

Attitudes and Interest of South Sulawesi Community on the Purchase of Aeroponic Vegetables

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Abstract: *This research aimed to find out (1) the attitude of South Sulawesi community, (2) subjective norm, (3) to what extent the influence of attitude on interest, (4) relationship between attitudes and interest to buy aeroponics vegetable. The sample was selected by using purposive sampling method consisting 120 people. The methods of obtaining the data were observation, interview, and questionnaire. The data were analyzed based on the theory of Reasoned Action Model proposed by Fishbein and Azjen and correlation analysis. The results of the research reveal that South Sulawesi community has a positive attitude towards interest to buy aeroponics vegetable, South Sulawesi community have a positive subjective norm on interest to buy aeroponics vegetable. South Sulawesi community has a positive interest to buy aeroponic vegetable. The result of correlation analysis between attitude variable (Y) and interest variables (X) is positive. This indicates that there is a strong correlation between the two variables with coefficient correlation 0.380.*

Keywords: attitudes, subjective norm, interest, *Theory Fishbein and Azjen*

1. Introduction

Facing the free competition of the world in the next millennium, Indonesia needs to look for business opportunities in various fields, in order to be able to compete with other countries to be active in the international market. The growth of the community affects the amount of consumption in the same direction as the increasing of basic human need fulfillment is physiological requirement, while education level and people's income have relationship with the choice of consumption pattern, meaning that the higher level of education and income is assumed that more variety of consumption choices can be taken and the quality Products selected.

The increase of public consumption of vegetable products causes the agribusiness actors to make various efforts to develop a technology in meeting the needs and demands of the community began to increase. The more the need for consumption, the more foodstuffs required, this has an impact on the extent of land needed to cultivate crops, but the constraints faced today are the limited land area and the increasing environmental pollution resulting from the use of chemical inputs. One of the planting technologies that has started to be done by many agribusiness entrepreneurs is by an aeroponic technique which is technology growing vegetable growing at this time. Aeroponics is derived from the word aero which means air and phonics which means the way of cultivation. So aeroponics is a way of planting in the air or farming with a clustering system, where the roots of plants hang in the air without media, and the nutritional needs are filled by spraying to the roots.

Opportunities for the need for high-quality vegetables are open with increasing numbers of people shopping for supermarkets, this is followed by the growing public awareness of the vegan / vegetarian movement in addressing global warming, so that consumer demand for fresh vegetables comes from a friendly process The environment will be the main demand in their consumption list.

The existence of the needs and desires of a variety of people, showing that people want a product that can satisfy his wishes. Changes in social behavior shown by society today are influenced by many factors that move dynamically, one of the changes that occur is a change in lifestyle (lifestyle). This change shows how people behave daily so that there is a change of attitude and interest in their consumption patterns. The public interest is influenced by lifestyle changes, where people who have knowledge of the product affect their interest in buying the product.

The magnitude of consumer interest in purchasing aeroponic vegetables provides an overview of purchasing behavior undertaken by consumers, who may influence buying interest. This will be very useful in designing and deciding effective marketing strategies that will be used. However, to see how much consumer interest in aeroponic vegetables, this study was conducted with reference to "Theory of Reasoned Action" proposed by Ajzen and Fishbein (1980) which shows the interaction between attitude (Ab) and subjective norm (SN) in shaping interest Behave (BI) which in this study interest in behavior is the interest of consuming aeroponic vegetables.

2. Material and Methods

This type of research is to use descriptive qualitative and quantitative survey approach. Qualitative descriptive outlines of an event and give an overview of the characteristics that are used for data collection. This study was conducted in July 2011 to October 2011, with locations in existing shopping centers in the South Sulawesi, PT Carrefour, Mall branch Panakukang Tbk, PT Hero Supermarket, Tbk Ratu Indah Mall branch and Gelael. Population in this research is that consumers who shop at the supermarket, lived and settled in South Sulawesi and learn about aeroponics vegetables.

This study is based on the Theory of Reasoned Action of Fishbein and Azjen (1980), with the identification of variables consists of beliefs (bi), evaluation (ie), attitude (Ab), normative beliefs (NBj), motivation (MCj), subjective norms (SN) and interest behave (BI). Each variable was measured using a Likert scale with a level scale of 1 (not confident) to 5 (very confident). Data analysis is also based on the Theory of Reasoned Action. The formula used in the measurement of attitudes are:

$$Ab = \sum_{i=0}^n (bi \cdot ei) \dots \dots \dots (1)$$

where:

- Ab: Consumer Attitudes toward aeroponics vegetables
- Bi: Confidence someone on certain attributes (attributes to-i)
- Ei: The evaluation of attribute i
- N: Number of convictions

Subjective norm used to measure the following formula

$$SN = \sum_{j=1}^m (NBj \cdot MCj) \dots \dots \dots (2)$$

where:

- SN: Subjective Norms consumer's opinion of referents
- NBj: Consumer Confidence subjective norm of the opinion referents
- MCJ: Motivation to accept the opinion of the referents
- M: The number of relevant referent group

As for the gauging interest behaves formula used is:

$$B \sim BI = w_1 Ab + w_2 SN \dots \dots \dots (3)$$

where:

- B: Indicates specific behavior
- BI: Consumer interest in behaving
- Ab: Consumer Attitudes toward aeroponics vegetables
- SN: Subjective Norms consumer's opinion of referents
- w1w2: regression weights determined empirically
- a ~: Indicates that the two variables, B, and BI can correspond

Furthermore, to interpret the results of the interval scale was used with the following formula:

$$\text{Interval Scale} = \{a(m-n)\}/b$$

where:

- A: The number of attributes
- m: Highest Score Possible
- n: Lowest Score Possible
- b: The number of the rating scale to be formed

3. Results and Discussion

3.1. Characteristics of the respondents

According to a questionnaire given to 120 respondents, so obtained data is shown below:

1. Respondent Age

From the questionnaire which has been spread, it obtains a percentage of respondents age that can be seen on the table :

Table 1: Respondent Characteristic According to The Age

Age	Number (People)	Percentage (%)
20 – 30 year	53	44.16
31 – 40 year	44	36.67
41 – 50 year	18	15
> 50 year	5	4.17
Total	120	100

Source: Processed Primary Data, 2011

2. Respondent Education

Table 2: Respondent Characteristic According to Education

Education	Number (People)	Percentage (%)
Primary School	-	-
Junior High School	-	-
Senior High School	19	15.83
Bachelor degree	85	70.83
Postgraduate	16	13.34
Doctor	-	-
Total	120	100

Source: Processed Primary Data, 2011

3. Respondent Occupation

Table 3: Respondent Characteristics According to Occupation

Pendidikan	Jumlah (orang)	Persentase (%)
Civil Servant	49	40.83
Private Employees	57	47.5
BUMN/BUMD Employees	8	6.67
Student	-	-
Others (Entrepreneur)	6	5
Total	120	100

Source : Processed Primary Data, 2011

4. Result

1. Belief to aeroponic vegetable purchase (bi)

According to result on appendix 2, an average of belief variables to the benefit of vegetable purchase that is obtained from 120 respondents showed on the table below:

Table 4: Average and Categorization on Respondents Belief in Aeroponic vegetable purchase

Explanation	bi1	bi2	bi3	bi4	bi5	bi6	bi7	Average bi
Belief	4	4.08	4	4	4.04	4.12	3.94	4
Category	strong	strong	strong	strong	strong	strong	enough	strong

Source: Processed Primary Data, 2011

According to Henerson scale shows that respondents have a strong belief to the purchase of aeroponics vegetables with average 4. It means the respondents believe the attributes in the product of aeroponics vegetable.

2. Evaluation to the purchase of aeroponic vegetable (ei)

Table 5: Average and Categorization in the respondent evaluation in purchasing aeroponic vegetables

Explanation	ei1	ei2	ei3	ei4	ei5	ei6	ei7	Average ei
Evaluation	4	4	4.04	3.99	4.08	4.1	3.95	4.01
Category	Strong	Strong	Strong	Enough	Strong	Strong	Enough	Strong

Source: Processed Primary Data, 2011

According to Table 5 shows that generally, respondents give a good response with an average of evaluation 4, 01 with strong categorization.

3. Normative Belief to the Referent Income (NBj)

Table 6: Average and Categorization about respondents normative belief in purchasing aeroponics vegetables.

Explanation	NBj1	NBj2	NBj3	NBj4	Average of NBj
Normative Belief	4.12	4.04	3.87	4	4
Category	Strong	Strong	Enough	Strong	Strong

Source: Processed Primary Data, 2011

According to the result on table 6 shows that respondents have the normative belief to referent income with strong categorization with average 4. It means that respondents believe opinion from the four referents groups in purchasing the aeroponics vegetable.

4. Motivation to follow the referents Income (MCj)

Table 7: Average and Categorization about Respondent Motivation to Follow referents income in purchasing aeroponic vegetable

Explanation	MCj1	MCj2	MCj3	MCj4	MCj Average
Motivation	4.08	4	3.95	4.04	4.0
Category	Strong	Strong	Enough	Strong	Strong

Source: Processed Primary Data, 2011

According to the result on Table7 shows that generally, respondent has the motivation to follow referents opinion to behave in purchasing aeroponics vegetable with strong categorization and average 4, 0.

B. Analysis of Result and Research Discussion

1. Measure attitude variable to behave (Ab)

$$Ab = \sum_{i=0}^n (bi \cdot ei)$$

Attitude variable is counted by multiplying belief score (bi) and evaluation (ei) on each respondent. Then, the multiply result has counted the average from 120 respondents, so the average of respondent attitude index is obtained. In the research, belief variable (bi) consists of 7 sub-variables and evaluation variable consists of 7 sub-variables. Thus, operational mathematics is:

$$\begin{aligned}
 Ab &= (bi1)(ei1)+(bi2)(ei2)+(bi3)(ei3)+(bi4)(ei4)+(bi5)(ei5)+(bi6)(ei6)+(bi)(ei7) \\
 &= (4)(4)+(4, 08)(4)+(4)(4, 04)+(4)(3, 99)+(4, 04)(4, 08)+(4, 12)(4, 1)+(3, 94)(3, 95) \\
 &= 16 + 16.32 + 16.16 + 15.96 + 16.4 + 16.9 + 15.5 \\
 &= 113, 24
 \end{aligned}$$

The formation of attitude to positive direction is caused by Makassar community believes and gives well assessment and satisfying to the attribute of aeroponics vegetable. In the *Theory of Reasoned Action*, each belief variable (bi) and evaluation (ei) have a similar relationship with attitude variable (Ab). If the belief (bi) is stronger with evaluation (ie) same, so it will improve attitude value to the increased behavioral interest.

2. Measure Subjective Norm Variable (SN)

$$SN = \sum_{j=1}^m (NBj \cdot MCj)$$

Subjective norm variable is counted by multiplying normative belief variable (NBj) and motivation variable score (MCj) on each respondent. Then, the multiplying result is averagely counted from 120 respondents, so it obtained an average of respondent subjective norm index (NBj). In the research, normative belief variable (NBj) and motivation variable (MCj) consists of 4 sub-variables, so mathematically described as follow:

$$\begin{aligned}
 SN &= (Nb_1)(MC_1) + (NB_2)(MC_2) + (NB_3)(MC_3) + (NB_4)(MC_4) \\
 &= (4, 12)(4, 08) + (4, 04)(4) + (3, 87)(3, 95) + (4)(4, 04) \\
 &= 16, 8 + 16, 16 + 15, 2 + 16, 16 \\
 &= 64, 32
 \end{aligned}$$

The result of a subjective norm to positive direction is caused by people who believe another’s opinion (referent) such as family, friend, neighbor, and media that want the respondent to buy aeroponics vegetable product so they are motivated to follow the suggestion or action which is suggested by the referent.

According to *Theory of Reasoned Action* about subjective norm (SN) shows that normative belief variable (NBj) and motivation (MCj) to obey another people are directly proportional to form consumer subjective norm. The higher subjective norm value, the consumer agrees to follow referent in behaving and the lower subjective norm value so the consumer does not agree to follow another’s suggestion.

3. Measure the interest of attitude (BI)

Interest is a desire to do an action which is formed by attitude (Ab) and normative belief (SN). Consumer interest to behave is measured according to consumer interest statement that is a function from attitude value and normative belief that is showing the equation of interest by Ajzen and Fishbein (1980), as follow:

$$B \sim BI = w_1 Ab + w_2 SN$$

In the previous calculation, it is known that attitude value (Ab) is 113, 24 and subjective norm value (SN) is 64, 32. To measure BI, first, the regression equation must be found to determine the weight that reflects relative contribution from attitude (Ab) as w1 and subjective norm as w2. Value is taken based on a calculation of regression equation with SPSS 17. Next, to measure consumer behavioral interest value (BI) based on a model equation from Ajzen and Fishbein (1980), as follows:

$$\begin{aligned}
 BI &= W_1 Ab + W_2 SN \\
 &= 0, 222 (113, 2) + 0, 417 (64, 32) \\
 &= 25.1 + 26, 8 \\
 &= 51, 9
 \end{aligned}$$

From the result above, it can be known that respondent interest variable value is 51, 9. According to the calculation interval scale value obtained so respondent interest value is on scale 5 with positive interpretation which means that people are interested in purchasing aeroponics vegetable.

Based on third hypotheses said that respondent has a very positive interest (BI) in purchasing aeroponics vegetable. Behavioral interest is willing to do an action which is possibly influenced by attitude (Ab) and Subjective norm (SN).

By looking the analysis result on attitude variable (Ab) and subjective norm (SN) and regression weight, it obtained that interest value of Makassar community in aeroponics vegetable purchase is 5, 19. The result shows that Makassar community has a positive direction in aeroponics vegetable purchase which approves the hypotheses. The formation of positive interest is caused by people’s good response to the existed attribute on aeroponics vegetable and another's existence about the suggestion of aeroponics vegetable purchase. Thus, high interest can be reached by the positive attitude and the strong effect of people (referent).

5. Analysis Result of Fourth Hypotheses

Fourth hypotheses said that there is a direct relationship between attitude and interest in aeroponics purchase. Based on *Theory of Reasoned Action*, behavioral interest is desire to do an action which is possibly influenced by attitude (Ab) and subjective norm (SN).

Table 8: Result Analysis of Correlation relationship between Attitude Variable (Y) to Interest Variable (X)

Attitude	Pearson Correlation	Attitude	Interest
		1	.380

Sig. (2 – tailed)		.000
N	120	120
Interest Pearson Correlation	.380	1
Sig. (2 – tailed)	.000	
N	120	120

** Correlation is significant at the 0.01 level (2 – tailed)

Source: Processed Primary Data, 2011

From the analysis of table correlation above showed that correlation coefficient between attitude variable (Y) with Interest variable (X) is positive which show that there is a relationship between both variables with correlation coefficient 0, 380. The value is the result of Pearson method, it can be seen the significant value on its correlation less than the mean of value 0, 000 (0, 01) that show the significance of the strong relationship between both variables. It can conclude that attitude variable correlates positively with interest variable which means that both variables have a unidirectional relation.

The positive attitude and interest showed by respondent mean that the formation of someone interest is determined by the interaction between attitude to behave with a subjective norm. Thus, high interest can be reached when the attitude becomes more positive and the stronger effect of another people.

Respondent attitude will develop through the experience. The follow up of the attitude can form respondent interest to purchase. Respondent decision to purchase is a relationship that influences each other between attitude and interest showed by respondent.

Based on the result, respondent gives positive attitude to the existence aeroponics vegetable. It effects positively to the interest which is an internal factor to act in the future. The variety of respondent characteristic mark that respondent has different attitude and behavior. It can be used by the marketer to learn consumer characteristic so the marketer can sell the product properly. In developing marketing strategy can be done by market segmentation in order to satisfy consumer and to recognize consumption pattern. According to Saladin (2003), market segmentation is a process of groupings markets into groups of potential buyers with similar needs or characteristics that favored the purchase and show the same relationship as well.

The variety of respondent characteristic and its relation to attitude and interest can be drawn that respondent decides to buy the aeroponics vegetable by considering; respondent purchasing power, motivation, lifestyle, and demography. It is same as Nugroho (2008) who said that there are 5 important ways that influence consumer attitude; consumer resource (time, money and attention), motivation, involvement, consumer knowledge (information and personality), lifestyle and consumer demographic (age, income, and education).

By looking respondent condition, there an increasing number of married women, working and having children who want more comfortable life. Middle-class buyer recognized and is sensitive to the brand and trend. Respondent lifestyle changes, they tend to buy in market and supermarket instead of the traditional market. It is because the supermarket and market have interesting and better structuring and storage system and easy access to fresh vegetables.

From the general information on the questionnaire, it can conclude that most respondents get information about aeroponics vegetable on TV program and brochure which is published by the supermarket. Respondent usually shops in supermarket 3 – 4 times, in which respondent often shop because of needs factor – vegetable purchase and daily needs.

The amount of respondent interest with percentage 60% or 72 people from 120 respondents proves that aeroponics vegetable has a position to the respondent. It can be said that consumer at the three places receive attributes of aeroponics vegetable if it is compared with the competitor. It is also for subjective norm variable formed to the positive direction, it shows that people agree to follow reference suggestion to buy aeroponics vegetable.

Big scale aeroponics business is still new, the consumer is people with high education. Aeroponics consumption is related to consumer's knowledge and consumer appreciates the high quality by paying a high price. Consumptive style and desire to consume something different are potential for aeroponics marketing. Businessmen and supermarket can get extra value and opportunity to develop aeroponics vegetable for the future market due to the amount of people interest to aeroponics.

6. Conclusion

Based on research analysis result and discussion, it can conclude that South Sulawesi community has positive attitude in aeroponics purchase according to assessment on examined attributes; safe, crispy, full of nutrient, fresh, quality, suitable price and lifestyle, South Sulawesi community has positive subjective norm in aeroponics vegetable product namely follow referent's suggestion (family, friend, neighbor and media), South Sulawesi people has positive interest in aeroponics purchase and there is relationship between attitude and interest in aeroponics purchase.

According to the conclusion, the marketing strategy should be done by a supermarket; (1) supermarket do the quality control to the vegetable, brand, and pack, (2) price determining system is adjusted with a market option or consumer segment, (3) promote to the consumer about aeroponics vegetable.

For a consumer with the different segment can be given information that the product can be a consideration to purchase fresh vegetable with high quality. Meanwhile, the research is only for female-consumer so it is necessary for next research that takes male consumer in order to know entirely about consumer's attitude and interest to aeroponics vegetable.

References

- [1] Anonim, 2010, *Budidaya Aeroponik*. <http://creatifitas.files.wordpress.com/2009/06/budidaya-aeroppnikblog.pdf>, Diakses tanggal 26 Februari 2011.
- [2] Allison, Michael dan Jude Kaye. 2005. *Perencanaan Strategis Bagi Organisasi Nirlaba*. Yayasan Obor Indonesia, Jakarta.
- [3] Barus, sarjana.2008. *Analisis Sikap dan Minat Konsumen Dalam Membeli Buah-buahan Di Carrefour, Plaza Medan Fair dan Supermarket Brastagi, Medan*. Tesis tidak diterbitkan. Medan. Sekolah Pascasarjana Universitas Sumatera Utara.
- [4] Burhanuddin, Erwin, dan Ngaini, SN. 2005. *Analisis Minat Konsumen untuk Bertransaksi pada Perbankan Syariah di Kota Yogyakarta*. Sinergi Jurnal Kajian Bisnis dan Manajemen. Edisi Khusus on Marketing 2005.
- [5] Baron, R. A., dan byrne, D. 2002. *Psikologi Sosial Jilid 1*. Penerjemah Ratna Juwita. Penerbit Erlangga, Jakarta.
- [6] Churchill, Gilbert A. JR. 2005. *Dasar-Dasar Riset Pemasaran*, Edisi Keempat. Erlangga, Jakarta.
- [7] Downey, D dan Steven P. Erickson, 1992. *Manajemen Agribisnis*, Erlangga. Jakarta.
- [8] Durianto, dkk. 2003. *Invasi dengan Iklan yang Efektif, Strategi, Program, dan Teknik Pengukuran*. Gramedia Pustaka, Jakarta.
- [9] Engel, J.F., Blackwell, R.D., Miniard, P.W. 1993. *Consumer Behavior*. The Dryden Press. Alih Bahasa Budiyanto, Binarupa Aksara, Jakarta.
- [10] Eagly, A.H., and Chaiken, S., 1993. *The Psychology of Attitude*, Fort Worth: Harcourt Brace Jovanovich College Publishers.
- [11] Fishbein, Martin and Ajzen, Icek. 1980. *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- [12] Hogg, Michael A, and Vaughan, Graham M. 2002. *Social Psychology (3rd ed)*; Prentice Hall Pearson Education Limited, Edinburgh.
- [13] Kotler, Philip. 2005. *Manajemen Pemasaran*. Edisi Kesebelas. PT. Indeks Kelompok Gramedia, Jakarta.
- [14] Loudon, D.L. and Della, Bitta, A.J. 1988. *Consumer Behavior: Concept and Applications*, Third Edition, McGraw-Hill Book. Co. New York.
- [15] Lewangka, O. 2003. *Metode Penelitian dan Teknik Penulisan Laporan Penelitian Bisnis*. Program Studi Magister Manajemen, Universitas Hasanuddin, Makassar.
- [16] Muchtar, 2009. *Analisis Sikap Konsumen Terhadap Merek Briton di Kota Makassar*. Tesis tidak diterbitkan. Makassar. Program Pascasarjana Universitas Hasanuddin.
- [17] Nugroho J. Setiadi, 2008. *Perilaku Konsumen, Konsep dan Implikasi untuk Strategi dan Penelitian Pemasaran*. Kencana Prenada Media Group. Jakarta.
- [18] Neni, 1995. *Sehat Dengan Sayuran*. Majalah Trubus Nomor 312 Tahun XXVI. Yayasan Sosial Tani Membangun, Jakarta.
- [19] Riduwan. 2008. *Metode dan Teknik Menyusun Tesis*. Penerbit Alfabeta. Bandung.
- [20] Soeseno, Slamet. 1995. *Berhidroponik Dengan NFT*. Majalah Trubus Nomor 303 Tahun XXVI, Februari 1995. Tinjauan Buku, Jakarta.
- [21] Saragih, B. 2001. *Agribisnis Paradigma Baru Pembangunan Ekonomi Berbasis Pertanian*. Institut Pertanian Bogor.
- [22] Sumarwan, U.2004. *Perilaku Konsumen Teoridan Penerapannya Dalam Pemasaran*. Penerbit Ghalia Indonesia, Bogor.
- [23] Schiffman, L.G., Kanuk, L.L., 1994. *Consumer Behavior*. Prentice Hall Internasional. Alih Bahasa Zoelkifli Kasip, PT Macanan Jaya Cemerlang.
- [24] Sugiyono. 2003. *Statistik untuk Penelitian*. CV. Alfabeta. Jawa Barat.
- [25] Saladin, djaslim. 2003. *Manajemen Pemasaran Analisis, Perencanaan, Pelaksanaan dan Pengendalian*. Penerbit Lindakarya, Bandung.
- [26] Tjiptono, Fandy. 2004. *Strategi Pemasaran*. Bayu Media Publishing. Malang.
- [27] Tripomo, Tedjo dan Udan. 2005. *Manajemen Strategi*. Rekayasa Sains : Bandung.
- [28] Widyastuti, Suryaningrum, dan Juliana. 2004. *Pengaruh Motivasi Terhadap Minat Mahasiswa Akuntansi Untuk Mengikuti Pendidikan Profesi Akuntansi*. Simposium Nasional Akuntansi VII