

## **WILLINGNESS TO PAY TOWARDS HEALTHIER BAKERY PRODUCT: APPLICATION OF THE HEALTH BELIEF MODEL**

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*Abstract. Food consumption patterns are rapidly changing nowadays as a result of environmental issues, nutritional value concern of food, and health issues. As the interest of healthy lifestyle in Indonesia is on the rising, it is still unknown the specific customer reference in a particular food. The researcher put interest in the further investigation about a healthier alternative on bakery foods. This research aimed to assess the willingness to pay towards healthier bakery product using Health Belief Model as the research framework. The research was using eight main construct of Health Belief Model, which is Perceived Barriers(PB), Perceived Susceptibility(PS), Perceived Severity(PSE), Perceived Benefit(PBE), Self Efficacy(SE), Cues to Action(CA), General Health Orientation(GHO), Willingness to Use (WTU) and also Willingness to Pay(WTP) as the extension as the model to construct an 45-item questionnaire to assess respondent's willingness to pay towards healthier bakery product in Bandung in particular. Using non-probability sampling method, the questionnaire was spread to 150 respondents in Bandung with age 18-34. After the responses screened and proved valid and reliable, it was analyzed using Path Analysis to investigate the relationship between variable. The results of this research reveal that there are three variables which is Perceived Severity, Perceived Benefit and General Health Orientation that make significant relation to Willingness to Use as well as Willingness to Use also make significant relation to Willingness to Pay. Not all of the hypotheses in this research are supported by the result. However, the result related to the previous study by Masoud et al. (2014). The implications of this research from both practical and theoretical aspect are discussed for the entrepreneurial suggestion as well as for future research.*

*Keywords: Willingness to Pay, Health Belief Model, Health*

### **Introduction**

Food consumption patterns are rapidly changing nowadays as a result of environmental issues, nutritional value concern of food, and health issues. Over past years, many researchers have identified a numerous selection of food groups that are recommended to take a prominent position in a human eating cycle regarding to their potential beneficial effect on chronic degenerative disease. Manufacturers are reformulating products to eliminate or reduce the sugar, cholesterol, trans and saturated fat and sodium content of food. The market nowadays has a huge interest in food that promote health benefit such as whole grain foods. Fewer calories, more fiber, less salt, and fewer additives are the common consumer demand to a healthier diet. Therefore, new varieties of baked goods are become increasingly popular worldwide. Ideal bread should at least have a lower glycemic index, and contain nutritional values such as dietary fiber, protein, and many more.

The bakery sector does not often spring to mind when it comes to healthy eating – the popular image being one of the indulgent treats and unhealthy snacks. This rather unfair characterization belies the fact that the bakery sector is currently one of the most active in the development of new, healthy products, and also in the reformulation of old favorites to bring them into line with consumer/retailer/legislative expectations and demands on fat, sugar and salt content.

In Indonesia, bakery sector also on the rising. Chairman of the Indonesian Employers Bakery Association (APEBI) Chris Hardijaya optimistic that bakery or bread sales will continue to grow in the years ahead. Because, President Joko Widodo will be very focused on Micro, Small and Medium Enterprises (SMEs). In Indonesia, 90 percent of the bakery company is in the SME sector. Also due to the ability of the product, which could be continuously innovated. So the consumer will be kept attracted by the time. By capitalizing on trends in consumer tastes, bakeries of all sizes can increase their margins and stay in business. Small companies can cater to people desire for handcrafted artisanal products and thus build a recognizable niche market.

As the rising of death issues related to unhealthy eating patterns in Indonesia, researcher believe by switching into healthier eating habits will solve this problem. One of them is by choosing wisely to healthier choices of food. As the interest of healthy lifestyle in Indonesia is on the rising, it is still unknown the specific customer reference in a particular food. The researcher put interest in the further investigation about a healthier alternative on bakery foods. Many bakeries in Indonesia has offered healthier alternative in term of gluten free, less sugar, and reduced fat. Seeing this issue, the researcher would like to asses them by investigating the willingness to pay using the health belief model.

## Literature Review

### *Willingness to Pay*

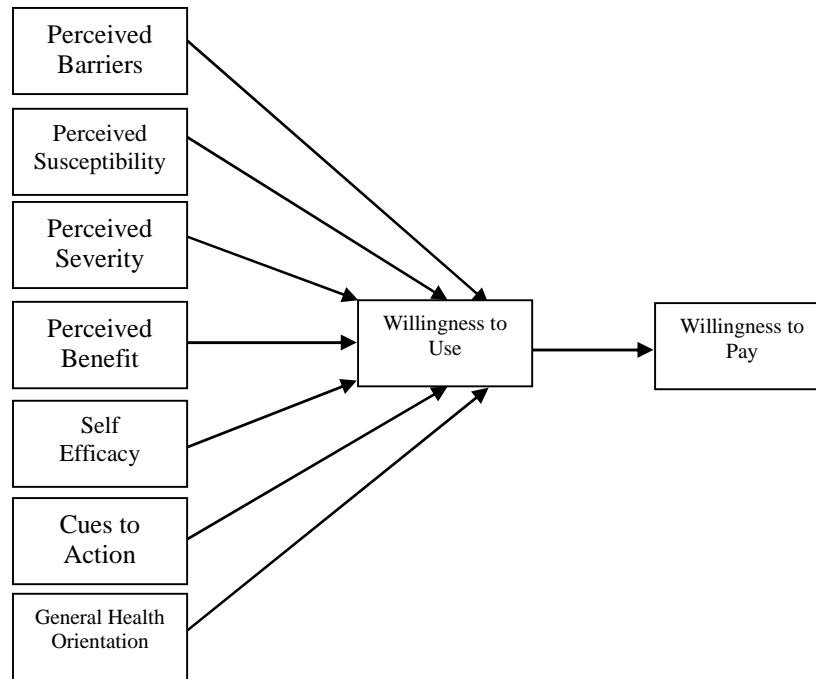
The willingness-to-pay is the highest price an individual is willing to accept to pay for some good or service. How much a person is willing to pay depends on the perceived economic value and on the utility of the good. These two values determine whether the price a person is willing to accept is the reservation price or the maximum price. If a person believes that there is no alternative offering, the highest amount of money he or she is willingness to pay equals the utility of the good and is the reservation price. If a person perceives an alternative offering with an economic value below utility, the highest price he or she would accept equals the economic value of the product and is the maximum price.

According to Kalish and Nelson (1991) each customer has a maximum price they are willing to pay for a given product which equals the product's value to the customer. This price is the consumer's reservation price for the product. The consumer compares her reservation price for each product with its purchase price and chooses the product that offers the largest differential. The upper price threshold is referred to as the buyer's reservation price. Regardless of the term used, it recognizes that at a specific point in time there is a maximum price that buyers are willing to pay for a product or service. (Monroe and Cox, 2001) The reservation price is the maximum price a consumer is willing to pay for a certain good. Since the reservation price is the upper limit of the acceptable price range for a product, it corresponds directly with the perceived value of the good. If a consumer purchases a good at a price below the perceived value, he or she realizes a consumer surplus (Balderjahn, 2003)

### *Health Belief Model*

The Health Belief Model is by far the most commonly used theory in health education and promotion (Glanz, Rimer, and Lewis, 2002). It is a conceptual framework used to understand health behavior and possible reasons for non-compliance with recommended health action (Becker and Rosenstock, 1984). The underlying concept of HBM is that health behavior is determined by personal belief or perception about a strategies to increase ones health ability (Hochbaum, 1958). Personal perception is influenenced by the whole range of intrapersonal factor affecting health behavior. Health belief model has four perceptions serve as the main constructs of the model which are: perceived seriousness, perceived susceptibility, perceived benefits, and perceived barriers. Each of this perceptions can be used to explain health behavior. Most recently, other constructs have been

added to HBM, thus the model has expanded to include cues to action, motivating factors, and self efficacy.



**Figure 1: Research Framework**

In this study, researcher using the HBM model from previous study by Yazdanpanah et al. (2014) that caters all the attributes in the Health Belief Model and simplify them into one research framework. This model comprises other additional cognitive or motivational components to change or predict the behavior, which is health motivation. These refer to the trigger of health behavior when appropriate beliefs are held and the readiness to be concerned about health matters.

#### *Healthier Baker Product*

The demand for healthier bakery products will more likely increase along with urbanization, higher incomes and continued exposure to western products. Bakery products with low-fat, less sugar, natural cheese, more fiber, whole wheat, multi-grains, healthy dried fruits and nuts, and fortified with vitamins/minerals will continue to gain in popularity. This segment is estimated to increase up to 5 percent annually over the next few years.

The future trend for bakery ingredients is the reduction of solid fat content (SFC) in bakery products for middle to high-end consumers. One large bakery has conducted trials using olive oil on bread products. Others try to use mixtures of vegetable oil for filling or cream fats. Fortification of omega-3 (2%) and vitamin E (200-700 ppm) have been added into bakery fat, followed by multivitamin like A, D and K, and fitosterol as antioxidants.

#### **Methodology**

In doing this study, first, the researcher identified the problem that becomes the focus of this research. After that, the researcher looks for all the literature review about his research, which already been explained on the previous chapter. After getting insight from reviewing the literature, the researcher collected the data using the questionnaire that has its parameter explained in this chapter. After that, the data collected was tested to check its validity to the variables and its reliability. The final step involves with data analysis result and how the researcher interprets it.

The Target Population is Bandung citizen around Bandung Wetan, and Coblong area, since it is the object of the research, and those areas represent the market who would likely accept healthy bakery product. The total number of the population based on the Central Statistics Agency of Bandung is 162,654. The targeted age for this research is 18-34 years old as this age is more health conscious. To determine the number of samples that appropriate based on the number of population the researcher used Slovin formula with error term (e) of 0.1.

#### *Data Collection*

Data for this research will be collected by survey using questionnaire. The online questionnaires will be distributed to the sample of research in North Bandung. The question asked will be related to their preference towards healthier bakery product assessed using health belief model and their Willingness To Pay towards healthy bakery product.

This research using the Likert Scale as the measurement for the questionnaire. For the measurement value number of 1 will represent "strongly disagree, 2 will be interpreted as "disagree", 3 is "neutral", value number of 4 is "agree", and lastly 5 represents "strongly agree".

The questionnaire variables for this research will be based on the Health belief model which consists of 8 variables. Researcher added one variables in the model that is Willingness to Pay as the expected output of this study. The questionnaire is based on some references that also focusing study in Health Belief Model.

#### *Validity and Reliability Test*

Reliability Testing demonstrates the degree to which the measure is without inclination (lapse free) by looking at the stability and consistency of the instrument. The survey sorted as dependable if the respondents answer the poll reliably. The analyst utilizes Cronbach Alpha test to gauge the unwavering quality of the information. The scale and how to translate the score is given is shown on the table:

#### *Data Analysis Plan*

First analysis to be made is the descriptive analysis using mean and frequencies. The Data initially inputted and sorted in the Microsoft Excel. After inputted, the information is gathered, composed, and utilized as crude information for clear measurement, and the principle database for SPSS.

For analyzing the relation between each variables, researcher using path analysis. Path analysis is a statistical technique used to examine comparative test of the direct and indirect relationship among variable. Path analysis assumes that all variables are measured without error One of the goals of path analysis is to examine the model and examine the correlation between variable. In this study the step on doing the Path Analysis is by beginning with testing the validity of the data by running the multicollinenarity test, heterodastcity test, and normality test. After that, researcher moving on to calculate the regression of each dependent and independent variable. When the regression value is calculated, the value would be drawn into the model and from that we can see whether the variable is positively and significantly related or not. Moreover to calculate the goodness of fit of the model, researcher calculates the error of the dependent variable by detracting 1 to each R square.

### **Research Result**

#### *Statistical Analysis*

The genders of the respondents are both men and women, because researcher wants to analyze overall preference for both genders. The proportions for each gender are 53% men and 47% women. For age, it ranges from 18 to 33. With detail of 95% of 18-25 years old and 5% of 26-33 years old.

Education levels from the respondents are mostly come from High School level (71%). The most range daily expense of the respondents are Rp 1.000.000 – Rp 2.000.000 with 36% percent of the respondent and 30% of the respondents daily expense range from Rp 2.000.000 to Rp 3.000.000. All of the respondents live in Bandung.

#### *Reliability and Validity*

Based on the reliability analysis above on Table 1, all of the variables except self-efficacy are reliable to be processed further. Self-efficacy is not reliable because the value is below cutoff which 0.6. So this variable will be deleted from this study.

**Table 1: Reliability Analysis Result**

Variable	Cronbach's Alpha	Result
Perceived Barriers	0.645	Pass
Perceived Susceptibility	0.654	Pass
Perceived Severity	0.842	Pass
Perceived Benefit	0.743	Pass
Self Efficacy	0.575	Not Pass
Cues to Action	0.692	Pass
General Health Orientation	0.689	Pass
Willingness to Use	0.900	Pass
Willingness to Pay	0.880	Pass

In testing validity per variable, researcher using bivariate analysis to analyze the data. In bivariate, validity testing is done using Pearson correlation by correlating each item on the variable with the total score. From the result, the entire item is valid to proceed to next process as all the significant value is below 0.05. This means that all of the item in the variable could be analyzed for regression testing.

#### *Descriptive Analysis*

Based on the variable mean, the highest mean is Perceived Benefit which is 3.92. This indicates that among of all variable, respondent feel most strong about the benefit they can get by consuming healthier bakery product. Meanwhile for the lowest score, is 2.63 by variable Perceived Barriers. It indicates that respondent still feel that there are barriers in consuming healthier bakery product. The rest of the mean score can be seen in Table 2.

**Table 2: Descriptive Analysis Result**

Variables	Minimum	Maximum	Mean
Perceived Barriers	1	5	2.63
Perceived Susceptibility	1	5	3.46
Perceived Severity	1	5	3.78
Perceived Benefit	1	5	3.92
Cues to Action	1	5	3.69
General Health Orientation	1	5	3.55
Willingness to Use	1	5	4.02
Willingness to Pay	1	5	3.70

### Goodness of Fit

To calculate the goodness of fit, the researcher needs to calculate the error terms in the path analysis. The result of the calculation has a score of 0.9324, which indicates that this model can explain 93% of the variance of the data. The rest 7% variance was caused by other factors (such as external variable, unexplained variable) and error within the data.

### Path Analysis Result

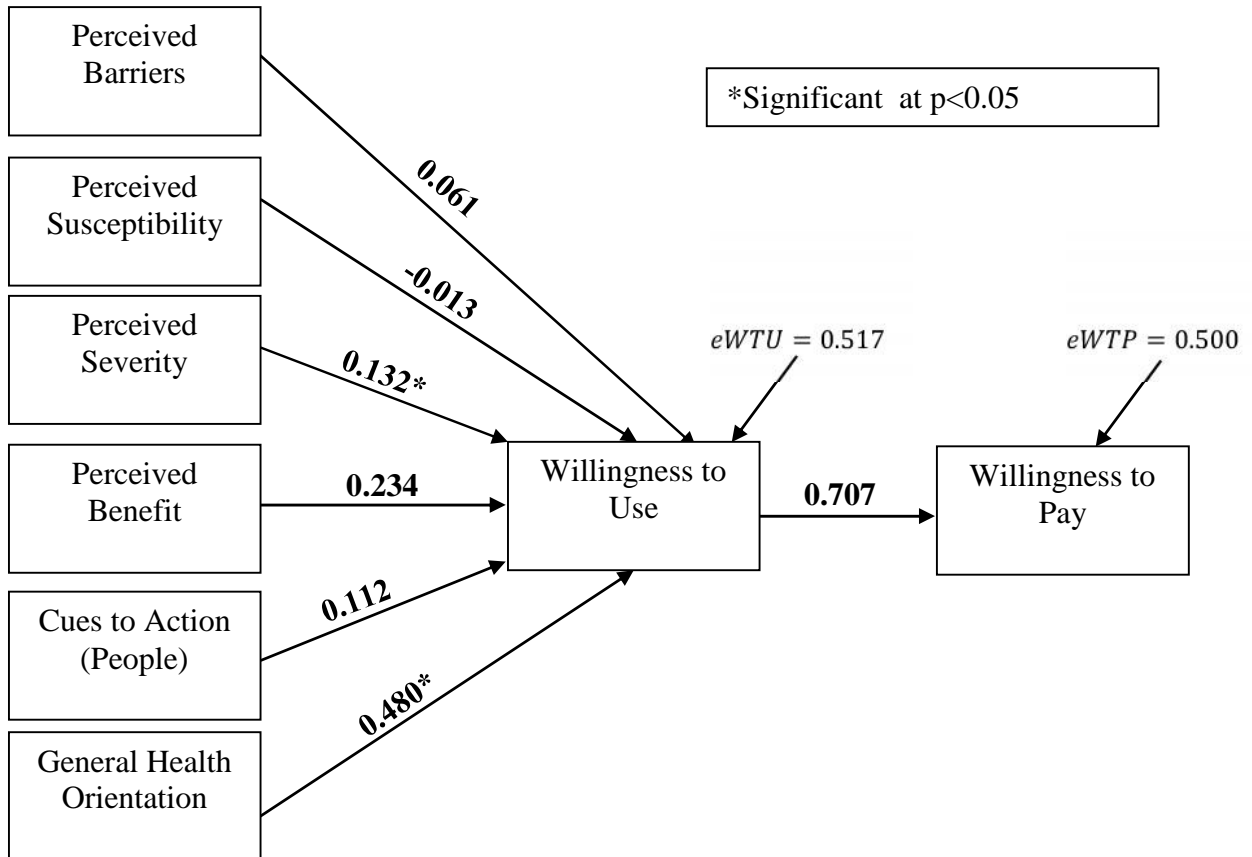


Figure 2. Path Analysis

The analysis shows that Perceived Barriers is not significantly related to the Willingness to Use. based on the significant value exceed 0.05 (0.937) and the beta value is 0.061. On researcher's reference Perceived Barriers made a significant relation to the Willingness to Use. This difference may occur because of the reason of the distinction of the geographical area of where this study is conducted. Previous study, which took location in Iran, the barriers may be different when it applied in Indonesia. This means that barriers are not one of the considerations for Indonesian people when it comes to consuming healthier bakery product.

Perceived Susceptibility failed to make any significant relation to the Willingness to Use, based on the significant value that exceed 0.05 (0.851). The beta value is -0.013 which means there will be a negative change to Willingness to Use if perceived susceptibility receive any changes. In the reference study, perceived susceptibility also failed to make any significant relation to Willingness to Use. This may explain because when making food decision, consumer thinking more about the potential health benefit rather than its risk that leads to the susceptibility.

Perceived Severity make a significant relation to the Willingness to Use based on the significant value which below 0.05 (0.035). Beta value for this relation is 0.132, which indicates a positive relation to Willingness to Use if Perceived Severity have any changes. However, in the reference study, this variable failed to make significant relation to Willingness to Use. Like Perceived Barriers,

this variable also affected by the area where this study is conducting. In Indonesia, where healthier bakery is not really well-known by the consumer, a sense of dissimilarity will occur amongst ones environment and social life. That's why this variable makes significant relation to Willingness to use. Perceived Benefit also make a significant relation to Willingness to use. With significant value below 0.05 (0.002). The beta value for this relation is 0.234 indicates a positive change to Willingness to Use towards Perceived Benefit change. Perceived Benefit also make a significant value in the reference study. This means that consumer's comprehension about the health benefit of healthier bakery product is high thus it could make a significant influence towards consuming healthier bakery product.

Cues to Action failed to make any significant relation to Willingness to Use. This shows by the result of significant values that exceed 0.05 (0.106). Beta value of Cues to Action is 0.112, which means that Willingness to Use will slightly change if there's any changes on the variable. On the reference study, Cues to Action also failed to make significant relation with Willingness to Use. This indicates that when choosing to consume healthier bakery product, the consumers tend to take decision by themselves and not influenced by outer recommendation.

General Health Orientation make a significant relation with Willingness to Use. With significant value of 0.000, this variable has a positive beta value which is 0.480. This indicates that the relationship between this variable and Willingness to Use is strong since the beta value is higher than other variable in terms of relation with Willingness to Use. On the reference's study, General Health Orientation also make significant relationship with Willingness to Use. This means that consumers already aware of any health relation regarding to healthier bakery product.

Lastly, Willingness to use successfully make a significant relation to Willingness to pay. With significant value of 0.000, the beta value is 0.707, which indicate a strong and positive relationship between these two variables. This indicates that people will buy healthier bakery product if they have a strong tendencies to consume them.

## **Conclusion**

Health Belief model is a good method in assessing the consumer preference on consuming healthier bakery product. Based on the descriptive result, it shows a good result regarding to the consumers interest on consuming healthier bakery product. However, we can conclude

Based on the path analysis result, the variable that make a significant relation towards the intention of consuming healthier bakery product are Perceived Severity, Perceived Benefit, and General Health Orientation. These variables also make a significant relation with Willingness to Use. The relation of the Willingness to Use and Willingness to Pay is positive. This means that when the consumer is willing to consume healthier bakery product, they are most likely to purchase them.

## **Recommendation**

Based on the result, researcher would like to give recommendation:

### **1. For Entrepreneur Who Interested in This Sector**

For those who interested to partake in this sector, to begin with the target market for this sector should be the one who already know the benefit of consuming healthier bakery product, as they are the one who will be more willing to consume them regarding the health benefit. To expand more market, the number one key to promote this product is by educate the market on the health benefit that healthier bakery product can give. We can see the positive relation when consumers now the benefit, they are most likely to consume and purchase the product,

## 2. For Further Research

For further research, researcher suggests that it will be better if the number of the sample is big enough to capture the consumer's perception of healthier bakery product. Researcher's also suggest that the research take place in a environment that is friendly to healthier bakery product so all the health belief model's variable can be assessed thoroughly. Another suggestion would be to capture more detail in sampling and broader area to capture more insight and perception on healthier bakery product.

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