



UNFOLDING THE EFFECT OF VEHICLE LIMITATION POLICY IN EDUCOPOLIS AREA: (REIN)FORCING THE GREEN BEHAVIOR?

¹Widya Paramita, ²Johan Ramadhan Nurwardana, ²Finda Widya Tribudiani & ²Rhamadinna Fatimah

¹Faculty of Economics and Business, Gadjah Mada University, Yogyakarta Indonesia

²Center for Behavioral Studies in Society

ABSTRACT

The high level of use of vehicles (motorcycles and cars) cause a various of negative impacts on the environment. The most dangerous impact is air pollution. In Indonesia, vehicle ownership has grown rapidly either formed in cars or motorcycle. Approximately about 8 millions of motorcycles (Indonesian Motorcycles Industry Association, 2012) and over 400,000 cars (The Association of Indonesia Automotive Industries, 2012) has been sold in Indonesia. University as an educational institution, is also facing the problem of air pollution on campus. It is associated with the increasing number of students who use vehicles (cars and motorcycles) on campus. To reduce air pollution, Universitas Gadjah Mada prohibit students ride vehicles (cars and motorcycles) on campus. Instead, students are encouraged to bicycling or walking. This study investigate the role of internalization as moderating variable on the relationship of extrinsic motivation (functional, economic, emotional, and social value), and loyalty intention (continuous behavior of the students to bicycling/walking). The results showed that extrinsic motivation (functional, economic, emotional, and social value) positively affect loyalty intention. However, internalizing proved as moderating variable only on the second relationship, that is, the relationship between economic value and loyalty intention.

KEYWORDS: Packet Filtering, Stateless, Application, Proxies,

INTRODUCTION

In recent years, vehicle ownership in Indonesia has grown rapidly either formed in cars or motorcycle. Approximately about 8 millions of motorcycles (Indonesian Motorcycles Industry Association, 2012) and over 400,000 cars (The Association of Indonesia Automotive Industries, 2012) has been sold in Indonesia. Consequently, it is impossible to avoid daily traffic congestion either in big cities or even small avenues, in business areas or common public area, and it makes a domino effect on the parking area which is over capacity that made lots of vehicle were uncontrollably parked outside the parking area.

Traffic congestion, limited parking area, and air pollution that following it, also overwhelmingly felt in university area. The main cause is less students are graduated than thousands of new students that are coming in the campus. Those new students are usually packed with vehicle(s) that will support their mobility from their house or boarding house to the campus parking area. So that, it is imaginable how the traffic congestion would be and also followed by the unrealized level of air pollution.

This research aimed to explore the effectiveness of vehicle limitation based on students year which has been conducted for recent years in a state university in Yogyakarta, Indonesia. The question that followed related policy of vehicle limitation was the gray area of internalization in students about not to use vehicle only in campus or it could be a long-term effect in behavior modification which is green behavior that focused in reducing motorized vehicle daily usage.

THEORETICAL FRAMEWORK

A large number of vehicles passing on the campus caused some problems, such as limited parking area, air pollution, and noise pollution disturbing coziness of campus activities. Vehicle limitation on campus aims to overcome or minimize these problems. Instead, bicycle and walking proposed as alternatives. Bicycling/walking is one form of "green behavior". The term "green behavior" is also known as behavior of "green consumption". The process of green consumption can be observed through social behaviors such as preference of bio foods, recycling, reusing, limiting the over consumption and using environmentally friendly transport systems (Withanachchi, 2011). Bicycling/walking also can be categorized as one form of "environmentally friendly consumption". Environmentally friendly consumption can be defined as those consumption activities that have a less negative or more positive effect on the natural environment than substitutable activities (Pieters, 1991).

UGM trying to realize the green behavior in campus to overcome/minimize problems regarding to a large number of vehicles passing on the campus. It is correspond to UGM vision as an educopolis campus. One of the efforts made to realize the vision of development and management of the educopolis campus in UGM is to control the flow of motor vehicle traffic through disincentives. This pattern is expected to reduce access for the public who have nothing to do at the university. It is necessary to keep the tranquility of the learning process and reduce the potential of traffic accidents, air pollution, noise pollution, and lawlessness in the area of campus. Therefore, guard portals were established. In addition, all academicians who use motor vehicles have also register

for a Vehicle Identity Card (KIK). In addition, the use of KIK also aims to: (1) reduce use of paper (tickets) in order to control the safety of motor vehicle from acts of theft, (2) control the number of vehicles (especially cars) that park in crowded parking locations.

This policy seems to be successful in term of creating green-environment in a smaller scope. However, the critical problems lie in the willingness of its adherents to perform green-behavior although they are no longer imposed by the regulation enforcing the green-behavior (i.e. riding bicycle, public transportation, walking, etc) in the future. Researchers proposed that the loyalty to perform green behavior will depend on underlying motivations, either intrinsic or extrinsic that students perceived toward the behavior.

Motivation

Motives are general derives that direct a consumer's behavior toward attaining his/her needs (Assael, 2004). A person who feels no impetus or inspiration to act is thus characterized as unmotivated, whereas someone who is energized or activated toward an end is considered motivated. People have not only different amounts, but also different kinds of motivation. That is, they vary not only in level of motivation (i.e., how much motivation), but also in the orientation of that motivation (i.e., what type of motivation).

In Self-Determination Theory we distinguish between different types of motivation based on the different reasons or goals that give rise to an action. The most basic distinction is between intrinsic motivation, which refers to doing something because it is inherently interesting or enjoyable, and extrinsic motivation, which refers to doing something because it leads to a separable outcome (Deci & Ryan, 2000).

Extrinsic motivation- pale, impoverish, yet powerful- will be able to push someone to do what he/she actually do not intend to. Regulators expect the occurrence of identification type of extrinsic motivation in which the person has identified with the personal importance of a behavior and has thus accepted its regulation as his or her own. Although, there are still some possibilities that *introjected regulation* or *external regulation* instead to occur. Introjection describes a type of internal regulation that is still quite controlling because people perform such actions with the feeling of pressure in order to avoid guilt or anxiety or to attain ego-enhancements or pride. External regulation is defined as an activity performed to satisfy an external demand or obtain an externally imposed reward contingency. Individuals typically experience externally regulated behavior as controlled or alienated, and their actions have an external perceived locus of causality (*EPLOC; deCharms, 1968*). However, they can perform extrinsically motivated actions with resentment, resistance, and disinterest or, alternatively, with an attitude of willingness that reflects an inner acceptance of the value or utility of a task. In the former case -the classic case of extrinsic motivation- one feels externally propelled into action; in the later case, the extrinsic goal is self-endorsed and thus adopted with a sense of volition. Therefore, as UGM strictly impose regulation in order to create educopolis environment, it is in the interest of researcher to uncover whether this behavior will be sustainable and applied in broader scope areas? Or will the implementer feel resentment, resistance, and disinterest?

Although basically bicycling and walking is joyful in the nature, the existence of regulation that compels students to perform such behavior is expected to eliminate the intrinsic motivation, especially for students in batch 2011 and 2012. Therefore this research will focus on extrinsic motivation without addressing intrinsic motivation. We propose four values as possible extrinsic motivations which are: (1) functional value, (2) economic value, (3) emotional value, and (4) social value. Perceived value is a customer's overall evaluation of what he or she receives compared with what he or she gives up or pays (Bolton and Drew 1991).

Functional values related to the values as a general requirement that people expect to attain when they perform certain behaviors, in this case, riding bicycle or walking. It could be the health and recreational function as the elements of functional values.

H₁: Functional values positively affect behavior loyalty intention

Economical values represent any economical benefits as a gain or saving by performing such behaviors (i.e. fuel saving, cost-saving, etc.).

H₂: Economical values positively affect behavior loyalty intention

Emotional value is related to positive feelings generated by not riding private motorbike or car as part of fulfilling regulation as well as contributing to the environment. Through it is potential to get confounded, emotional values focus more on the positive feelings itself as the ultimate goal, and not to the enjoyment of activities.

H₃: Emotional values positively affect behavior loyalty intention

Consumers who place a high importance on having warm relationships with others often also consider ecological issues when making purchases (Corall-Verdugo et al., 2009; Laroche, Bergeron, & Barbaro-Forleo, 2001). Thus social value is a satisfaction derived from the fulfillment of social objective instead of maximizing one's benefits. Implementer, in this case, will be satisfied by riding bicycle or walking inside the campus area, because it proves that they already contribute to the wellness of others, environment, and world as a whole.

H₄: Social values positively affect behavior loyalty intention

Behavior Loyalty

Providing customers with perceived value or customer satisfaction is widely recognized as a means of improving loyalty intentions (Fornell et al. 1996; Zeithaml, Berry, and Parasuraman 1996) and actual retention (Bolton 1998; Bolton and Lemon 1999; Mittal and Kamakura 2001). We use customers' overall perceived value to capture perceptions of performance. The locus of interest in this research, therefore, is related to implementers' intention to perform the behavior in the long run. It is expected that providing with various values that implementers could get by performing the abovementioned behavior.

Internalization

Self-Determination Theory described internalization as the process of taking in a value or regulation, and integration

is the process by which individuals more fully transform the regulation into their own so that it will emanate from their sense of self (Ryan and Deci, 2000). Thought of as a continuum, the concept of internalization describes how one's motivation for behavior can range from amotivation or unwillingness, to passive compliance, to active personal commitment. Greater internalization appears, then, to yield manifold adaptive advantages (Ryan, Kuhl, & Deci, 1997), including more behavioral effectiveness (due to lessened conflict and greater access to personal resources) and greater experienced well-being.

There are some types of conditions that proposed to strengthen internalizations: (1) relatedness and (2) competence. The need for relatedness refers to feeling connected with significant others, cared for, or that one belongs in a given social milieu (Vlachopoulos and Michailidou, 2006). The need for competence refers to one's propensity to interact effectively with one's environment and to experience opportunities to exercise and express one's capacities (Ryan and La Guardia, 2000). Because extrinsically motivated behaviors are not inherently interesting and thus must initially be externally

prompted, the primary reason people are likely to be willing to do the behaviors is that they are valued by significant others to whom they feel (or would like to feel) connected, whether that be a family, a peer group, or a society. In this case, all students belong to batch 2011 and 2012, environmental-community, and UGM per se. Perceived *competence* is a situation where one feels efficacious with respect to the activity induce to perform. Students will more likely adopt and internalize a goal if they understand it and have the relevant skills to succeed at it.

Therefore in this research, it is proposed that social contextual conditions that support one's feelings of competence, autonomy, and relatedness are the basis for one maintaining intrinsic motivation and becoming more self-determined with respect to extrinsic motivation. Thus, implementer will consistently perform the behavior in the future, although no regulation is imposed.

H₅: Internalization moderates the effect of extrinsic motivation toward behavior loyalty intention

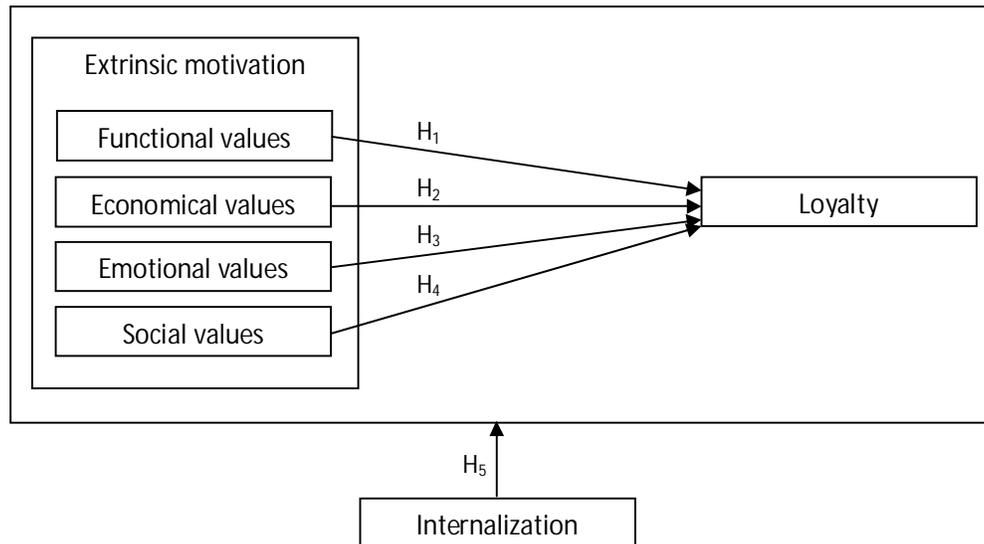


Figure 1 Conceptual Model

RESEARCH METHOD

Measures

The survey instrument used to collect the data for this research contains multiple items for each construct. The measures of functional, economical, emotional, social values, and loyalty intention were adapted from Koller, Floh, and Zauner (2011). Additionally, the measurement items of autonomy, competence, and relatedness developed by Vlachopoulos and Michailidou (2006) were chosen for this study. All constructs were measured using five-point Likert scales, with 1 representing very disagree and 5 representing very agree. The survey instrument prepared in Bahasa Indonesia.

Data Analysis

Hierarchical regression analysis was used to test the hypothetical relations between independent variables, dependent variable, and moderator variable. Each type of the extrinsic motivation (functional, economical, emotional, social values) was regressed on the loyalty in

the following manner. First, the functional-value variable was entered, followed by the economical, emotional, and social-value variables. Next, the interaction between functional-value variable and internalization variable entered. The step repeated for economical, emotional, and social values respectively.

Sample and Data Collection

The data used in this research were gathered from classes of 2011 and 2012 students in Gadjah Mada University via a survey. The survey utilized a self-administered questionnaire instrument. There were 132 complete and usable responses generated by the survey. The respondents have an average age of 18 which consist of 30% male students and 70% female students. Most of the respondents were using motorcycle from their home to campus parking (72%).

RESULTS

We tested the study's hypotheses using hierarchical regression analysis. Table 1 show results. The first step

examined hypothesis 1, 2, 3, and 4, i.e. direct effects of extrinsic motivation (functional, economic, emotional and social value) and loyalty intention. Results suggest that functional value positively affect loyalty intention ($\beta = 0,146, P > 0,05$). Same results also shown on the direct effects of economic value ($\beta = 0,241, P > 0,01$), emotional value ($\beta = 0,440, P > 0,01$), social value ($\beta = 0,183, P > 0,01$), and loyalty intention. Results proved that hypothesis 1, 2, 3, and 4 supported. Higher levels of extrinsic motivation (functional, economic, emotional and social

value) led to higher level of loyalty intention. The second step of the regressions examined the interaction term of functional, economic, emotional, social value and internalization. Results shown that the interaction term was significant and positive only on the first relationship, that is, the interaction term of economic value and internalization ($p < 0,05$). Internalization strengthen the relationship between extrinsic motivation and loyalty intention. Thus, hypothesis 5 partially supporte.

Table 1 Results of Hierarchical Regression

Independent Variabel	Loyalty		
	β	t	Sig
Functional value (FV)	0,146	2,006	0,047*
Economic value (EcV)	0,241	3,408	0,001**
Emotional value (EmV)	0,440	5,637	0,000**
Social value (SV)	0,183	2,874	0,005**
FV x Internalization	-0,103	-1,154	0,251
EcV x Internalization	0,168	2,263	0,025**
EmV x Internalization	-0,137	-1,508	0,134
SV x Internalization	0,128	1,454	0,148

* $P < 0,05$, ** $P < 0,01$

DISCUSSIONS

This study investigate the role of internalization as moderating variable on the relationship of extrinsic motivation (functional, economic, emotional, and social value), and loyalty intention (continuous behavior of the students to bicycling/walking). Current research has proven the hypotheses of the conceptual model in the context of vehicle limitation policy in educopolis area. The results demonstrate a strong direct relationship of extrinsic motivation (functional, economic, emotional, and social value) and loyalty intention.

In the current research, we’ve found out that respondents were aware of functional, economic, emotional, and social value to do or not to do something (in this case: riding a bicycle or walking). It can be proved based on the results of regression (table 1). Functional, economic, emotional, and social value significantly affect loyalty. On the marketing context, value orientation plays a crucial role for both companies and costumers. From a company’s perspective, creating market offerings that deliver facets of value to the costumer is of the utmost importance. On the customer side, value perceptions are omnipresent throughout the whole consumption process. Prior to purchase, consumers tend to anticipate the value they expect to receive by buying the product or consuming the service. This value anticipation is also called desired value (Woodruff, 1997) and predominantly guides the decision-making process. Higher levels of customer value lead to higher levels of customer loyalty. These marketing concept can be adopted to explain results of the current research. People decide to riding a bicycle or walking regarding to the values.

Functional value significantly affect loyalty (**hypothesis 1 supported**). Functional values related to the values as a general requirement that people expect to attain when they perform certain behaviors, in this case, riding bicycle or walking. It could be the health and recreational

function as the elements of functional values. So, implementer tend to riding bicycle or walking because it is health and fun. Economical value significantly affect loyalty (**hypothesis 2 supported**). Economical value represent any economical benefits as a gain or saving by performing such behaviors (i.e. fuel saving, cost-saving, etc.). Implementer decide to riding bicycle or walking to save money, and its strongly rational. Emotional value significantly affect loyalty (**hypothesis 3 supported**). Emotional value is related to positive feelings generated by not riding private motorbike or car as part of fulfilling regulation as well as contributing to the environment. Through it is potential to get confounded, emotional values focus more on the positive feelings itself as the ultimate goal, and not to the enjoyment of activities. Rational cognitions about whether using private motorbike or car might negatively affect the natural environment might have a significant impact on how the motorbike or car is perceived in terms of emotional value. Social value significantly affect loyalty (**hypothesis 4 supported**). Social value is a satisfaction derived from the fulfillment of social objective instead of maximizing one’s benefits. Implementer, in this case, will be satisfied by riding bicycle or walking inside the campus area, because it proves that they already contribute to the wellness of others, environment, and world as a whole.

Then, we will discuss the moderation role of internalization. Moderating variables reflecting internalization might reveal varying impacts of the extrinsic motivation (functional, economic, emotional, and social value) on loyalty intention. Because extrinsically motivated behaviors are not inherently interesting and thus must initially be externally prompted, the primary reason people are likely to be willing to do the behaviors is that they are valued by significant others to whom they feel (or would like to feel) connected, whether that be a family, a peer group, or a society. In this case, all students belong to

batch 2011 and 2012, environmental-community, and UGM per se. Students will more likely adopt and internalize a goal if they understand it and have the relevant skills to succeed at it. It is reveal rationalization that moderation role of internalization on the relationship between functional, emotional, and social value not proved. Students perceived that they riding bicycle or walking on the campus area because they have to obey the campus policy. Not to adopt and internalize it to perform green behavior. Next, it is assumed that extrinsic motivation (functional, economic, emotional, and social value) are not equally important to respondents. In the current research, the moderation role of internalization only proven in the relationship of economic value and loyalty intention. This suggests that someone is considering economic factors in the act. People think "Does it bring economic benefits to me or not?". Thus, implementer will consistently perform the behavior (riding bicycle or walking) in the future, although no regulation is imposed because they internalize the economic value.

CONCLUSION

The present study investigated the role of internalization as moderating variable on the relationship of extrinsic motivation (functional, economic, emotional, and social value), and loyalty intention (continuous behavior of the students to bicycling/walking). This research shows that people were aware of functional, economic, emotional, and social value to do or not to do something (in this case: riding a bicycle or walking). The moderation role of internalization was proven in the relationship of economic value and loyalty intention. It shows that people considering economic factors in the act (if it bring economic benefits or not). So, people will consistently perform the behavior (riding bicycle or walking) in the future, although no regulation is imposed because they internalize the economic value.

REFERENCES

- [1] Fornell, C. (1992), "A national customer satisfaction barometer". *The Swedish experience, Journal of Marketing* 56, January 1992, pp. 6–21.
- [2] Indonesian Motorcycles Industry Association. *Statistic: Motorcycle Production Wholesales Domestic and Exports*. <http://www.aisi.or.id/statistic/> - Accessed in June 25, 2012.
- [3] Assael, H., *Consumer Behaviour, A Strategic Approach* (New York: Houghton Mifflin Company, 2004), pp.11- 25.
- [4] Koller, M., Floh, A., Zauner, A., *Further Insights into Perceived Value and Consumer Loyalty: A "Green" Perspective*, *Psychology & Marketing*, 28(12), 2011, pp. 1154-1176.
- [5] Michel Laroche, Jasmin Bergeron, and Guido Barbaro-Forleo, "Targeting consumers who are willing to pay more for environmentally friendly products", *Journal of Consumer Marketing*, Vol. 18 Iss: 6, 2001, pp.503 – 520.
- [6] DeCharms, R., "Personal causation: The internal affective determinants of behavior" (New York: Academic Press, 1968)
- [5] Ryan, R. M., and Deci, E. L., "Self-determination theory and the facilitation of intrinsic motivation, social development, and wellbeing". *American Psychologist*, 55, 2000, pp. 68-78.
- [6] Ryan, R. M., Kuhl, J., and Deci, E. L., "Nature and autonomy: An organizational view of social and neurobiological aspects of selfregulation in behavior and development". *Development and Psychopathology*, 9, 1997, pp. 701-728.
- [7] Ryan, R. M., and La Guardia, J. G. (2000). "What is being optimized? Self-determination theory and basic psychological needs. In S. H. Qualls & N. Abeles" (Eds.), "Psychology and the aging revolution: How adapt to longer life". Washington, DC: *American Psychological Association*, 2000, pp. 145 – 172
- [8] Bolton, Ruth N., and James H. Drew, "A Multi-Stage Model of Customers' Assessments of Service Quality and Value", *Journal of Consumer Research*, 17 (4), 1991, pp. 375-384.
- [9] Withanachchi, Sisira Saddhamangala, 'Green Consumption' *Beyond Mainstream Economy: A Discourse Analysis*, www.zukunftderernaehrung.org/green%20consumption%20discourse.
- [10] Vlachopoulos, S. P., Michailidou, S., "Development and Initial Validation of a Measure of Autonomy, Competence, and Relatedness in Exercise: The Basic Psychological Needs in Exercise Scale", *Measurement in Physical Education and Exercise Science*, 10(3), 2006, pp. 179-201.
- [11] The Association of Indonesia Automotive Industries. "Domestic Auto Market & Exim By Category" Jan-May 2012. http://gaikindo.or.id/download/statistic/01-current/01-by-category/data_2012/bycat_market_exim_janmay_2012.pdf- Accessed in July 11, 2012.
- [12] Zeithaml, V. A., Berry, L. L., and Parasuraman, A., "The Behavioural Consequences of Service Quality". *Journal of Marketing*. 60(2), 1996, pp. 31-46.
- [13] Mittal, Vikas and Wagner Kamakura, "Satisfaction, Repurchase Intent, and Repurchase Behavior: Investigating the Moderating Effects of Customer Characteristics," *Journal of Marketing Research*, 38 (February, 2001), pp. 131–42.
- [14] Woodruff R.B., Customer Value: The Next Source of Competitive Advantage. *Journal of the Academy of Marketing Science*, Vol. 25, No. 2, 1997, pp. 139-153.