

# THE EFFECT OF PERCEIVED CUSTOMER EFFECTIVENESS OF GREEN AS MODERATOR VARIABLE ON ECO-FRIENDLY PRACTICES, GREEN IMAGE AND CUSTOMER ATTITUDES IN A CANTEEN AT UNIVERSITY OF SURABAYA

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**Abstract:** This study aims to examine the relationships customers' perceived green practices, perceived the green image of a canteen, and attitudes toward a canteen, Keluwih customers and identifies the key green practices that influence customers' perceptions of a canteen's green image. The model used for this study adopted from Jeong et al. (2014). The respondents came from the employee, lecturer, and students of University of Surabaya with total 200. Data were analyzed using SEM with AMOS 18. First, the results suggest the perception of green practices affects customers' perceived green image of a canteen which in turn influences customers' attitudes toward a canteen. Second, the moderation of PCEG group in the research model between the group of Less Green and Green is not supported. In Less Green group, there is an indirect influence of environmentally friendly practices on the behavior through the mediation of the image of Keluwih canteen with environmentally friendly. In Green group, there is a direct influence of environmentally friendly practices on the consumers' attitude of Keluwih canteen. Finally, the paper includes a theoretical model that helps explain customers' formation of a green image and attitudes toward a canteen Keluwih and offers practical guidelines for effective green marketing management in canteen Keluwih management.

**Keywords:** Green practices, perceived green image, consumer attitude toward canteen Keluwih, perceived customer effectiveness



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Nowadays, the phenomenon shows that companies which apply the principle of environmental friendly have better business continuity (Earthshare, 2012). As an institution which is responsible for education in the future, the university is responsible for teaching the lifestyle of environmentally friendly. Eco campus is a campus as

part of city ecosystem and it should have an environment which is comfortable, clean and also support the environmental conservation in the neighborhood (Nasoetion (2009). In the context of *eco-campus*, the canteen is one of the locations which should be concerned, so it could become the canteen with the friendly environment and supply healthy food. University of Surabaya (UBAYA) as one of the largest campus in Indonesia support any activities of environmental friendly in its operation. One of the ways UBAYA has done is creating canteen with environmentally friendly and it is given

name Keluwih. Keluwih canteen starts to apply the concept of *the green canteen* in 2004. The action of concern through the concept of the green canteen is implemented in a simple way by sorting out garbage into three different recycling trash; trash for plastic, paper, and garbage of leftover food. In the canteen, the guest should throw the leftover food in the available trash bin with three steps of sorting; green for leftover food, yellow for paper and blue for plastic trash. The table and walls of the canteen are also designed with codes to introduce healthy life and environmental friendly. The capacity of the canteen is 184 chairs for the ground level while the upper ground is almost the same numbers of chairs but with different design and layout.

There are two locations of Keluwih canteen in UBAYA. The first one is nearby the Faculty of Business and Economics, while the second one is on the first floor of Medical Doctor Faculty in UBAYA. The second Keluwih canteen was inaugurated and started to operate in 2016.

The consumers really depend on the image of the restaurants or those places to eat in making the decision and they tend to choose those which have a positive image (Namkung and Jang, 2013a). The previous research showed that the practice of environmental friendly in a restaurant (*green restaurant*) affect the *brand equity* (Namkung and Jang, 2013b), however, the research about the impact of environmentally friendly activities on the consumers' choice is still few (Namkung and Jang 2013a).

The research problem (1) Do the perception on environmental friendly practice and the image of environmental friendly of Keluwih canteen influence the behavior of consumers towards Keluwih canteen in UBAYA? (2) Are there any differences between consumers who concern and less concern on the environment as moderation variables towards the influence of those variables?

## LITERATURE REVIEW

The practices of environmental friendly have been long considered an important component of company reputation and the core elements if company image (Miles and Covin, 2000; Schwaiger, 2004). The image of restaurants with an environ-

mental friendly can be expressed as stand out functions of environmentally friendly attributes of certain restaurants. The customers' perception on the image of environmental friendly of the restaurant can be measured from the function of the practices of environmental friendly which are important for the evaluation of *greenness* restaurant (Bloemer dan de Ruyter, 1998). According to Ajzen dan Fishbein's (2000), the customers' behavior is determined by the value and faith which are subjective related to the restaurants.

Chen (2008) clearly showed the positive relationship between *green practices* and *green images*. On the other researchers, Namkung and Jang (2013) showed that restaurants' green practices positively influence the brand image. On the other research, Namkung and Jang (2013) proved that *restaurants' green practices* positively influence the brand image of restaurants with environmentally friendly and the intention of customers' behavior of environmentally friendly.

H1. The consumers' perception on *green practice* would give significant positive impacts on perception towards the image of environmental friendly of Keluwih canteen in UBAYA.

Chen, 2010; Myers, 1968 in Eun Ha Jeong, Soo Cheong (Shawn) Jang, Jonathon Day, Sejin Ha, (2014) stated that customers who recognize the serious needs of ecological problems would have the attempt to recognize the effort of restaurants to implement *eco-friendly practices*, so there will be strong perception of *greenness* restaurants.

On the other side, this matter directly produces the positive impression on the entire restaurant and it helps customers to form positive behavior towards the restaurants. Based on those mentioned above, this research has hypotheses:

H2. The consumers' perceptions on the *green practice* have a positive significant influence towards the attitude of consumers on Keluwih canteen in UBAYA.

H3. The consumers' perceptions on the image of environmental friendly have a positive significant influence on the attitude towards Keluwih canteen in UBAYA.

According to Ryan (2006), the definition of green customers is those people who have a commitment to the green lifestyle and support those companies which apply green practices. Straughan and Robert (1999) found that *perceived customer effectiveness* (PCE) towards the effort to solve the problems in the environment has a correlation with the awareness of customers' behavior in green practices. PCE is the consumers' behavior and belief that consumers are able to positively give influence to environmental problems. Those customers who have a high level of PCE will show the high level of green purchasing (Jeonget al., 2014).

H4. Customers with a high level of PCE have a correlation with the green practices, the perception of environmentally friendly and behavior towards restaurants with green practices compared to those customers with the low level of PCE.

## RESEARCH METHOD

This research uses a quantitative approach with confirmation, including an observation on social reality, building hypotheses based on available theories, collecting accurate data to test hypotheses. The result of hypotheses tests will lead to confirmation or development of the theory in the future (Saunders *et al.*, 2009: 113; Neuman, 2011: 18). There are 4 variables : perception variable which is about green practices (PPRL) plays role as free variable; perception variable which is about the image of green practices (PCRL) plays role as media variable; consumers perception variable about the effectiveness of green behavior (PKRL) plays role as moderation variable and consumers behavior variable (SK) plays role as bound variable. According to Cozby and Bates (2012: 147), purposive sampling is one of the forms in nonprobability sampling which purpose is to gain samples or respondents from individuals who are suitable with the criteria set by the researcher.

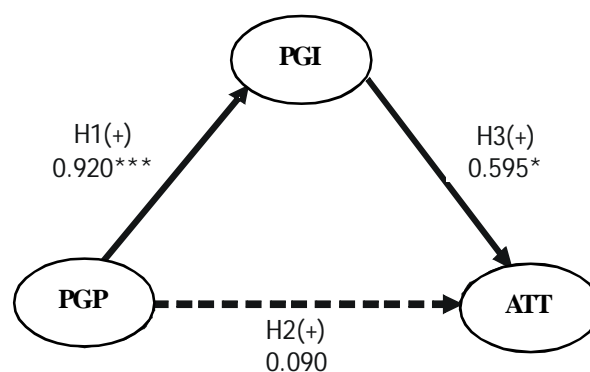
The researchers also set up specifically the selected respondents' characteristics, and those are the consumers of Keluwih canteen UBAYA for the last 6 months; often purchase or do consumption activities in Keluwih canteen UBAYA in the last

one month; have minimum high school educational background and reside in Surabaya. The number of samples is 200 respondents.

The data analysis is conducted by using *Structural Equation Modeling* (SEM) with the help of AMOS 18 program together with estimation technique which will be used is *Maximum Likelihood* (ML).

## RESULT

The spreading of data respondents is based on gender. Female respondents are 56.6% and male respondents are 43.5%. The analysis of measurement model is conducted by using *Confirmatory Factor Analysis* (CFA), the early stage of CFA has the value of *Goodness-Of-Fit* (GOF) which fulfill the suitable criteria ( $\chi^2/df = 1.586$ , RMSEA = 0.054, GFI = 0.898, TLI = 0.941, and CFI = 0.950). The result of the structural model without moderation is shown as:



<sup>a</sup>The value of standardized estimate. The insignificant structural relationship is described by dotted lines.

\* $p \leq 0.1$

\*\* $p \leq 0.05$

\*\*\* $p \leq 0.001$

**Figure 1 Structural without Moderation Model**

Out of three hypotheses tested using structural model, only the second hypothesis is not supported. It means there is a positive influence of PGP on behavior through media variable PGI. The positive influence of PGP on ATT is directly unsupported by empirical data.

Table 1 Hypotheses test

The Relationship	Standardized Estimation Value	CriticalRatio	P-Value	Information
PGP → PGI	0.920	6.958	***	H1 supported
PGP → ATT	0.090	0.278	0.781	H2 unsupported
PGI → ATT	0.595	1.852	0.064	H3 supported

\*\*\* coefficient is significant on  $P\text{-value} < 0.001$

In line with the research of Jeong et al. (2014), the green practices (PGP) do not influence the behavior (ATT) towards Keluwih canteen in UBAYA, it is because of the green practices (PGP) through the image (PGI) of Keluwih canteen, which is environmental friendly, in order to influence behavior (ATT) towards Keluwih canteen in UBAYA. The green image of Keluwih canteen UBAYA is media variable between green practices and the consumers' behavior of Keluwih canteen UBAYA. Therefore, the effort of marketing promotion or advertisement by Keluwih canteen UBAYA is needed, so there will be a more positive behavior of consumers towards green practices in Keluwih canteen UBAYA.

The test of hypothesis 4 is conducted by constructing the structural model with PCEG moderation group. The result of the structural model with moderation is shown as:

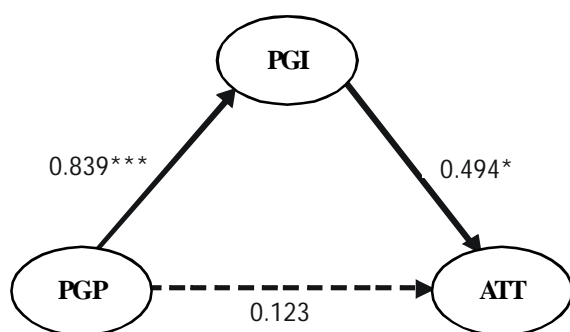


Figure 2 Less Green Structural group Model

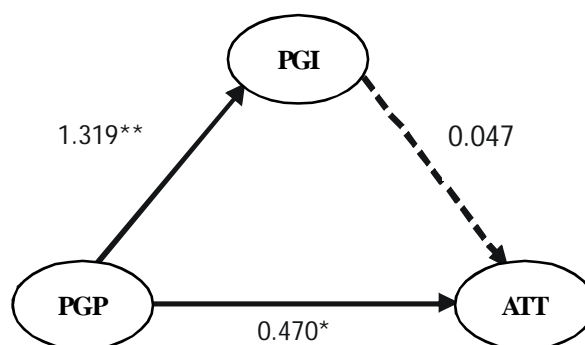


Figure 3 Green Structural group Model

## DISCUSSION

From the calculation in Table 2, it is shown that significant value is ( $P = 0.112$ ), so the fourth hypothesis is not supported by empirical data. It means that PCEG moderation group: *Less green* and *Green* are meaningless statistically in the research model.

Therefore, PCEG group moderation in research model between *Less green* and *Green* groups are not supported. In *less Green* group. There is an indirect influence of green practices on behavior through the mediation of green image of Keluwih canteen. The amount of indirect influence is 0.4144 ( $0.839 \times 0.494$ ). Meanwhile, in *Green* group, there is a direct influence of green practices on the consumer behavior of Keluwih canteen and it is 0.470. This result replies the second research problem: are there any differences between consumers who are

Table 2 The calculation of  $\Delta\chi^2$  value

Model	$\chi^2$ value	Df	$\Delta\chi^2$	$\Delta df$	Signif (P-value)
Equal Measurement Weight (Constraint)	316.529	186			0.000
Unconstraint	298.395	174			0.000
Conclusion			18.134	12	0.112

aware of the environment and those who are less aware of it, as moderation variable towards the influence of those variables. There is no meaning of moderation variable between less green and green group or there is no difference.

## IMPLICATION

The research implication is that green practices done by Keluwih canteen management UBAYA (ATT) should be more consistent and sincere. The sorting practice until 3 places; the practice of using a friendly material for packaging and the practice of saving electricity with LED lamp or using sunlight; those three things done by Keluwih canteen UBAYA can be continued by using more appropriate waste. When collecting garbage to the final disposal, it would be better to keep sorting it out. It means, plastic and paper trash can be recycled, the trash of leftover food can be reused for compost and another usage.

## CONCLUSIONS AND RECOMMENDATIONS

### CONCLUSION

The conclusions of this research are: Consumers' perception of green practices has significant positive influence on image perception of Keluwih canteen; Consumers perception on green practices has no significant positive influence on consumers' behavior of Keluwih canteen; The consumers perception on the green image has significant positive influence on behavior in Keluwih canteen UBAYA; *Perceived customer effectiveness in green* does not moderate the research model. In *Less green* group, the forming of behavior through *perceived green image variable*. Meanwhile, in *green* group, *perceived toward green practice* has a direct influence towards the consumers' behavior of Keluwih canteen in UBAYA; The *perception of green practice* variable has no direct influence on behavior in Keluwih canteen through the *perception of a green image* in Keluwih canteen UBAYA.

### RECOMMENDATION

Further research is needed to find out generalization of this research model, mainly by setting venue

for eating in public and with diverse respondents. Keluwih canteen is built with the concept of green and considering it is located on the campus, therefore the main customers are students and lecturers. In this condition, the level of educational background is homogeneous and it is also the same as the age. This research model should be tested in a wider context with diverse respondents.

In the next stage, the research is planned with the wider scope until the level of national. In further research, it is necessary to include *purchase intention* considering intention is a behavioral predictor. In this initial research, it is only until behavioral variable, so it is necessary to continue until the purchasing intention variable, according to the study of Ajzen and Fishbein (2000), Kwun (2011).

## REFERENCES

- Ajzen, I., Fishbein, M. 2000. Attitudes and the attitude-behavior relation: reasoned and automatic processes. *Eur. Rev. Soc. Psychol.* 11 (1), 1–33.
- Anderson, J.C., Gerbing, D.W. 1988. Structural equation modeling in practice: a review and recommended two-step approach. *Psychol. Bull.* 103 (3), 411–423.
- Andreassen, T.W., Lindestad, B. 1998. Customer loyalty and complex services: the impact of corporate image on quality, customer satisfaction and loyalty for customers with varying degrees of service expertise. *Int. J. Serv. Ind. Manage.* 9 (1), 7–23.
- Bennett, R., Rundle-Thiele, S. 2002. A comparison of attitudinal loyalty measurement approaches. *J. Brand Manage.* 9 (3), 193–209.
- Bloemer, J., de Ruyter, K. 1998. On the relationship between store image, store satisfaction, and store loyalty. *Eur. J. Market.* 32 (5/6), 499–513.
- Boston, PWS Kent. Barber, N., Taylor, D.C., Strick, S. 2010. Selective marketing to environmentally concerned wine consumers: a case for location, gender, and age. *J. Cons. Market.* 27(1), 64–75.
- Chan, R.Y.K., Lau, L.B.Y. 2000. Antecedents of green purchases: a survey in China. *J. Cons. Market.* 17 (4), 338–357.
- Chang, C. 2011. Feeling ambivalent about going green. *J. Advert.* 40 (4), 19–32.
- Chen, Y.S. 2008. The driver of green innovation and green image—green core competence. *J. Business Ethics* 81 (3), 531–543.

- Chen, Y.S. 2010. The drivers of green brand equity: green brand image, green satisfaction, and green trust. *J. Business Ethics* 93 (2), 307–319.
- Hair, J.F., Anderson, R.E., Tatham, R.L., William, C.B. 1998. *Multivariate Data Analysis*, 5th ed. Prentice Hall, Upper Saddle River, NJ.
- Jeong, EunHa, SooCheong (Shawn) Jang, Jonathon Day, Sejin Ha. 2014. The impact of eco-friendly practices on green image and customer attitudes: An investigation in a café setting, *International Journal of Hospitality Management* 41, 10–20.
- Kwun, D.J.W. 2011. Effects of campus foodservice attributes on perceived value, satisfaction, and consumer attitude: a gender-difference approach. *Int. J. Hospital. Manage.* 30 (2), 252–261.
- Namkung, Y., Jang, S. 2013. Effects of restaurant green practices on brand equity formation: Do green practices really matter? *Int. J. Hospital. Manage.* 33, 85–95.
- Ryan, B. 2006. Green Consumers: A Growing Market for Many Local Businesses, Retrieved from <http://www.uwex.edu/CES/cced/downtowns/lrb/lrb/LTB1106pdf>.