Measuring Customer Perception of Higher Education Brochure Quality: Developing and Validating a Scale

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Abstract

The higher education in Indonesia is divided into two groups, which are Public Universities and Private Universities. The Public Universities are managed by the Research, Technology, and Higher Education Minister of Republic Indonesia, while the Private Universities are the ones that are managed by foundations or non-governmental organizations. All of the Private Universities in Indonesia are coordinated by an agency called Koordinator *Perguruan Tinggi Swasta (Kopertis)*. http://sevima.com/beberapa-jalur-penerimaan-mahasiswa-baru-di-ptn-dan-pts/.

The primary purpose of this research is to identify customer perception of higher education brochure quality and develop a multidimensional scale for measuring the concept accordingly. The development and validation of this scale follow a rigid procedure. The sample of this research uses a non probability sampling for 115 students and parents in Surabaya. The result of the research shows that higher education brochure quality have four dimensions, which are unity design (0.851), complexity design (0.966), intensity design (0.875), and novelty design (0,925). The valid indicators in this research are 21 from 23. The current research illuminates the procedure for developing a complete scale for future higher education research.

Keywords: Higher Education, Brochure Quality, Unity, Complexity, Intensity, Novelty.

1. Introduction

Education is referred as the primary foundation and pillar in a country. This statement is included in the *Pembukaan Undang-Undang Dasar Republik Indonesia 1945*, which stated that the national goal is to protect the whole nation and the entire Indonesian citizen and to improve general welfare, educate the nation, and participate in the implementation of world order based on freedom, eternal peace, and social justice.

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The awareness for the true meaning of education has an effect on deciding the quality of the inner welfare and the future of its citizens. That is why, the substance in education, teaching material and learning methodology, also the education management, which is accountable, should already be the main prior for the government. It is evident that the nation that has achieved a high level of cultural and technological advancement is being supported by the solid quality of education. http://ekonomi.metrotvnews.com/makro/MkMMqrRk-kualitas-pendidikan-indonesia-masih-di-bawah-vietnam

In Indonesia, after an individual completes their elementary, primary, and secondary education, he/she will continue to a phase referred as higher education. The higher education itself is a path to prepare to fulfill a wider insight. The implementation for higher education has an objective to improve the learners who are entering the career world and to train the learners to be able to interact and live well in the community. http://tesispendidikan.com/sistem-pendidikan-tinggi-di-indonesia/

Peraturan Pemerintah Nomor 60 Tahun 1999 pasal 2 states the objectives for higher education are to prepare the learners to become community members to have the academic skills and/or professionalism to be able to implement, improving, and/or creating the knowledge of technology and/or art. To develop and disseminate knowledge, technology, and/or art, while also seek the utilization to improve the standard of living of society and enrich the national culture. http://tesispendidikan.com/sistem-pendidikan-tinggi-di-indonesia/

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One of the possible efforts that can be used in order to increase the number of enrollment is through marketing. "Marketing is a societal process by which individuals and groups obtain what they need and want through creating, offering, and freely exchanging products and services of value with others" (Kotler & Keller, 2012). One of the most popular alternatives is through advertising, which gives impact to others. However, in making advertising; an advertiser should and must consider and relate the unspoken rules and disciplines given by the public.

According to Ronald & Amelia (2016), as the economy grows in a country, the market in education turns more competitive as the government will decrease its budget for education institutions and let them find funding on their own. In the long period, there are a lot of higher education institutions that offer more on the internal academic needs rather than the want and need of the students, whom is the main consumer. Deriving from Sharabi (2013), the cause of this problem is the demand on higher education programs outnumbered the programs that are available. However, the program that is being offered to the market grows and diversify rapidly over the past two decades, which also means that the competition between each institution become narrower.

Surabaya as the second city in Indonesia plays an important role in the economic growth, especially the industrial sector. It is located on the east of Java Island, which becomes the heart of the eastern Indonesia and also as the hub; connecting cities, such as Makassar, Ambon and Jayapura, which are located far to the east. Surabaya has a vital position in Indonesia's logistic way. In logistic term, Surabaya is considered as the local hub port for eastern Indonesia. This shows that the city has a vital role in building up the economy of the nation. That being said, shows that there is a need in growing, developing and in the end, creating competent

and high-quality manpower which has the correlation with Surabaya being the city that controls the economy of the nation.

(retrieved from http://www.eastjava.com/tourism/surabaya/ina/about.html)

2. Theoritical Background

Perceived Quality is a vital aspect for the decision-making process for the customers. Simultaneously, consumers are deciding by comparing the other alternatives that the competitors are offering within a category (Jin and Yong, 2005). Based on the theory triggered by Jiang, et al, (2016), there are four different perceived qualities that can be created in order to create a good perceived aesthetic towards the reader/ user. They are perceived quality of unity, perceived quality of complexity, perceived quality of intensity and perceived quality of novelty. These four variables will be studied over this study to show how the marketing tool should be designed in order to make a greater impact towards the potential customers.

Unity refers to the harmony in between elements of the design which each element agrees with each other. According to Bradley (2010), unity can be considered as one of the most important goal for designers when making a design. These are the principles to achieve unity in design: repetition, alignment, proximity to add visual unity to your design, and contrast to add variety and interest. Design is important because it helps to project the message that they are meant to project, both visually and conceptually effectively. There are three main functions of having a united design, they are a) to holds design both visually and conceptually, b) to adds to a design order, c) unity and variety can work together (Bradley,2010). According to Jiang *et al* (2016), unity of a design is measured with these attributes, which also become the indicators of the variable: Cohesiveness, consistency, harmony, unified, balanced, organized and completeness. These are the traits that a design product should have in order to be graded a design with great unity.

Complexity describes the amount of information and differences pieces of information that can be found within an aesthetic object. In the context of designing marketing tool for higher education, it consists of the physical interface, variety of graphs and pictures that are included in the booklet/ brochure (Jiang, et al, 2016). According to Jiang, et al, (2016) it is true that a designer needs to project the information through design in such a way that it can be processed by the reader easily and gives them excitement. However, it is also very important to make the design not to be 'information overload'. According to Jiang *et al* (2016), perceived quality of complexity is tested out using four indicators: Complex, Divers, Overloaded, and Uncluttered

The other variable is discussing on the intensity of a design, which according to the same source, intensity in the design realm means the force and the vigorousness of what Beardsley calls human regional qualities of artwork. Such elements and qualities can also be translated as the design's expressiveness. Wolterstroff (1980) stated that it is important in a design as it avoid the readers and viewers from "aesthetic baldness". Intensity in a design refers to the excitement effect that a design projected to the users. It can also be interpreted as giving the users an expressive presence in the design from the elements a design has (Beardsley, 1981). Intensity that is in presence in a design is believed to be able to clear up the blandness and boring aspects that a design can possess (Wolterstroff , 1980). Jiang *et al* (2016) stated perceived quality of intensity is tested out using six indicators, which are: Contrasive, Intense, Bright, Colorful, Sharp, Vivid and Vibrant.

Novelty is the last variable in the study; it means a good design should give a fresh idea which is different from others. Originality of the design and the quality of being new from others will get the reader's attention in the design that I provided. There are some properties that designers can consider in order to be different from the existing designs for higher education brochures, such as color used, the layout, and the theme that is being presented to the readers. A good design should have this attribute to deliver the information to users in the most original way or fresh ideas which differentiate a design to the others (Hekkert *et al*, 2003). It is shown in today's world that novelty is a key part of designers to create fine arts (Dix, 1986), landscape architecture (Arnheim, 1966) and even industrial design (Hekkert, *et al*, 2003). Jiang *et al* (2016) stated perceived quality of novelty is tested out using five indicators, which are: Original, Unique, Creative, Distinctive, and Artistic.

3. Research Methodology

The population in this study will be limited to ones that are in the stage of choosing their higher education institution after their high school. Therefore, the population is to the audience of the marketing tool, especially high school students and their parents. This research uses primary data that is the data obtained from the distribution of questionnaires to the respondents in accordance with the characteristics of populations. Data collection procedure is a questionnaire given to a sample that meets the characteristics of the sample that has been determined (purposive sampling) such as male and female, age ranging from 18-60 years old, who are in the final year of high school students, or their parents who are both looking for a higher education institution to apply for their educational journey. We will be researching, specifically on them, as they are the ones that have been exposed to different varieties of higher education's marketing tool. The minimum sample size for this study is approximately between 115-230 respondents, and for this research the number of respondents is 115 people, whom has the criteria as a students or parents who are looking for higher education institution for their educational journey ahead in Surabaya, where the questionnaires are distributed to high schools. From 160 questionnaires distributed, 115 questionnaires were returned and can be used for data formulation.

Aras which was used within this research was interval level measurement. Type of scale used was Summated Likert, a statement which has a range from 1 = disagree to 5 = agree, the scale represent the respondents' opinion for the questions regarding the objects being studied. In which the highest the score or number selected indicated the higher of ratings, and vice versa.

4. Finding and Discussion

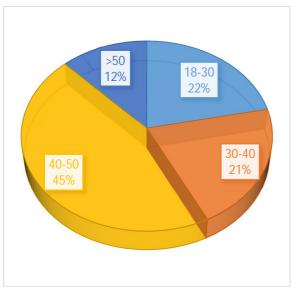


Figure 1. Respondents Characteristic Based on Age

Based on figure 1. It shows that the respondents who most responsive to the questionnaire are at the age of 40-50 years (45%), 18-30 years (22%), 30-40 years (21%) and the last over 50 years (12 %). This explains that those who give more answers to the questionnaire submitted are parents.

Table 1. Dimension for Perceived Quality

| | | | Estimate | CR |
|-------------------|---|-------------------|----------|-------|
| Unity_Design | < | Perceived Quality | 0.851 | 5.365 |
| Complexity_Design | < | Perceived Quality | 0.966 | 4.634 |
| Intensity_Design | < | Perceived Quality | 0.875 | 4.118 |
| Novelty_Design | < | Perceived Quality | 0.925 | 5.603 |

Perceived quality in this study was developed in 4 dimensions, namely unity design, complexity design, intensity design, and novelty design. The four dimensions can significantly measure the perceived quality as shown in table 1 and figure 1. The complexity design dimension has the largest coefficient in explaining perceived quality with std. estimate of 0.966. This explains that the respondents surveyed felt that the quality of a good brochure must pay attention to the complexity of the design by referring to the indicator. The Perceived Quality of Complexity Design is formed by five indicators (Table 2); A Good University Brochure uses daily words which are easy to comprehend (CD1: 0.465); A Good University Brochure presents diverse range of fonts (CD2: 0.428); A Good University Brochure presents diverse range of colors (CD3: 0.545); A Good University Brochure delivers complete information, yet not overloaded (CD4: 0.304); A Good University Brochure has good flow in the design (CD5: 0.438).

The most important indicator for measuring the dimensions of complexity design is CD3; this explains the importance of choosing colors that match the trends. The advice is to choose uniform colors and in a matching color scheme. According to Telepathy.com (2018), Analogous is the use of colors which are close to each other which is usually used for consistency and uniformity in a design.

The positive impact of using this palette is that it avoids readers from distractions which mean this color scheme able to captivate their attention better. The next most important indicators are CD1 and CD5, so that a good design in a brochure must use words and have an easy-tounderstand explanation flow. The brochure should avoid complex or difficult words for the reader to understand, including the explanation flow that is made to be easily understood and interconnected well. Higher Education can have started off by creating information that is generally given by a higher education institution so that they do not get confused of what is the usage of the marketing tool caused by alternative content that is projected to them. Therefore, designers should pay attention to the competitors' content and create a marketing tool that is not far from them in order to create our marketing tool easy-to-understand one. The interesting thing about this dimension is that the CD4 indicator is not significant for measuring this dimension. So that the information provided in the brochure is tailored to the needs but the other indicators are more prefeable. Suggestions can be given that detailed information can be accessed through other tools, for example with a QR code. A QR code is one of the possible way for us to create a marketing tool that is simple, yet also appealing for them to study more about institution as it gives them an interaction with the marketing tool..

The next dimension which has the highest effect of coefficient on perceived quality is novelty design (0.925). This explains that good quality brochures are also determined by the creativity and ability to make brochures always have new and innovative ideas. Perceived Quality of Novelty Design is formed by five indicators (Table 2); A Good University Brochure able to present new concept (ND1:0.560); A Good University Brochure has unique elements to be shown (ND2:0.646); A Good University Brochure able to show an idea with high creativity (ND3:0.552); A Good University Brochure able to catch its readers attention effectively (ND4:0.610); A Good University Brochure has an artistic characteristic (ND5:0.568). The most important indicator for this dimension is ND2. A good brochure according to the respondent is that it is unique that distinguishes it from other brochures, but it is still interesting. So the brochure design is different from the brochures in general but still interesting. Unique elements that can be included are mascots, title, or motto for the whole marketing tool object. The next indicator is ND4 where brochure design must be able to attract the attention of the reader so that the information can be conveyed well. Brochures that are well designed have eye catching elements and are interesting to see further, for example with the unique shape of brochures or unique colours and writing. The way we can create this is by making something that is unusual to their eyes. Designers should be able to create something that is enjoyable for the people to see so that it becomes the center of attention during the education fairs, which means that the marketing tool is able to grab the attention of the crowd. Furthermore, the ND5 indicator says that brochure design is good if it also pays attention to the characteristics of beauty, and to create marketing tools not only aesthetics and the measurements of the physical aspects. We need to create a marketing tool that is efficient one. All indicators from the dimensions of novel design are able to explain significantly so that all indicators used in the dimensions of novel design need to be considered.

The third highest dimension of the variable perceived quality is Intensity Design (0.875). This variable will deter on how colours of the elements should be, whether the colours should be under the same colour scheme in which there are no contradicting colours within the design or the design should create colours that is across with each other in order to create attention from the readers. Perceived Quality of Intensity Design is formed by six indicators (Table 2); A Good University Brochure present contradicting colours, such as red and blue

(ID1:0.443); A Good University Brochure uses interesting elements, such as the interesting language usage (ID2:0.548); A Good University Brochure uses bright colours, such as red, yellow or green (ID3:0.531); A Good University Brochure is colourful (ID4:0.405); A Good University Brochure can differentiate each element clearly (ID5:0.604); A Good University Brochure able to show a live design with good elements usage (ID6:0.615). The most important indicator for the dimensions of Intensity Design is ID6, live design can be interpreted as harmonizing the use of colours and images, so to make a good quality brochures, it is important to pay attention to the selection of colours and images that will be used according to existing trends. Designers should be able to balance out the colors' usage within a design object and thus, fitness aesthetic is the upmost important aspect in designing this marketing tool. The next most important indicator is ID5, where a good brochure design is able to provide good emphasis so that brochure readers can easily capture the information provided. A clear element can be reflected by creating shapes in order to differrenciate one object to the other. For instance, when explaining some facilities, it is poised to be in a shape where it only shows a picture of facilities. ID2 indicator is also important to note by providing a design that has interesting elements. This interesting element can be interpreted as a unique form of design, attractiveness of the use of words, and other aspects of the elements. Speaking about interesting elements, it can also talk about unique shapes, interesting words usage, and other elements aspects. However, in the statement given to them, it is only one of the examples can be included in order for the respondents to be able to understand the statement clearer. Interesting things from the findings for the dimensions of Intensity Design are ID1, ID3 and ID4 which discuss the use of colours in the design used. So that it can be concluded in the use of colour, good design must choose bright colours so that it attracts attention, and there are certain parts that offer contradictory colours to attract the reader's attention.

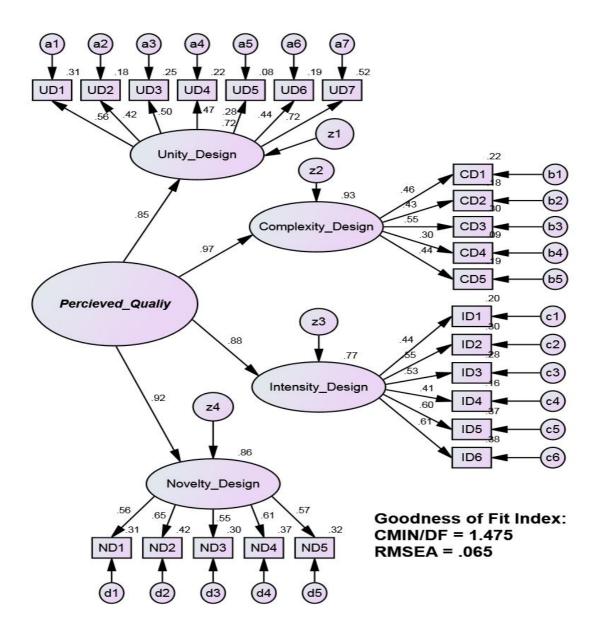


Figure 1. Confirmatory Factor Analysis

The last dimension of the perceived quality variable is Unity Design (0.851). Perceived Quality of Unity Design is about the theme and how the brochure of higher education institution should come along, whether the marketing tool should be designed in a theme where all of its marketing tools, such as brochures, booklets even the advertisements on billboards and other graphic platforms should look the same in one united theme or the theme of the marketing tool of the higher education institution should look differently, adapting with its platform. Perceived Quality of Unity Design is formed by seven indicators (Table 2); A Good University Brochure presented in a united theme (UD1:0.559); A Good University Brochure can present elements consistently (UD2:0.423); A Good University Brochure can present elements which are not

against each other (UD3:0.497); A Good University Brochure can present elements that will support one another (UD4:0.471); A Good University Brochure has perfectly match elements (UD5:0.277); A Good University Brochure has an organized layout (UD6:0.440); A Good University Brochure has that complete unity feel when perceived (UD7:0.720).

Table 2. Indicator Standardized Regression Weights

| | Table 2. Indicator Standardized Regression Weights | Factor | | |
|-------------------|---|---------|--|--|
| | | Loading | | |
| Unity | Design | | | |
| UD1 | A Good University Brochure presented in a united theme | 0.559 | | |
| UD2 | A Good University Brochure can present elements consistently. | 0.423 | | |
| UD3 | A Good University Brochure can present elements which are not against each other. | 0.497 | | |
| UD4 | A Good University Brochure can present elements that will support one another. | 0.471 | | |
| UD5 | A Good University Brochure has perfectly match elements. | 0.277 | | |
| UD6 | A Good University Brochure has an organized layout | 0.44 | | |
| UD7 | A Good University Brochure has that complete unity feel when perceived. | 0.72 | | |
| Complexity Design | | | | |
| CD1 | A Good University Brochure uses daily words which is easy to comprehend. | 0.465 | | |
| CD2 | A Good University Brochure presents diverse range of fonts | 0.428 | | |
| CD3 | A Good University Brochure presents diverse range of colors | 0.545 | | |
| CD4 | A Good University Brochure delivers complete information, yet not overloaded. | 0.304 | | |
| CD5 | A Good University Brochure has good flow in the design. | 0.438 | | |
| Intensity Design | | | | |
| ID1 | A Good University Brochure present contradicting colours, such as red and blue | 0.443 | | |
| | A Good University Brochure uses interesting elements, such as the interesting | 0.548 | | |
| ID2 | language usage. | | | |
| ID3 | A Good University Brochure uses bright colours, such as red, yellow or green. | 0.531 | | |
| ID4 | A Good University Brochure is colourful. | 0.405 | | |
| ID5 | A Good University Brochure can differentiate each element clearly. | 0.604 | | |
| ID6 | A Good University Brochure able to show a live design with good elements usage. | 0.615 | | |
| | lty Design | | | |
| ND1 | A Good University Brochure able to present new concept. | 0.56 | | |
| ND2 | A Good University Brochure has unique elements to be shown | 0.646 | | |
| ND3 | A Good University Brochure able to show an idea with high creativity. | 0.552 | | |
| ND4 | A Good University Brochure able to catch its readers attention effectively. | 0.61 | | |
| ND5 | A Good University Brochure has an artistic characteristic. | 0.568 | | |

The most important indicator in the dimensions of Unity Design is UD7. This means that the marketing tool that will be created must feel compact when received by the readers. This is the designer's job to create a design such that it has to" feel right" when being read with its colors and also the design aspects of the marketing tool. Balance of the layout, colors and all the elements combined must have the "right" feel. The next indicator is UD1 which explains respondents want feature in which it is easier for them to differentiate between one institutions to

the other, hence they vote that a theme is important for a marketing tool of a higher education institution. The next important indicator is UD3, which explained the meaning behind theelements that is being included in the marketing tool should be able to showcase harmony of elements. This does not mean that colors' play should be in one color scheme, as it is not the element that we are talking here.

Another important indicator from the dimensions of Unity Design is UD4 explained some elements that support one another means that the elements are placed in a way where they help the readers with their understanding with the presence of the other element. For example, creating a picture-less marketing tool, other than bore them to death; it also creates uncertainty as some cannot picture perfectly what the marketing tool is trying to say. Even though the higher education institution has some facilities with five-star quality, if they cannot sell them with pictures on the marketing tool, and only create words and paragraphs on the marketing tool, it only makes them unsure with the reality of the campus. Thus, creating a supporting element, such as pictures will help the marketing tool to gain the trust from the readers and also help them imagine the campus better. UD6 explained in order to create an organized brochure, designer need to create a brochure that has the flow that is already familiar to them, and if it is for books, make sure that the readers able to flip like the books in general, which is preferred by the potential consumers. The interesting thing about this dimension is that there is one indicator that does not meet the validity test, namely UD5. This explains the suitability of elements is not a major concern for respondents when looking at the quality of a brochure.

5. Conclusion, Limitation and Research Extension

From the explanation above, conclusions can be taken regarding the making of good University brochures using Perceived quality variables. Perceived Quality is developed in 4 dimensions: design, complexity design, intensity design, novelty design. The description of each dimension is based on the highest level of influence in explaining perceived quality. The First one is Complexity Design, which consists of 5 indicators. Due to the University's target market, which is the X and Y generation or often called the millennial generation that has been very often exposed to various promotional media, Complex and Attractive designs are important parts of attracting their attention. Furthermore, attractive colors that match the trend also play an important role, because when you first see a brochure, the most visible is the color, and if the color is not attractive it will be immediately abandoned by this millennial generation. Not only that this generation also follows the behavior of Indonesian consumers in general, like short thinking, the sentence used must be easy to understand and digest. Even the layout of the brochure cannot be confusing because they can be misinterpreted by this generation.

The second dimension that is influential in shaping the perceived quality is novelty design. This is because in each year these prospective students get lots of brochures and those that can attract their attention are of course brochures that have new and innovative ideas and of course have differences with other commonly circulating brochures. The differences can be made by using mascot, unique writing, to use interesting themes that have never been used in other brochures. However, the theme, mascot, and unique writing must still have an educational and fun element because the product that you want to sell is education.

The third dimension that is influential in shaping the perceived quality is intensity design. Often in everyday life there are many brochures or other promotional media that cannot balance the choice of colors and images so that it becomes unattractive and cannot even attract the attention at all. Therefore, a designer needs to understand well about the products that are being

sold so that they can get the personality of the brand they want to offer. Thus, there is a unity between the selection of themes, colors, and images that are used in the brochure can give a similar idea, which is a strong position in the mind of the target market.

The last dimension of perceived quality is unity design. This dimension is the last dimension that influences the formation of perceived quality due to the millennial generation, although it is a market saturation, but they are in a very active age, so they are often exposed to various promotional media. With the increasingly frequent exposure to promotional media, this generation is becoming bored by various promotions and often forgets about the linkages between one promotional media and other promotional media even though it is for the same product. But still unity design is important to note considering the consistency of promotion will have an impact on strengthening the brand positioning in the minds of consumers. Because of that, whether the marketing tool should be designed in a theme where all of its marketing tools, such as brochures, booklets even the advertisements on billboards and other graphic platforms should look the same in one unite theme.

6. Limitation and Research Extention

There are several limitations within this research, first, this research is only using limited sample in Surabaya. It also can be concluded that researchers and strategists need to consider other issues relating to perceived quality. In further research, it is expected to increase the sample used in order for the data to be more generalized. Secondly, consider other issues such as socio – demographics factors related to brosure promotion.

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