CONSUMER ENVIRONMENTAL AWARENESS, ATTITUDE AND BEHAVIOR: CASE STUDY OF A HIGHER EDUCATION INSTITUTION

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Abstract

Consumers play a pivotal role in the efficiency program of energy which supports the environmental friendly consumption for environmental sustainability. The energy generation depends on non-renewable resources to a great extent which are originated from fossil, such as coal, oil and gas. The fact is that the fossil resource so limited which is predicted will be last in the near decade. The usage of fossil energy is also blamed as the cause of global warming and climate change. The changing in consumer consumption behavior is important to solve or at least to ease the challenge of the scarcity of fossil energy. Now we can see the growing interest to the environmental protection which led to the emergence of new environmental paradigm (NEP). This research will test using the new environmental paradigm scale to predict the consumer awareness, afterwards to test the degree of relationship between environmental awareness to the environmental concerns, then to test the influence of environmental awareness to the attitude of energy saving consumption, and finally to test consumer attitude of energy saving consumption to the behavior of energy consumption. Respondents are well educated consumers with minimum undergraduate degree holder. This research finds that the degree consumer environmental concern based on NEP scale is moderate. In the meantime, there is no strong relationship between environmental awareness and environmental concerns. Consumer's environmental concern has no influence towards attitude of energy saving. However, attitude of energy saving influenced the energy consumption behavior.

Research paper

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Introduction

Modern society life very much depends on this non-renewable fossil energy, such as coal, oil and gas which is very limited and predicted will be unavailable in a very short time (US EPA, 2017). It is not just limited in quantity, but fossil energy consumption also has a bad impact to the environment. There have been some efforts to find renewable energy alternatives from wind, water, solar, geothermal, biofuel, and other renewable energy, but unfortunately the development is likely unsatisfactory due to technology limitation, inefficiency and high cost (Yusgiantoro, 2004).

Interest on sustainable energy consumption is very important, as all relate to our live not only at household level but also businesses cannot be separated from the usage of the energy. Furthermore, energy plays a pivotal role in the development of national economy and the effort for a better welfare. Therefore, any disruption on the energy power supply will cause damaging effect on economy and people live. Therefore, modern life cannot be apart from the support of the energy. Energy is the machine growth in the modern economy (Reusswig, Lotze-Campen and Gerlinger, 2009). The biggest challenge for energy saving program is that consumer has not fully understood the usage of energy wisely. One of the factors is that due to low tariff for most energy products: Electricity, oil, gas and other non-renewable energy (Mochtar, 2008). With this condition therefore it is necessary to wake up society awareness that electricity is not a cheap product. In the other hand, based on earlier study in consumer behavior, electricity energy is a low involvement product, with the routine usage, and in some ways shown

inertia factor, and habit plays dominant role in decision process (Watson, Viney and Schomaker, 2002). These characteristics might influence consumer behavior in using/consuming electricity energy.

Another challenge in energy saving program is that the fact that Indonesians categorized as boros consumers in consuming electricity compared to other nations. No wonder that the usage of electricity increased sharply from year to years, this does not match with the development rate of electricity power (Kompas, 2009). Therefore, campaign on energy consumption pattern change is very important in the country, although to change consumption pattern is one of the toughest challenges in the effort of environment conservation and sustainable development (United Nations 1992, in McGovern, 2007). The majority of electricity consumption is household consumption (93%), only 7% used for business, industry and offices (PLN, 2010), therefore consumer awareness, concerns and attitude towards the energy consumption issue is very important and very strategic to study. Therefore, focus of the study is on demand side management.

Reasons for this research are due to several research gaps from the previous researches. In the context of pro-environmental consumption, proofs of the previous research findings are inconclusive in nature. They are not clear if environmentally concern which is reflected in attitude is also reflected in daily energy consumption behavior. So far, has not been found any research on the relationship between environmental awareness and environmental concerns and its effect on the attitude and its implication on energy consumption behavior. Previous studies on the effect of the environmen-

tal awareness towards pro-environmental behavior are limited on intention only, not on actual consumption behavior. Changing of consumer's consumption behavior is believed as one of the alternative steps which can be contributed by marketing management discipline to adapt the level of supply with the level of demand.

This research measures consumer environmental concern using New Environmental Paradigm scale by Dunlop, et al (2000), studies the relationship between environmental awareness and environmental concern in the context of new environmental paradigm, and to test the effect of environmental concern toward the attitude of energy saving, finally to test the attitude of energy saving towards energy saving consumption behavior.

Theoretical Framework

Environmental Awareness and Concern in the Context of New Environmental Paradigm

Natural environmental conservation and protection is a field which attract more interest of decision maker, marketer, consumer and society as a whole (Baker and Sinkula, 2005, Banerjee, Iyer and Kashyap, 2003, Granzin and Oslen, 1991, Menon and Menon 1997, in Grinstein and Nisan, 2009). Research on this field discussed on ways took by the government, business and consumer to develop and protect the environment. It is estimated 30% to 40% of the environmental damage has been caused by private household consumption activities. Therefore, to change consumer behavior can be able to give a substantial effect to the environment (Stern, 1999).

With limitation of non-renewable energy resources on earth, it is important to conserve the current non-renewable energy resource or in another way consumers are urged to use renewable energy resources so that natural resources can be still available sufficiently for the next generation. Energy conservation also important due to consumption of non-renewable resources has a bad impact on the environment, such air and water pollution (EPA, 2007). Therefore, with the increasing of awareness on the environment (Dunlap, et al, 2000), the messages on environmental communication (such as social advertising) which encourage pro-environmental behavior is expected to get well acceptance from the society.

To solve environmental problem, in many cases, involve certain degree of social change, that is a change in ways where individual and group aim their live with sort of adjustment. In practice, current efforts are made to make these social change programs work to change bad practices into something more productive and beneficial in the effort to increase human life quality (McGovern, 2007). Social change in the context of communication campaign is an organized effort by a group (change agent) with the objective to persuade other parties (target groups) to accept, modify, or to neglect certain ideas, attitude, practices and behavior (Kotler and Lee, 2008).

The growing environmental concern has led to consumer appeal which is demonstrate their concern by their buying decision making on environment friendly product, such as green product. Number of pro-environment consumers constantly increases, therefore increasing the number of population target on pro-environment marketing and de-marketing

effort on environmental based products (Grinstein and Nisan, 2009). With the growing awareness on environmental conservation, social scientists for decades have investigated motivation of the individuals to involve in pro-environmental behavior (Clark et al, 2003; Radović Marković and Salamza-deh, 2012), to get more detail understanding on why people participate in pro-environmental behavior. This understanding is important for deci-sion/policy makers, besides, scientist search for solutions or ways on envi-ronmental problems which is believed need in some ways a change in be-havior.

Concern on energy conservation affects electricity consumption be-havior. According to Leiserowitz, Maibach, Roser-Renouf (2008), in total, half of American said that they have done some improvement in energy sav-ing in their houses, meanwhile others intent to do the same thing on the next 12 months. A large number of population said they are going to have some improvement in energy saving at their home, and intend to purchase fuel saving car. Meanwhile, Dietz, Fitzgerald and Shwom (2005) argued that values influence thought and behavior toward environment. Values help to decide on how to think about choices and what to do. Values don't act sole-ly but together with other factors in shaping decision. The well-known study on value orientation is a research conducted by Dunlap et al (2000) regard-ing new environmental paradigm. It has been confirmed there are three dif-ferent value orientations on pro-environmental behavior: biospheric, social (altruistic) and egoistic (Dietz el al, 2005).

New Environmental Paradigm scale so far is the most used and accepted tools to measure environmental concern (high/low). This scale consists of 15 items with 7 points of likert scale, as the original scale. Developed by Dunlap and Van Liere (1978) and then revised by Dunlap et al (2000) has significantly correlated with values, norms, knowledge of climate change and risk perception (Schultz and Zelezny, 1998). The highest score indicates higher environmental concern.

H1: Consumer environmental awareness influences consumer environmental concern

Consumer environmental concern and Energy Saving Attitude

Consumer behavior is a study which involve several process when an individual or group select, buy, use, or dispose post purchase product, ideas, service, experience to satisfy need and want (Solomon, 2007). In the marketing context, study on consumer behavior has been growing rapidly which indicate the important of understanding on market behavior for marketing program effectiveness. The challenge faced by marketers is that human behavior is very complex, consisting variety of different factors which formed or blocked individual preference, both internally or externally (Egmond and Bruel, 2007; Salamzadeh et al., 2015), therefore, many factors in forming or blocking individual preference. In this context shown by Solomon (2007) who argued that one of fundamental premises in the field of modern consumer behavior are people often purchase a product not because

of what the product can do, but what it means for them. This principle is not necessary mean that basic function of the product is not important, but the role of product in our live has been extended far beyond task and performance of the product.

A deeper meaning of a product can help to differentiate it from others, similar goods and services – overall the same, but people will choose a brand that has an image (even personality) consistent with the underlying need. In another words, consumption is a self-expression or symbolic benefit for consumers (Aaker, Berger and Heath 1999, in Grinstein and Nisan, 2009). Consumption has an important role in the conversation about identity, social cohesiveness and cultural meaning. In another hand, consumers often locked in unsustainable consumption pattern through combination of habit, institutional barrier and social norms (Jackson, 2004; Slamzadeh, 2015). This behavior is an important drive on consumer preference and choice. Furthermore, self-conception and behavior associated with self-expression depend on certain social role owned by consumers, the degree of importance of the consumer's role and product domain (Aaker 1999 et al, in Grinstein and Nisan, 2009).

Rational choice model argued that we behave in a way to maximize expected benefit for ourselves as individual from our action. Premise of rational model choice explains that human behavior is a continual process to make planned choices among a set of different behavior. Facing with these choices based on rational choice theory human calculated expected benefit and costs from different actions, and choose one offered the highest ex-

pected net benefit (Jackson 2004). Furthermore, Jackson argued that rational choice emphasized on individual as unit of analysis. These individuals make choices based on rational consideration consist of individual evaluation and expected subjective result.

There are two approaches in an effort for consumer behavior change to be more pro-environment firstly behavior is perceived as an external function, and second, as an internal factor. Several model of consumer behavior focus on internal antecedent of behavior, such as values, attitude, and intention. The second model focuses more on external factors such as incentives, norms and institutional barriers. Several models are very good in explain the important of contextual or situational variable and vice versa (Jackson, 2004). In the other hands, psychologists concentrate to relate internal psychological variables on behavior. Based on this approach it is found that pro-environmental behavior originated from values, beliefs and attitude that direct individual to certain behavior or action. Therefore, psychologist recognizes that awareness, education, guilty feeling and persuasion as tools to emerge behavioral change.

Attitude is generally believed as important factor for marketing because it is assumed has causal relationship among attitude, intention and behavior. Hawkins, Best and Coney (1989), in Hini et al (1995) argued that due to its importance meaning attitude become an important point considered in setting marketing strategy, especially to the consumer decision making. Even it is said that attitude has been linked directly with behavior change. It is said that behavior change is a function of change on intention

to behave, in another case, change on intention relate with change on attitude (Hini et al, 1995). Attitude is general evaluation about people (including oneself), object or issues and permanent in nature (Ijzen and Fishbein, 1980; Solomon, 2007). Attitude can be in form of positive or negative feeling associated with specific behavior.

H2: Consumer environmental concern influences Consumer energy saving attitude.

Consumer energy saving attitude and Energy Consumption Behavior

Consumption has been the front row in the history (Miller 1995, in Jackson, 2004; Nejati et al., 2011). To question consumption in certain degree means to prevent the history itself. To involve in the effort to change consumption pattern and consumer behavior, in a way means to work with focus and details with fundamental aspect from our social world, and processed without knowing the level of our complexity and its sophistication then it is the same with inviting the un-avoidance failure.

In a simple phrase it is said that consumption can be seen as a functional effort to increase individual and collective welfare by providing goods and services needed to fulfill people needs and wants (Mas-Collel et al, 1995, Begg et al, 2003, in Jackson, 2004). Furthermore, Jackson argued by emphasizing in consumer wants and power in consumer's choice economics take utilitarian approach widely to evaluate consumer goods and services. Therefore, consumer behavior is not merely purchasing behavior,

some among others such as energy conservation and traveling can be classified as consumer behavior (Jackson, 2004).

Energy saving behaviors refer to some actions which is not very often, but important and significantly reduce household and transportation energy use, such as turn off the light when it is not used, using saving energy light, adjusting thermostat based on weather condition, etc. (Leiserowitz, Maibach, and Roser-Renouf, 2008). Therefore, understanding consumer behavior mainstream is prerequisite to understand how to motivate or encourage pro-environmental consumer behavior. Terminology of sustainable consumption relatively new, however debate on consumption, consumer behavior and consumerism have been much longer (Jackson, 2004).

According to Ajzen and Fishbein (1980), in general an individual will have favorable attitude toward certain behavior if he believes that the performance of the behavior in general will tend to the positive result. In the other hand, if an individual believes that in general the negative result will occur from the behavior, then he will have negative attitude. Relationship between attitude and behavior is mediated by intention (Ajzen and Fishbein, 1980; Radovic Markovic et al., 2013). Based on behavioral model intention to behave proposed by Fishbein, in certain situation behavior is the same with intention to behave, where considered in general attitude to perform behavior and subjective norm about behavior. To maximize relationship between attitude and behavior Ajzen and Fishbein (1980) proposed four requirements to measure attitude: time, action, context and target (TACT).

H3: Consumer environmental attitude influences consumer energy consumption behavior.

Research Methodology

Research Population and Sample

Research Population is academia at a private University in Jakarta, consisting of lecturers, employees, and graduate school students. Sampling method is based on convenience sampling. 96 respondents are selected. This research uses survey design to test relationship among variables. To test participant environmental concern will be used New Environmental Paradigm scale (Dunlap et al, 2000; Kawamorita et al., 2020).

Method of Data Analysis

Descriptive Analysis

This analysis is a description in nature and explanation on respondent characteristics, such as: age, gender, education, status and occupation using SPSS software version 17.

Quantitative Analysis

This analysis is conducted by processing data using statistical tools on variables studied, consisted of:

Validity Test

Validity test is used to make sure validity items of questions in defining a variable, in another word to test if measurement tools test in the form of question list really measure what it has to be measured. Validity test will be conducted on each item of question, with a mechanism to compare calculated r with r table. Item of question will be assumed valid if calculated r > r table.

Reliability

Reliability test is to measure consumer stability and consistency in answering questions in the questionnaire. In this research reliability test is used simultaneously on all question items. Questions are reliable if value of Cronbach alpha > 0.60 (Hair et al., 2006).

Correlation test

Correlation test (r test) is used to test correlation (relationship) between two variables which will be stated with correlation coefficient. In this research will be tested direction of relationship and cohesiveness of the relationship between environmental awareness with environmental concern. The positive relationship will be shown by its significant level (less than 0.05) and correlation coefficient value. Correlation coefficient value will determine the cohesiveness of correlation.

Simple regression test

Simple regression analysis method will be used in this research because relevant with one of research objectives to test empirical of the effect of environmental concern toward attitude of energy saving consumption, and to test the effect of attitude toward energy consumption behavior. Decision criterion to determine the effect of independent variable toward dependent variable and cohesiveness of the relationship among variable are determined on significant level based on alpha 0.05, coefficient (B), r test value and R square test results.

Variable measurements

Variables in this research consisting of: Environmental awareness, Environmental concern, Energy saving consumption attitude and Energy consumption behavior. Environmental awareness measurement is conducted with two questions delivered on the questioner as indicators, measurement of environmental concern will adopt New Environmental Paradigm scale (Dunlap et al 2000), meanwhile energy saving attitude will be measured directly by proposing four questions as indicators. Meanwhile, energy consumption behavior construct measurement is tested by using eight questions as indicator. Variable measurement will be applied in several indicators by using likert scale of 1-7 in form of questioner.

Analysis and Discussion

Descriptive Analysis

Descriptive analysis is conducted to 96 respondents involved in this research on relevant characteristics such as age, gender, education and job status. Respondent's age mostly between 41-50 years (53%). This is categorized as mature age range, often indicated as wise, experienced and possibly has sense of responsibility toward environment. It can be concluded also that this range of age has to be more responsible on the environmental issues. Meanwhile, respondents gender relatively in balance between male (49.3%) and female (50.7%), therefore, it provides description that gender relatively well distributed. There is no indication that gender has caused different behavior toward environment.

Respondent level of education is mostly undergraduate (73.3%), master degree (24%) and doctoral degree (2.7%). In general respondents are well educated people. This group typically perceived has a broader view on environment (Jackson, 2004).

Quantitative Analysis

Quantitative Analysis is conducted to test validity and reliability, to analysis the relationship among variables and to analysis on the influence of one independent variable toward dependent variable.

Validity and Reliability test

Environmental awareness variable: Validity and reliability test are conducted on 30 respondents. All question items for environmental awareness are valid (N=30), indicated by calculated $r > r$ table (0.312) and reliable (Cronbach Alpha 0.77).

Environmental concern variable: Ten items of questions to measure environmental concern variable is valid (N=30), except 5 items are out from questioner because calculated $r < r$ table (0.312). Questions in this questioner refer to new environmental paradigm scale from Dunlap et al (2000). The fact that there are several un-valid questions indicate that this scale likely need sort of adjustment in the context to measure environmental concern in Indonesia. For reliability test indicates all of the respondents answer on all item questions are reliable (Cronbach Alpha 0.72).

Energy saving consumption attitude variable: All item of questions to measure energy saving attitude variable are valid (N=30), indicated by calculated $r > r$ table (0.312). Overall respondent responses on question items are reliable (Cronbach alpha 0.67).

Energy Consumption Behavior variable: Overall items of question to measure energy consumption behavior are valid (N=30), indicated by calculated $r > r$ table (0.312). Respondent responses on overall items of question are reliable (Cronbach alpha 0.85).

4.2.2 Analysis on Environmental Concern

SPSS version 17 processing shown respondent environmental concern is medium, not high (M=5.1). It can be concluded although respondents

have high education level, but based on New Environmental Paradigm (NEP) scale (Dunlap et al 2000) showed moderate result compared to range 1-7 likert scale. This is a clue that high level of education does not always correlate with environmental concern. This showed different finding with Jackson (2004) that this group typically perceived has a broader view on environment.

Relationship between Environmental Awareness to Environmental Concern

Based on SPPS version 17 results correlation between environmental awareness and environmental concern has shown level of sig. 0.009 which is less than 0.05. There is a positive relationship between environmental awareness and concern, however the level of cohesiveness is not significant (r=0.30). This is a challenge for environmental campaign due to the fact from this research that environmental awareness does not always lead to environmental concern, so that has to be found other ways to increase environmental concern. This finding indicates a challenge in educating and campaigning environmental protection issues. So that it has to be integrated with some other effort to increase environmental concern, such as social campaign for pro-environment (through social advertising) or open the reward and punishment approach. This showed what Egmond and Bruel (2007) finding that human behavior is very complex.

The Effect of Environmental Concern toward Energy Saving Attitude

The test result concludes that environmental concern did not affect energy saving attitude. The positive effect is small (r =0.143), therefore from statistical point of view it did not affect dependent variable significantly. From correlation point of view there is positive correlation, but weak relationship cohesiveness. Another finding to confirm this conclusion could be indicated from its level of significant of 0.221 which is greater than alpha 0.05. Conclusion: environmental concern has no influence toward energy saving attitude. Next using R square test it is proof only 2% of environmental concern can explain energy saving attitude. 98% is explained by other factor out side of this research.

Therefore, positive energy saving attitude might generally be formed due to energy consumption cost and some other economic factors but not by its environmental concern, such as by the increase of tariff, energy saving campaign to minimize energy cost, therefore, it is more due to egocentric orientation: cost or financial loss consideration not because of environmental concern.

The Effect of Energy Saving Attitude toward Consumer Energy Consumption Behavior

SPSS Output showed there are strong and significant influences of consumer energy saving attitude toward consumer energy consumption behavior (level of sig. 0.000 less from alpha 0.05), means that consumer attitude of energy saving influenced significantly toward energy consumption

behavior. This finding support earlier research that attitude is a strong predictor on behavior (Ajzen, 1991). R square test showed that attitude of energy saving could explain consumer energy consumption behavior amounted to 39.5%. The remaining of 60.5% is explained by other factors outside of this research. Therefore, individual attitude on energy saving could reflect his behavior in energy consumption behavior. The more positive on consumer attitude toward energy saving, the more reflected in energy consumption behavior. Therefore, in the context energy conservation, including electricity consumption, effort to encourage positive attitude is crucial because it will affect the expected behavior. This aligns with Leiserowitz, Maibach, and Roser-Renouf (2008).

Conclusion

Based on measurement using new environmental paradigm scale, respondents have shown moderate level of environmental concern. High level of education does not always correlate with high environmental concern, although there is a positive relationship between environmental awareness and environmental concern, but not significant. Respondents may have high environmental awareness, but it did not correlate with their environmental concern. Furthermore, consumer environmental concern did not influence consumer energy saving attitude. This finding indicated that environmental concern has no correlation on energy saving attitude. Different finding on environmental concern and attitude have been shown by Kirmani and Khan

(2015) in India that environmental concern has a significant and positive influence on attitude towards green products.

In the other hand, this study found that consumer energy saving attitude significantly influenced consumer energy saving consumption behavior. Both variables have strong and positive relationship. This study is in line with Spash (2006) findings that consumer environmental attitude significantly influenced willingness to pay for environmental improvement. The important role of attitude has been shown by Khaola, et al. (2014) that environmental awareness indirectly affects green purchase through attitude toward green product, and in turn attitude toward green product directly affects green purchase. Without the presence of attitude, the influence of environmental concern toward green purchase becomes insignificant. Similar result has been shown by Onurlubas (2018). Likewise, this study indicates the better consumer attitude toward energy saving, the more energy saving consumption behavior.

Limitation and Suggestion for the Next Research

Limitation of the research

Behavioral measurement for energy consumption in this study was conducted by consumers' self-report. Consumer's self-report method is relatively ease, however it has also weaknesses such as subjective in nature. Respondent's response might be bias and might not reflect reality.

Population target was limited to academia at a private university in Jakarta, so it might not reflect the whole group of energy consumers.

Suggestions for the next research

To enrich this research, it is suggested for further research with a wider population target. Next research is suggested to use experimental design, so that causal relationship can be well tested.

References

1. Ajzen, Icek (1991). The Theory of Planned Behavior. Organizational Behavior and Human Decision Processes, 50 (2), 179-211.

2. Dietz, Thomas; Amy Fitzgerald and Rachael Shwom (2005). Environmental Values. Environmental Science and Policy Program, Department of Sociology, Michigan State University, East Lansing, Michigan 48824.

3. Dunlap, R. E., Van Liere, K. D., Mertig, A. G. & Emmet Jones, R. (2000). Measuring Environmental Endorsement of the New Ecological Paradigm: A Revised NEP Scale. Journal of Social Issues, 56(3), 425–442.

4. EPA, US (2017). National Action Plan for Energy Efficiency. United States Environmental Protection Agency. January 11, 2017. https://www.epa.gov/energy/national-action-plan-energy-efficiency.

5. Fishbein, Martin (1981). An Investigation of the Relationship between Beliefs about an Object and the Attitude toward that Object. This Week's Citation Classic. CC/Consumer 38, September 21, 1981.

6. Grinstein, A. & Nissan, U. (2009). Demarketing, Minorities, and National Attachment. Journal of Marketing. 73, 105-122.

7. Hair, J.F.Jr.; Black, W.C.; Babin, B.J.; Anderson, R.E. and Tatham, R.L. (2006). Multivariate Data Analysis. Sixth Edition. Pearson International Edition.

8. Hini, Dean; Philip Gendall and Zane Kearns (1995). The Link between Environmental Attitudes and Behavior. Marketing Bulletin, 6, 22-31, Article 3.

9. Jackson, Tim (2004). Motivating Sustainable Consumption: A Review of Evidence on Consumer Behavior and Behavioral Change. A Report to the Sustainable Development Research Network Centre for Environmental Strategy, University of Surrey, GUILDFORD Surrey.

10. Kawamorita, H., Salamzadeh, A., Demiryurek, K., & Ghajarzadeh, M. (2020). Entrepreneurial Universities in Times of Crisis: Case of Covid-19 Pandemic. Journal of Entrepreneurship, Business and Economics, 8(1), 77-88.

11. Khaola, P.; Potiane, B. & Mokhethi, M. (2014). Environmental Concern, Attitude towards Green Products and Green Purchase Intention of Consumers in Lesotho. Ethopian Journal of Environmental Studiesand Management. 7(4), 361-370.

12. Kirmani, M. D. & Naved Khan, M. (2016). Environmental Concern to Attitude towards Green Products: Evidences from India. Serbian Journal of Management. 11(2), 159-179.

13. Kompas (2009). Perubahan Iklim: Indonesia Kecewa Sikap Negara Maju. Hal. 12. Jumat/3 Oktober 2009.

14. Kotler, Philip and Nancy Lee (2008). Social Marketing: Influencing Behavior for Good. 3rd Edition, Sage Publications.

15. Leiserowitz, Anthony; Edward Maibach and Connie Roser-Renouf (2008). Saving Energy at Home and on the Road: A Survey of Americans" Energy Saving Behaviors, Intentions, Motivations, and Barriers. A study, conducted by the Yale Project on Climate Change and the George Mason University Center for Climate Change Communication.

16. Mochtar (2008). PLN Kejar Target Efisiensi Rp. 5 Trilyun. BUMN Track, Juli 2008.

17. Nejati, M., Salamzadeh, Y., & Salamzadeh, A. (2011). Ecological purchase behaviour: insights from a Middle Eastern country. International Journal of Environment and Sustainable Development, 10(4), 417-432.

18. Onurlubas, E. (2018). The Mediating Role of Environmental Attitude on the Impact of Environmental Concern on Green Product Purchasing Intention. Emerging Market Journal. 8(2), 1-11.

19. Owens, Susan and Louise Driffill (2008). How to Change Attitudes and Behaviors in the Context of Energy. Energy Policy. Elsevier Ltd.

20. Pamlin, Dennis, Editor (2002). Sustainability at the Speed of light. Opportunities and Challenges for Tomorrow"s Society. World Wild Foundation (WWF) Sweden and WWF International.

21. Radović Marković, M., & Salamzadeh, A. (2012). The nature of entrepreneurship: Entrepreneurs and entrepreneurial activities (pp. 87-97). Lap Lambert Academic Publishing, Germany.

22. Radovic Markovic, M., Salamzadeh, A., & Razavi, M. (2013). Women in business and leadership: critiques and discussions. In The Second International Scientific Conference on Employment, Education and Entrepreneurship, Belgrade, Serbia (pp. 19-31).

23. Reisch, Lucia; Clive L. Spash and Sabine Bietz (2008). Sustainable Consumption and Mass Communication: German Experiment. Socio-Economics & The Environment in Discussion. CSIRO Working Paper Series, 2008-12.

24. Reusswig, F. H.; Lotze, C. & Gerlinger, K. (2009). Changing Global Lifestyle and Consumption Patterns: The Case of Energy and Food. Potsdam Institute for Climate Impact Research (PIK) Global Change & Social Systems Department. Browsed, 13 January.

25. Ryan, A. and Clive L. S. (2008). Measuring Awareness of Environmental Consequences: Two Scales and Two Interpretations. Socio Economic and Environment in Discussion. CSIRO Working Paper Series, 2008-10.

26. Salamzadeh, A. (2015). Innovation accelerators: Emergence of startup companies in Iran. In 60th Annual ICSB World Conference, June (pp. 6-9), UAE: Dubai.

27. Salamzadeh, A., Farsi, J. Y., Motavaseli, M., Markovic, M. R., & Kesim, H. K. (2015). Institutional factors affecting the transformation of entrepreneurial universities. International Journal of Business and Globalisation, 14(3), 271-291.

28. Schultz, P. W. & Zelezny, L. (2003). Reframing Environmental Messages to be Congruent with American Values. Human Ecology Review, 10(2), 126-136.

29. Solomon, M. (2007). Consumer Behavior: Buying, Having and Being. New Jersey: Pearson International Edition.

30. Spash, Cliff L. (2006). Non-Economic Motivation for Contingent Values: Right and Attitudinal Beliefs in the Willingness to Purchase Environmental Improvements. Land Economics. 82(4), 602-622.

31. Stern, P. C.; Dietz, T., Abel, T., Guagnano G. A., & Kalof, L. (1999). A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism. Human Ecology Review, 6(2), 81-97.

32. Stern, Paul C. (2000). Toward a Coherent Theory of Environmentally Significant Behavior. Journal of Social Issues, 56(3), 407–424.

33. Watson, Anna; Howard Viney and Patrick Schomaker (2002). Consumer Attitude to Utility Products: A Consumer Behavior Perspective. Marketing Intellegent and Planning. 20(7), 394-404.

34. Yusgiantoro, Poernomo (2004). International Workshop on Solar Energy Utilization. Badan Pengkajian dan Penerapan Teknologi (BPPT), Jakarta, 6 Oktober, 2004.