumers’ Requirement in Choosing Drugstore Foundation

Table 4.6 Respondents are actually not being too detail in digging product review, ingredients, product features, and any other things those are related to the foundation when they purchase foundation from drugstore brands. What matters the most for respondents are shade of the foundation that match with their skin tones, longevity or the staying power of the foundation, oil control of the product after more than 3 hours of usage, the aftermath of the product that is not causing breakout to their face. However, all of those 3 points are more likely to be achieved when respondents have tried the products before. All respondents stated that every time they want to purchase foundation, they have to try it first. From 10 respondents, only 2 respondents try to swatch foundation on their hand in store and considers the suggestions from the beauty assistant. The rest of the respondents are digging the product reviews from friends and beauty influencer on youtube, then finally decide which drugstore foundation they want to purchase.

It is showed that the responses are very contradictory when researcher asked about high-end foundation brands. Respondents are become more indecisive and take a longer time to decide which high-end foundation brands they want to purchase compare to the drugstore ones. From the interview, researcher found that respondents tend to be more considerate about the details of the product. Aside from their requirement that foundation shade must match their skin tones, the staying power of the product, and will not make their skin breakout, respondent have an expectation that need to be fulfilled that high-end foundation brand must have some additional requirements to be considered such as have skincare benefit, how the foundation set to their face, the texture and how the product feels on their skin, how friendly and helpful the beauty assistants in store are, the packaging and applicator, and any other additional benefits that they can get such as product samples. Respondents said that they only want to splurge huge amount of money in high-end foundation when the products are coming from a trusted big brand with excellent reputation.

From the grouping of foundation brands that researcher found from the interview that is explained by Table 4.8, 2 out of 10 respondents know there are some big beauty company groups consist of some beauty brands. Those 2 respondents are consciously choosing Maybelline, L’oreal, and Bourjois as their drugstore foundation because they know that those brands are on the same portfolio with good high-end brands. Meanwhile the other 8 respondents are choosing those drugstore brands after read good reviews on social media.

Priority of Favorable Foundation Feature

After knowing what brand that respondents use, product feature that is favorable and unfavorable, and also factor that isn’t related with the product that influencing them choosing foundation, researcher wants to know what factor matters the most to the respondents. Researcher asked respondents to rank favorable foundation feature from their number one position as the most important factor to their least favorable feature which means less prioritized. The question that was asked to respondents is (1) “Can you please mention top 5 of your priorities of foundation’s feature that influence you to choose foundation?”. Table 4.3 shows that actually there are 3 types of priority regarding product feature of foundation that is favorable for respondents based on their skin types.

Table 0.3 Top 5 Priority of Favorable Product Feature Based on Respondents’ Skin Types

From the interview, researcher found that different skin types have different priority when it comes to their favorable foundation features. How respondents’ skin react to facial products is the main reason they have has dif-
ferent priority based on their skin types. Shade options become number 1 priority for all skin types. For dry and sensitive skin, their favorable product features are a combination between how they want their foundation make them look as well as what health or skincare benefit that their foundation able to give to their face. For respondent’s with oily skin, their priority shows that they have concern about their natural facial oil. It is mentioned on the table that they prioritize foundation which has good oil control for their oily face. Oily, combination, and normal skin’s respondents mentioned that long lasting, good coverage, and not oxidized are also their top 5 priority. Respondents with oily, combination, and normal skin explained that they mention long lasting as their top 5 priority because Indonesia is so humid, they need foundation with long lasting formula to prevent the foundation fades after some hours of usage. Respondents with those 3 skin types also mentioned oxidized, they agree that foundation that is oxidized are disappointing because their face gets dark uncontrolably and make their face become dull.

The result indicates that factors from variable keywords those are mined from opinion mining on Estee Lauder Double Wear Stay-in-Place foundation and in-depth interview are slightly different. Shade options are not chosen to be top 10 product specification those are mentioned. In the other hand, shade options is contradictory chosen as the most important product specification mentioned from in-depth interview.

It presents the analysis of the related results, theories, and hypotheses (if any) based on the writer’s reasoning. Data analysis and discussion should be presented in brief but clear and it is not dominated by table presentation. The tables which are presented should not be the rough output but in the processed and brief summary. Tables and pictures are presented consistently in the center and the titles are above for the tables and below for the pictures. It presents the analysis of the related results, theories, and hypotheses (if any) based on the writer’s reasoning. Data analysis and discussion should be presented in brief but clear and it is not dominated by table presentation. The tables which are presented should not be the rough output but in the processed and brief summary. Tables and pictures are presented consistently in the center and the titles are above for the tables and below for the pictures (Daniel 2009).

It presents the analysis of the related results, theories, and hypotheses (if any) based on the writer’s reasoning (Donahue-Wallace & Chanda 2005). Data analysis and discussion should be presented in brief but clear and it is not dominated by table presentation. The tables which are presented should not be the rough output but in the processed and brief summary. Tables and pictures are presented consistently in the center and the titles are above for the tables and below for the pictures (Exelby 1997). It presents the analysis of the related results, theories, and hypotheses (if any) based on the writer’s reasoning. Data analysis and discussion should be presented in brief but clear and it is not dominated by table presentation. The tables which are presented should not be the rough output but in the processed and brief summary. Tables and pictures are presented consistently in the center and the titles are above for the tables and below for the pictures (Mortimer & Cox 1999).

It presents the analysis of the related results, theories, and hypotheses (if any) based on the writer’s reasoning (Rathbun, West & Hausken 2003). Tables and pictures are presented consistently in the center and the titles are above for the tables and below for the pictures. It presents the analysis of the related results, theories, and hypotheses (if any) based on the writer’s reasoning (Simpson 1997). Data analysis and discussion should be presented in brief but clear and it is not dominated by table presentation. The tables which are presented should not be the rough output but in the processed and brief summary (Porteous 2007). Tables and pictures are presented consistently in the center and the titles are above for the tables and below for the pictures (Albanese 2009).

It presents the analysis of the related results, theories, and hypotheses (if any) based on the writer’s reasoning (University of Queensland Library 2009). Data analysis and discussion should be presented in brief but clear and it is not dominated by table presentation (Bliss n.d.). The tables which are presented should not be the rough output but in the processed and brief summary. Tables and pictures are presented consistently in the center and the titles are above for the tables and below for the pictures (Cookson 1985). It presents the analysis of the related results, theories, and hypotheses (if any) based on the writer’s reasoning. Data analysis and discussion should be presented in brief but clear and it is not dominated by table presentation (International Or-
ganization for Standardization 1982). The tables which are presented should not be the rough output but in the processed and brief summary. Tables and pictures are presented consistently in the center and the titles are above for the tables and below for the pictures (Department of Mines and Energy, Queensland 1996).

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

In this study, researcher tried to analyze the factor influencing consumers in choosing foundation by using text mining and qualitative research. Female Daily Network’s users are chosen to be the informants that give data to be processed. This conclusion for this study are:

There are 17 categories of cosmetics specification those are favored by Female Daily Network’s users. Those categories is mined from Estee Lauder Double Wear Stay-in-Place Foundation’s product review. There are long lasting, good coverage, not oxidized, blendable, medium to full coverage, good oil control, buildable, matte finish, suitable for oily skin, many shade options, covers dark spots, perfect match for skin tones, smooth, a bit sticky, not causing breakout, and comfortable. Among all of those categories, long lasting is the most frequent foundation’s specification that is mentioned by users and has influences them to choose Estee Lauder Double Wear Stay-in-Place Foundation, followed by good coverage, not oxidized, blendable, and medium to full coverage. Long lasting is the most frequent foundation specification that is chosen by users because users are satisfied with how Estee Lauder Double Wear Stay-in-Place Foundation’s product staying power claimed matches with what they have been experiencing. Users acknowledge that Estee Lauder Double Wear Stay-in-Place Foundation last for more than 5 hours in hot and humid weather. This foundation also have good coverage that is able to covers imperfections on users’ face and give immediate flawless look.

Another findings from this research are the foundation’s specification that is favored by consumers without giving any specific product or brands. Researcher seek general foundation’s specification using in-depth interview for 10 Female Daily Network users that have been using foundation more than 2 years and use it for at least 3 days a week. From the research, it is found that the general foundation specification favored by users are actually split based on their skin types. Users’ with normal and combination skin have same foundation classification that users prefer to have on their foundation. There are shade options, long lasting, good coverage, not oxidized, and not causing breakout. For oily skin, their foundation specification are more likely related to oil control. There are shade options, good oil control, good coverage, long lasting, and not oxidized chosen as favorable foundation specification for users with oily skin. For dry and sensitive skin, their favorable product specification are more focused on skin health and skincare benefits that product can provide. There are shade options, have hydrating agent, not causing crackiness, not exaggerate dry skin, and have skincare benefits for dry skin users’ favorable foundation specification. For users with sensitive skin, they like foundation which have shade options that match with their skin tones and undertones, not causing breakout or allergy, have skincare benefits, long lasting, and not oxidized.

Recommendation

This research is conducted in order to provide more knowledge and insight of factors influencing consumers in choosing foundation with the scope of Female Daily Network’s users. Therefore the researcher has several recommendations based on the research’s findings.

For Estee Lauder

Based on consumers review on Female Daily Network, the things that they hate the most from Estee Lauder Double Wear Stay-in-Place Foundation are the fact that the bottle does not come with pump, but Estee Lauder sells the pump separately instead. This costs consumers more money. To compete and win market size from other brands who are also selling good quality of high end foundation, researcher suggests that Estee Lauder is better to consider Indonesian’s user market by making a packaging that has pump on it or make any other applicator options that is cheaper than pump’s price.

For Local Brand Foundation in Indonesia

Shade options is indeed the most crucial thing that is considered by consumers. Local brand foundation can learn from what global brand is doing to match consumers’ skin tones. If giving more shades cost a lot of money for the company, local brand foundation can start to correct the undertones of their existing foundation. Because consumers mostly said that their face look a bit grey with some foundation brands that they have, it means the product that they have put on their face have different undertones with their personal undertones.

For Future Research

Researcher suggests further research to add or combine opinion mining method with any other data collection method if the quantity of the data is below 500. This combination adds the volume of the data and helps the data to become more valid and help the overall analysis to be more rigorous.
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