
**THE PERCEPTUAL MAPPING OF NOTEBOOK BRANDS OF YOUNG PEOPLE IN
MANADO**

PEMETAAN PERSEPSI MERK LAPTOP PADA KALANGAN MUDA DI MANADO

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Abstract: Most products and services have many physical and intangible attributes with varied characteristics for a would-be purchaser. For example, toothpaste is not merely "a tooth cleaning product". Rather, for a consumer, it is a bundle of objective and subjective characteristics like taste, mouth freshener, decay protection, bad breath, price, and so on. The marketer's task is the difficult one of deciding how many attributes to build into the product, how much quality to include in each attribute, and how to put the attributes together to gain a competitive advantage. This is notable that key attributes vary by market segment and therefore the marketing effort must change accordingly. This research is designed to have a clearer image and deeper understanding about perceptual maps and the effect of brand attributes to the perception of the customers. The method used in this research is the quantitative research methodology which will provide a deep insight about perceptual maps. In the findings, there is a significant value between the variables of indicators with the brands meaning that they are strongly related.

Keywords: *perceptual mapping, consumer, perception*

Abstrak: Sebagian besar produk dan layanan memiliki banyak atribut fisik dan tidak berwujud dengan karakteristik bervariasi untuk calon konsumen. Misalnya pasta gigi bukan sekedar "produk pembersih gigi". Sebaliknya, bagi konsumen, ini adalah kumpulan karakteristik obyektif dan subjektif seperti rasa, penyegar mulut, perlindungan peluruhan, bau mulut, harga, dan sebagainya. Tugas produsen adalah sulitnya menentukan berapa banyak atribut yang akan dibangun ke dalam produk, berapa banyak kualitas yang harus disertakan dalam setiap atribut, dan bagaimana menempatkan atribut bersama untuk mendapatkan keunggulan kompetitif. Hal ini penting bahwa atribut utama bervariasi menurut segmen pasar dan oleh karena itu usaha pemasaran harus berubah. Penelitian ini dirancang untuk memiliki gambaran yang lebih jelas dan pemahaman yang lebih dalam tentang peta perseptual dan pengaruh atribut merek terhadap persepsi pelanggan. Metode yang digunakan dalam penelitian ini adalah metodologi penelitian kuantitatif yang akan memberikan wawasan mendalam tentang peta perseptual. Dalam temuan tersebut, ada nilai yang signifikan antara variabel indikator dengan merek yang berarti bahwa mereka sangat terkait.

Kata kunci: *pemetaan persepsi, konsumen, persepsi*

INTRODUCTION

Research Background

The development of notebooks nowadays is really rapid. Following the development of technology and information, which grow larger within every second, the development of notebooks also like that. In the actual world, the number of notebook brands in the market is really high. Start from the low-end technology to the high-end or updated technology which is the favorite brands of the young people.

Notebook brands such as Asus and Lenovo are really favored by the young people for their own particular reasons. While brands like Hewlett Packard (HP) and Acer which offer low price notebooks is also favored by some of the people.

An important issue in marketing research concerns the construction of perceptual maps (Moskowitz, 2000 and 2002; Arditti, 1997; Monteleone, Frewer, Walkeling and Mela, 1998; Hough and Sanchez, 1998). In a perceptual map, products (or brands) are represented graphically in a space spanned by attributes. For this purpose, consumers are often asked to indicate their preference on a, usually predefined, rating scale. A multivariate analysis method, for example, principal component analysis, discriminant analysis, multidimensional scaling or canonical correlation analysis, is applied either directly to the ratings or after some data preparation steps. Discussion concerning the best multivariate technique to analyze rating data has been extensive (e.g. Hauser and Koppelman, 1979; Dillon, Frederick and Tangpanichdee, 1985; Huber and Holbrook, 1979; Holbrook and Moore, 1982; Poupard, Qannari and Simon, 1997; Wedel, 1996) but inconclusive.

Instead of mapping products (or brands) in a space spanned by attributes, one may also be interested in mapping attributes in low-dimensional space. This situation could occur, for example, in product test analysis, where a consumer panel evaluates a certain product on a number of attributes. Applying a perceptual mapping technique to such data yields a map that best reflects the relationships among attributes according to the subjects' preferences. In addition to the relationships among the attributes, the position of subjects with respect to the attributes is often of interest as well. In particular, marketing researchers are often interested to see if segments of individuals can be distinguished. For example, in a product test analysis, the researcher is interested in identifying the set of dimensions, constructed from a list of attributes that apply to the product, for a set of subjects (Moskowitz, Jacobs and Lazar, 1985). Then, by incorporating additional, subject specific information, clusters of subjects showing similar hedonic responses to stimuli, may be identified in the perceptual map spanned by the attributes. These clusters can be of strategic importance to the researcher (Monteleone, Frewer, Wakeling and Mela, 1998). Hence, the perceptual map should not only depict the attributes but also subject related variables.

With the increasing number of notebook brands, a perceptual mapping for each brands is needed to determine which brand is in the perception of the customers. With the background above, it will be interesting to conduct and develop a perceptual mapping of notebook brands in the young society.

Research Objective

1. To implement the correspondence analysis on building perceptual map
2. To build up a perceptual map of notebook brand of young people in Manado

THEORETICAL FRAMEWORK

Marketing

In the review of literature, there are several theories explained that are related to this research. According to definition by Philip Kotler, Kotler (2003:8) "Marketing is social process by which individuals and group obtains what they needs and what through creating offering, and freely exchanging product and service of value with others".

In addition, based on Kotler and Armstrong (2004:5), "Marketing is a social and managerial process whereby individuals and groups obtain what they need and want through creating and exchanging products and value with other, while the process of marketing is divided to (1) analyzing marketing opportunities, (2) selecting target markets, (3) developing the marketing mix and (4) managing the marketing effort."

Brand Credibility

Brand credibility can be studied from the source credibility research stream. Source credibility is defined as denoting a sender's positive characteristics that influence the message acceptance of a receiver (Ohanian, 1990) or the believability of an entity's intentions (Erdem & Swait, 2004). Considerable prior research (Hovland et al.,

1953; Keller & Aaker, 1998) reveals that source credibility consists of trustworthiness, expertise, and attractiveness/likeableness. Thus, brand credibility refers to the believability of the product information embodied in a brand and is suggested to contain three elements, i.e., trustworthiness, expertise, and attractiveness/likeableness.

Brand Awareness

Brand awareness is related to the strength of a brand node in consumers' memory and can be reflected by consumers' ability to recognize the brand within various contexts or situations (Rossiter & Percy, 1987). Brand awareness consists of two components: brand recognition and brand recall performance (Keller, 1993). Brand recognition is defined as consumers' capability to confirm their prior exposure to the brand when given the brand as a cue; brand recall refers to whether consumers can retrieve the brand from memory when given the product category as a cue (Keller, 1993).

Brand Image

Brand image is defined as the set of brand associations that consumers retain in their memory about a brand (Keller, 1993). Brand image can be characterized by strength, favorability, and uniqueness of brand associations. Brand associations reflect the meanings of brands to consumers through linking product information to the brand nodes existing in consumers' memories, thus indicating product benefits and summary evaluations of brands (Keller, 2008).

Brand Positioning

Kotler 2003:8 aptly defines positioning as the 'the act of designing the company's offer so that it occupies a distinct and valued place in the mind of the target customers. Therefore, positioning defined as the 'the process of promoting buyers to form a particular mental impression of our product relative to our competitors.

Consumer Perception

The perception is the formed as a result of interpreting the experience. There is a growing interest in understanding the users' experience; as it is observed as a larger concept than user satisfaction. From this perspective, assessing the user experience is essential for many technology products and services services (Wilson & Sasse, 2004).

Previous Research

Md. Atiqur Rahman entitled *Perceptual Mapping of Different Toothpaste Brands Available in Bangladesh: A Study in Dhaka City* investigates how the consumers in Bangladesh perceive different toothpaste brands against major quality attributes. Consumers' perception of six brands (Pepsodent, Meswak, Colgate, Sensodyne, Mediplus and Crest) was analyzed on seven attributes (Anti-Cavity, Medicinal, Herbal, Cleaning, Taste, Mouth freshening and Price). A total of 60 respondents were randomly selected at different sales outlets at Dhaka city. Respondents were asked to rate their most preferred brand, which he/she buys, against seven attributes on a seven point Semantic Differential Scale. The collected data were analyzed by Discriminant Model using SPSS and the perceptual map was developed by MS-Excel. It was found that Meswak is highly perceived as being Herbal, whereas Colgate was perceived to have both mouth freshening and cleaning properties followed by some herbal properties. Pepsodent was supposed to have significant cleaning and anti-cavity properties. Mediplus and Sensodyne have strong medical properties. Crest was perceived to have no anti-cavity, medical or herbal properties. It was also evident that Sensodyne and Mediplus are close competitors, and Colgate competes with both Meswak and Pepsodent.

Ashutosh Nigam and Rajiv Kaushik entitled *Attribute Based Perceptual Mapping of Prepaid Mobile Cellular Operators: An Empirical Investigation Among Management graduates in Central Haryana* state a comparison of consumer's perception regarding cellular mobile operators was done on five cellular operators in the prepaid segment. The paper focuses on how management students associate selected brands of mobile cellular operators. Discriminant analysis is used to map selected mobile cellular operators along with their attributes. Study investigates how consumers associate the attributes in different dimensions with reference to leading service providers. Operators do not differ significantly with regard to attributes. However, they vary in their promotional campaigning and years of existence in the market.

Theoretical Framework



Figure 1 Theoretical Framework

Source: Data Processed 2016

RESEARCH METHOD

Type of Research

This research is using correlational type of research. Sekaran (2009) defines correlational study of research as a study in which the researcher is interested in delineating the important variables associated with the problem. A correlational study is focused on finding correlational relationships between variables. It finds the correspondence relationship between variables.

Place and Time of Research

This research is conducted and executed within the period from August to September 2015. And this research is conducted in Manado and surrounding area, North Sulawesi, Republic of Indonesia.

Population and Sample

The population refers to the entire group of people, events, or things of interest that the researcher wishes, it is the group of people, events, or things of interest for which the researcher wants to make inferences (Sekaran, 2009). In this research, the target population is young people who encountered or used notebook brands such as Asus, Acer, HP, or Lenovo in Manado and surrounding area, North Sulawesi. A conclusion can be made from the sample about the population to achieve the research objective (Saunders *et al.* 2007). Sekaran (2009) defines sample as a subset of the population.

This research is based on simple random sampling technique of Nonprobability sampling method. In Non-probability sampling designs, the elements in the population do not have any probabilities attached to their being chosen as sample subjects (Sekaran, 2009). The samples are 75 young people affiliated to the brands.

Data Collection Method

The source of data used in this research are taken from primary and secondary data. The primary data of this study gets from the results of questionnaires. While the secondary data collected in varied of sources and the sources are books, journals, articles, thesis, and websites.

Operational Definition of Research Variable

1. **Brand Credibility** refers to the believability of the product information embodied in a brand.
2. **Brand Image** is the set of brand associations that consumers retain in their memory about a brand.
3. **Brand Awareness** is the strength of a brand node in consumers' memory and can be reflected by consumers' ability to recognize the brand.
4. **Brand Positioning** is a part of brand identity and value proposition that is to be actively communicated to the target audience.
5. **Consumer Perception** is the formed as a result of interpreting the experience.

Data Analysis Method

Correspondence Analysis

Correspondence analysis is an exploratory data technique used to analyze categorical data (Benzecri, 1992). It is used in many areas such as marketing and ecology. Correspondence analysis has been used less often in psychological research, although it can be suitably applied. This article discusses the benefits of using correspondence analysis in psychological research and provides a tutorial on how to perform correspondence analysis using the Statistical Package for the Social Sciences (SPSS).

RESULT AND DISCUSSION

Correspondence Analysis Results

Table 1. Summary of Correspondence Analysis

Dimensio n	Singu lar Value	Inertia	Chi Square	Sig.	Summary		Confidence Standard Deviation	Singular Value Correlation
					Proportion of Inertia Accounted for	Cumulative		
1	.569	.324			.469	.469	.017	.142
2	.491	.241			.350	.819	.017	
3	.354	.125			.181	1.000		
Total		.690	1409.555	.000 ^a	1.000	1.000		

a. 33 degrees of freedom

Source: SPSS 20, Year 2015

In the Summary table, chi-square value and significant value show that that it is significant, justifying the assumption that the variables are apparently related. Only the interpretable dimensions are reported, not the full solution, which is why the eigenvalues add to something less than 100% (labelled Inertia; these are the percent of variance explained by each dimension) - in this case it is $0.690 = 69.0\%$. This reflects the fact that the correlation between brand and its attributes, while significant, is also strong.

Table 2. Overview Row Points

Attributes	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
		Trustworthy	.087		.614	.308	.027	.057	.017
Expertise	.035	.740	-.156	.026	.034	.002	.430	.016	.446
Attractive	.093	-.598	-1.156	.082	.059	.253	.232	.748	.980
Strong Image	.048	-.360	-1.851	.088	.011	.331	.040	.905	.945
Favorable	.110	.494	-.279	.022	.047	.017	.706	.195	.900
Unique	.077	.117	.729	.021	.002	.083	.029	.971	1.000
Recognizable	.125	-.737	.081	.070	.119	.002	.548	.006	.554

Knowledgeable	.105	.865	-.008	.050	.138	.000	.898	.000	.898
Understandable	.112	-.764	.276	.067	.115	.017	.549	.062	.611
Good Quality	.034	-.909	-.215	.017	.050	.003	.949	.046	.995
Affordable Price	.098	1.212	.156	.117	.253	.005	.700	.010	.710
Beneficial to User	.077	-.924	1.312	.104	.115	.270	.360	.627	.987
Active Total	1.000			.690	1.000	1.000			

Source: Data Processed 2015

The overview row points shows the contributions of the row points to the inertia of the dimensions and the contributions of the dimensions to the inertia of the row points. *Affordable price* and *knowledgeable* both contribute a substantial portion to the inertia of the first dimension. *Strong image* and *beneficial to user* contribute the largest amounts to the inertia of the second dimension. But even though the attributes above shows substantial contribution in their own dimensions, there are several attributes that contribute less in the other dimension. For example, knowledgeable contributes largely in the first dimension but has no contribution in the second dimension.

Two dimensions contribute a large amount to the inertia for most row points. The large contributions of the first dimension to *good quality* and *knowledgeable* indicate that these points are very well represented in one dimension. Consequently, the higher dimensions contribute little to the inertia of these points, which will lie very near the horizontal axis. The second dimension contributes most to *unique* and *strong image*.

Table 3. Overview Column Points

Brand	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
Acer	.293	1.069	.252	.210	.589	.038	.909	.044	.952
Asus	.336	-.745	.699	.187	.328	.334	.567	.431	.999
Lenovo	.214	.098	-.513	.112	.004	.115	.010	.246	.257
HP	.157	-.538	-1.269	.181	.080	.513	.142	.685	.827
Active Total	1.000			.690	1.000	1.000			

Source: Data Processed 2015

The overview column points displays the contributions involving the column points. Brands *Asus* and *Acer* contribute the most to the first dimension, whereas *HP* and *Asus* also explain a large amount of the inertia for the second dimension. *Lenovo* contributes very little to either dimension. In two dimensions, all brands but *Lenovo* are well represented. The second dimension contributes the largest amount for *HP* and *Asus*, also notice that *HP* is well represented in the first dimension but it does not have a very high contribution in that dimension.

Discussion

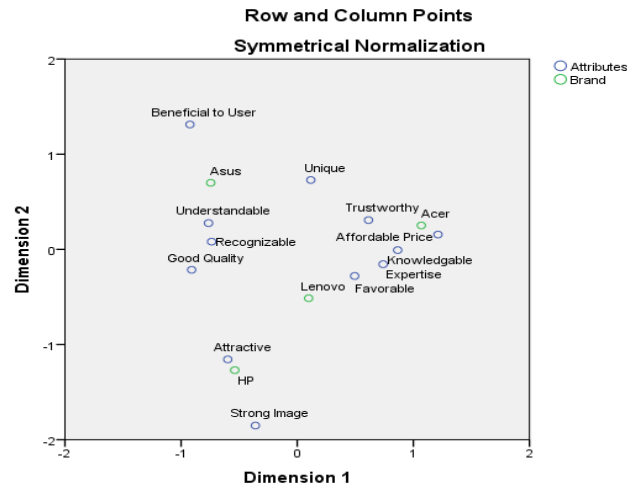


Figure 2. Row and Column Points

Source: Data Processed 2015

In the figure above, it shows that Asus is close to the attributes of Beneficial, Understandable, and Unique, while it also shows that Acer is closer to Trustworthy, and Affordable Price. This means that Asus is deemed beneficial to user and its brand is the most understandable brand for the young people. Understandable means that its brand is the easiest brand to comprehend on its usage and the features installed on the notebook. While in the other brand like Acer, it is deemed Trustworthy, known of their expertise in producing notebooks, offers affordable price and it is knowledgeable. It describes clearly that for the young people, Acer is the brand that has the most affordable price among the other three brands as the subject of this research, and this perception is also supported by the image that Acer is the trusted brand. The knowledge of this brand is the reason why it has positive review in the minds of the young people.

Another case is with Lenovo, this brand is deemed favourable by the respondents, and also considered expertise in producing their product. The reason this brand being favourable is because of the features they installed in the product that sometimes exceed or equalling the high end features of technology. This is also the reason why this brand is considered expertise.

The other brand is HP, for being known as the only American brand in this research, this brand gains the Attractiveness variable and the Strong image factor as the result. The design of this brand is what makes it attractive and the branding strategy developed by this brand is the reason it is deemed as strong image. The fact that the product is rarely sold in Manado is making it gained lesser attributes in the minds of the respondents than the other three brands offered in this research.

CONCLUSION AND RECOMMENDATION

Conclusion

The perceptual mapping in this research shows that even the youngest adult is already understand the attribute a brand offers them. This triggered the customer to have preferred brands of products in their daily life. In the notebook brands case in this research, the better the attribute offered, the easier the brand will survive in the market.

Recommendation

For the manufacturers: it is important to educate the people about what can be offered to them as customer. Do not rush the production until the attribute that fits the people is finalized or copy another brand strategy or attribute to gain customer.

For the society: it is important to learn about the attributes that the brands are offering so that the society will not easily be fooled by counterfeit products saying that it is from the particular brand. And be realistic about what is wanted and what is needed.

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