

International Interdisciplinary Virtual Conference on 'Recent Advancements in Computer Science, Management and Information Technology' International Journal of Scientific Research in Computer Science, Engineering and Information Technology | ISSN : 2456-3307 (www.ijsrcseit.com)

Green Electronic Products and Consumer Buying Behaviour : An Empirical Study

Harish Kumar¹, Navdeep Kaur²

¹Research Scholar, ²Associate Professor Department of Commerce, Ct University, Ludhiana, Punjab, India

ABSTRACT

Right now, "green" is in. Most governments, companies, and consumers are aware of how important the environment is and how everyone contributes to its deterioration. It is now crucial that we alter our way of life in order to preserve ourselves. And marketing can significantly contribute to that transition. All you have to do is determine the needs, desires, and factors most likely to influence your customers. This study defines these factors and examines how they affect consumers' green shopping decisions. These eight factors include demographics, eco-labels, eco-brands, eco-awareness, green products, green prices, and green promotions. Each element has equal weight in the eyes of green marketers. Depending on the market segment he is concentrating on, he ought to be aware of which elements should be given greater weight.

Keywords: green marketing, consumer behaviour, eco-labels, ecobrands, green advertising, green product, green price and demographics.

I. INTRODUCTION

Environmental issues are the most often discussed topics all around the world. Environmental challenges are becoming increasingly important in business and society at large (Gupta et al., 2013). Every second person on the street is aware of the usual dangers, such as global warming, pollution, the thinning of the ozone layer, a lack of natural resources, etc. All of these dangers are somehow connected to manufacturing, and everyone is aware of this. Effective marketing involves seeing these trends and positioning the goods and services to appeal to customers (Maheshwari, 2014) both locally and globally.

Prior to recently, businesses were founded with the intention of maximising profits, but the current perception is to create businesses that are also attentive to society (Boztepe, 2012). And this is where green marketing enters the picture. This goal of the businesses is fulfilled with the aid of green marketing. This is not just another marketing tactic; in order for it to be effective, a thorough and meticulous examination of consumer purchasing patterns is required.

To avoid overemphasising any one marketing component, the marketing mix for green marketing needs to be balanced. Each of the four Ps has an unequal impact on consumers' thoughts. For some products, features are vital, the price should be reasonable, promotions have the biggest an impact on sales, and distribution and

Copyright: © the author(s), publisher and licensee Technoscience Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited



availability have a big impact on sales. Consumer purchase behaviour is directly impacted by the product, price, promotion, and location. On the other side, demographic factors including age, gender, income, and education cause consumers' mindsets to differ from one another. Demographic factors mentioned above have a direct bearing on how green marketing alters consumer attitudes about the environment and influences them to buy green products. Many investigations and research projects have revealed that the impact of green marketing initiatives varies greatly according to changes in demographic factors.

II. LITREATURE REVIEW

The impact of eco-labels on customer purchasing behaviour, with particular reference to the bakery business, is explored in a thesis by Daria and Sara (2011). They argued that eco-labels do have an impact on consumer purchasing behaviour, but it is highly challenging to establish this claim for the bread business due to little advertising and the inability of consumers to learn about such items.

According to Kuthiala and Mahajan (2012), there is much room to explore the possibilities of green marketing, and consumer understanding is not reflected in their purchasing habits. They shed some light on how demographic factors like age, gender, education, and profession affect consumers' awareness of and willingness to pay for products made of fiber-reinforced plastic. It is a brand-new, environmentally beneficial material used in building. It is highly advanced technologically and doesn't even include CFCs. Markets are embracing the Green Building trends, which has resulted in the creation of LEED (Leadership in Energy and Environmental Design). Although LEED is making an admirable attempt, there is still a disconnect between what is being done and what is possible.

In a 2012 paper, Boztepe demonstrated how green product, green promotions, green pricing, environmental awareness, and green purchasing behaviour are related. He carried out research that found that environmental knowledge, green product features, green price, and green promotions all have an impact on male consumers, whereas only green promotion had an impact on female consumers' purchasing decisions. No longer are businesses created solely for financial gain. There are so many goals besides getting money. All of the study's variables showed a statistically significant positive link, he discovered.

Delafrooz et al(2014) .'s study of contemporary green marketing tactics used by businesses that prioritised packaging and labelling. They contend that socio-cultural factors, heterogeneous environments, and psychological-individual marketing all have an impact on customers' purchasing decisions. The main focus of marketers right now is how environmental advertising, eco-labels, and brands effect consumers' purchasing decisions. They both agree that "green marketing is currently not fulfilling its potential to improve customers' quality of life while enhancing the natural ecology."

According to Agyeman (2014), there is a correlation between the parameters and customer purchasing habits for green products. When it comes to the actual purchasing of green items, he claimed that factors such as product quality, affordability, and environmental considerations are crucial. He counselled green marketers to build their marketing mix strategies after having a thorough understanding of the segment market.



III. GREEN MARKETING AND CONSUMER BEHAVIOUR DEFINED

Green marketing refers to the promotion of goods that are safe for both the environment and society at large. It covers a wide range of actions, including adjustments to the manufacturing process, product alterations, packaging and labelling adjustments, and marketing adjustments. Green marketing is the process through which goods and services are evaluated based on the environmental advantages they provide and then sold. Any good or service that is ecologically beneficial in and of itself, or that is produced or packaged in such a way, is referred to as green. The logical presumption behind green marketing is that prospective customers will consider a product or service's "greenness" to be a perk and make selections based on that (Saini, 2013). Today's marketers participate in "green washing" practises where they portray their items as environmentally friendly when they are not. When customers grow dubious of the corporations' green marketing promises, this practise needs to be curbed. Also, consumers should be made aware of the fact that adopting energy-efficient equipment, decreasing pollution, and using less water during production are all examples of green marketing.

The actions of marketers have an impact on consumer behaviour. Because of the way they act, marketers are forced to develop regulations that mostly effect them. Consumer behaviour refers to the mental, emotional, and physical processes people use to choose, buy, consume, and discard goods and services that meet their needs and preferences (kotler,1999). Consumer behaviour includes a variety of activities and serves as incentive as well. It is a procedure that involves various complexity levels at various phases. Consumer behaviour is influenced by a variety of outside factors, including culture, society, geography, family, and many more. There is a process and stages in consumers buying decision. The stages are-

- 1) Identification of problem or needs,
- 2) Searching the alternatives,
- 3) Evaluation of alternatives,
- 4) Making the purchase decision, and
- 5) Post purchase behavior.

And there are different variables which affect the buying behaviour of consumers. In this paper the green marketing variables are discussed.

IV. MOTIVES OF THE STUDY

The following are the objectives to conduct this study:

- 1) To identify various variables of green marketing.
- 2) To study the effect of each variable on consumers buying behaviour for green products.

V. RESEARCH METHODOLOGY

In this paper, the study is based on secondary data which is collected from various websites, online journals and research papers from various authors.



VI. GREEN MARKETING VARIABLES

The following are the green marketing variables and their effect on consumer buying behaviour is reviewed.

1) Eco-labelling- Eco-labeling didn't really take off until the early 1920s. Around the world, numerous nations are pursuing green procurement. Leading nations in the fight for eco labelling awareness and adoption include China, Japan, Australia, European Union nations, and Nordic nations. The green labelling programme (Eco-mark) was started in India in 1991. It failed to make an impact because the green marketing ideas weren't adopted. According to research done to determine the causes of the scheme's failure, one of the major factors was Indian consumers' lack of understanding.

One of the key components of green marketing is eco-labels. They are a component of packaging and can take the form of a diagram or a piece of paper. Labels offer knowledge about the brand of the goods as well as many other details. Labels serve two crucial purposes: an informational and a value-based one (Delafrooz N et al, 2014). Consumers can decide whether or not to purchase a product based on information provided by eco-labels regarding the product's manufacturing process. It makes it easier for customers to find environmentally friendly products.

There are research that demonstrate connections between eco-labeling and consumers' decisions to purchase environmentally friendly goods. According to Nik Abdul Rashid's research, there is a correlation between eco-labels and consumers' intentions to buy environmentally friendly products. One factor contributing to customers' mistrust of eco-labels is their inability to recognise them. Different eco-labels have varying effects on customers, according to the Natural Marketing Institute's 2007 LOHAS research on Consumer Trends Database. Consumers are more likely to make a purchasing decision if the labels are well-known and broadly acknowledged.

- 2) Eco-brands- By definition, a brand is "a name, word, sign, symbol, or design, or the combination of them, designed to identify the goods and services of one seller or group of sellers and to differentiate them from those of a competitor," according to the American Marketing Association. Eco-branding does the same thing by differentiating a brand based on its advantages for the environment. With an eco-brand, a product stands out from the dozens of other product options available and is easier to recognise. An eco-brand can be used to distinguish between green and non-green products. positively by consumersAccording to a study conducted in western nations like the USA and Germany, consumers are more favourable to eco-branded products. Several products, including glass, plastics, household cleaning products, insecticides, and aerosols, are regarded by Malaysian consumers in Wahid and Rahbar's study as being unsustainable, and customers respond positively to eco-branded product.
- 3) Environmental Advertising- To inform consumers about their green products or services, marketers are turning to media or newspaper advertisements. Environmental awareness among customers and expanding global green movements have prompted marketers to use environmental advertising. Its goal is to persuade customers to purchase products that are environmentally friendly.

According to a study by Dania and Erika, women are more receptive and have a more favourable attitude towards green advertising and green products. Green marketing tactics are growing as a result of eco-advertising (Haytko and Matulich, 2010). Green marketing tactics are now more widely adopted by customers thanks to eco-advertising (Neft and Thompson, 2007). According to Haytko and Matulich's



study, people who practise environmental behaviour are more likely to respond favourably to green advertising.

Another MAH Rahim study on Malaysian youth found that those who are familiar with "green life" have a higher favourable view towards eco-advertising (Rahim and Zukni, 2012). Their research identified television, social networking sites, and websites as the top three media platforms suitable for green advertising. They advise using the media outlets listed above for successful persuasion when the government and non-profit organisations are implementing green advertising. In his research (conducted in Shanghai), Bing Zhu discovered that a well-organized and planned design is necessary to implement a green campaign. Also, he discovered that trustworthiness is crucial when creating a green advertisement to persuade consumers to purchase green items (Zhu, 2013).

4) Environmental awareness- Environmentally conscious consumers can assess the costs of consumption and how they affect society and the environment (Babaogul and Ozgun, 2008). Students are aware of the negative consequences that products have on the environment and are aware of green items, according to a study done by Aslan at Kafkas University on 400 students. Students should pay attention to the features, packaging, and use after the product is finished (Aslan, 2007).

Aracioglu's poll indicates that a rise in environmental awareness has an impact on consumer purchasing habits. The results of another study by Bostepe are consistent with this conclusion. His research indicates a considerable positive relationship between environmental knowledge and green customer purchasing behaviour. As consumer awareness of the environment grows, so does their propensity to make green purchases.

However there is an opposing viewpoint to this assertion as well. According to one of Suki's findings, consumer choice for green products is unaffected by public awareness of green products (Suki, 2013). The results of his paper do not support those of D'Souza et al (2006). Although the respondents are aware of green issues and products, this awareness has no influence on their purchasing decisions. Ishaswini and Dutta assert that the contracts are breached. They found that customer awareness of green products and pro-environmental issues are indicators of consumer purchasing behaviour among Indian consumers. They found that 98% of respondents knew about eco-friendly items. The results also pointed out that consumers buy the products that are eco-friendly but are unsure about the quality and so why don"t trust the green products (Ishaswini & Dutta, 2011).

The level of consumer awareness needs to be increased in India. India's manufacturers must exert additional effort to increase customer knowledge of green products, which is currently low (Maheshwari, 2014). The majority of respondents claimed that they had trouble identifying green products when they saw them on the shelves, which highlights the disparity between efforts made to raise environmental awareness.

5) Green Products- When the damaging impacts of products on the environment began to influence customer purchasing decisions, businesses realised the need to make green products (Uydaci, 2012). According to Grail Research's June 2009 survey of 520 eco-conscious customers, consumers believe that eco-friendly items have a positive environmental impact. According to Maheshwari's research, customer green buying habits and green product attributes are positively correlated (Maheshwari, 2014). This implies that as a product's green attributes rise, so does consumer inclination to purchase green goods.



Consumers' purchasing decisions are influenced by the quality of green products, so businesses must pay attention to quality as well (D'Souza et al., 2006).

The packaging of green products can easily persuade consumers to purchase them. In support of this are Dantas et al (2004). They claim that labels and packages just need a few seconds to attract consumers' attention. Consumers find it extremely challenging to identify green items. According to a report from the Massachusetts Department of Environmental Protection from 2002, one obstacle to consumers buying green items is their inability to recognise them.

According to a study by Promotosh and Sajdul on young customers, the health benefits of green products are typically the area of greatest concern (Promotosh and Sajdul, 2011). According to the same poll, 81.56% of young customers have positive purchasing intentions for eco-friendly goods. Nonetheless, the scarcity of green items remains the primary obstacle to converting buy intents into real purchases (Vermeir & Verbeke, 2004). When green products are more widely available, they have the potential to significantly influence customers' purchasing decisions.

6) Green Price- Customers will be encouraged to purchase green products if the price of the green product is kept low (Boztepe, 2012). Green product makers will benefit from maintaining low pricing if the product's price elasticity is reasonably high.

According to a 2009 Grail Research poll of American customers, those who have never purchased green products believed them to be too expensive and chose not to do so. According to a survey conducted a year later, cost is both the most significant issue and the biggest deterrent to purchasing green items. The pricing and customers' green purchasing behaviour are proven to have a favourable significant relationship (Boztepe, 2012).

According to Belz and Peattie (2008), green marketing placed a strong emphasis on green consumers. Some customers are willing to pay more for products that protect the environment. Many consumers would be willing to pay a higher price and choose to buy environmentally friendly products. Yet according to Rohit Nema's research, people are not prepared to pay more for environmentally friendly products. The low degree of consumer willingness in India means that marketers there should develop cost-cutting tactics (Nema, 2011).

One of the elements influencing consumers' purchasing decisions is perceived product pricing (D'Souza et al., 2007). He continued by saying that staunch environmentalists do not consider pricing while making green goods purchases and do not let prices influence their purchasing decisions. Being in favour of recycling and green products is not the same as being willing to pay extra for them. Customers may favour recycling and green products, but they may not be willing to pay a higher price (Hansla et al., 2008). There are research that support this point of view and studies that indicate how prices affect consumers' decisions to buy green items. Prices will remain a problem unless discounts are offered and promotions are emphasised (Gatersleben et al., 2002).

7) Green Promotions- It attempts to promote green products and foster in customers an image of a firm that cares about the environment. To accomplish the purpose, promotional tactics like public relations, advertising, and promotions are used. In a study including 3690 individuals, Shrum et al. (1993) concluded that men are unaffected by advertising and do not change their purchasing habits, whereas women are more likely to be cautious about advertisements for green products (Shrum et al., 1995).



After carefully considering them, businesses should advertise their goods. To avoid spreading any false information, they should highlight the product's functionality, design, and utility (D. Yazdanifard, 2014). Promotions and consumer green buying behaviour are positively correlated (Morel and Kwakye, 2012). According to a different article by Yazdanifard and Mercy from 2011, advertisements that highlight a company's environmental commitment have an impact on consumers. According to a study by J.S. Bagheri, customers have a favourable view towards green advertising, and it has an impact on their thinking (Bagheri, 2014). This study's findings support those of Hajeqrari (2014) and Boztepe (2012).

H.C. Purohit (2011) found that the majority of respondents to his poll of 238 students agreed that they would be more likely to choose those green promotions (96% of respondents). Environmental protection-focused advertising initiatives are preferable (Purohit, 2011). According to a study by Ashoorvan, 63.2% of respondents said that green marketing had a high impact on the purchasing process, compared to 36.8% who thought it had a medium impact (Ashoorvan, 2014). From the earlier studies, it can be inferred that green promotions have a favourable impact on customer purchasing decisions.

8) Demographics- Many studies have previously found a connection between customer demographics and their green purchasing habits. It aids green marketers in market segmentation and tracking customer green behaviour. The 2003 study by Dimantopoulos and colleagues found that demographic factors alone were insufficient to identify the profile of green consumers. Yet, it was discovered in the same study that women have a stronger propensity for protecting the environment and are more likely to behave in this way. While there is a negative correlation between pro-environmental behaviour and age, married people exhibit higher pro-environmental behaviour (Dimantopoulos et al., 2003).

One of the key variables influencing consumers' green shopping behaviour is demographics (Kollnuss & Agyeman, 2002). According to Hustad and Pessemier (1973), women need to have high levels of education in order to be more ecologically concerned. Consumers who care about the environment are younger and better educated (Berkowitz & Lutterman, 1968) and (Bourgeois & Barnes, 1979).

Younger people are more receptive to fresh and creative ideas than older ones, according to Ottman et al. (2006). Many studies have shown that men and women behave differently, with women being more supportive of green ideas than males (Tikka et al., 2000; Stern et al., 1993; Zelezny et al., 2000). In contrast to the findings mentioned above, Chen and Chai (2010) claimed that psychographic factors are more effective than demographic factors in predicting consumers' propensity to make green purchases. There are differing opinions on the extent to which demographic factors influence consumers' decisions to buy green products, but there is no doubting that they do.

VII. CONCLUSION

Given India's GDP growth rate, the introduction of globalisation, liberalisation, and privatisation, the rapid advancement of technology, and changes in human desires, the country's GDP has expanded significantly (Maheshwari, 2014). (Boztepe, 2012). Humanity's growing wants have led to higher pollution levels and the loss of our natural resources. Yet, the harm can be minimised if the green marketing elements are employed effectively to sway consumers' opinions. Given the overwhelming evidence that all green marketing factors encourage customers to buy green products, marketers should pay close attention to these factors in order to develop the most effective marketing plan.



It can be advised that green product prices be kept at reasonable levels so that even those with average incomes can afford them. High prices are the main obstacle to purchasing green goods. Also, there is a need to raise consumer knowledge of the labels and names of eco-friendly product brands. They need to be made aware of eco-labels and eco-brands since they find it challenging to distinguish between them and other non-green products. Advertising that promotes environmental awareness should avoid misleading consumers about what being green entails. To send a message to consumers that they can rely on, "green washing" corporations should be penalised.

To send a message to consumers that they can trust the promises of green companies as the "false green companies" are treated seriously, "green washing" companies should be penalised. The demographic makeup of their target audience must also be a priority for the marketers. Most marketers don't think it's important while developing green marketing strategy. Yet, the differences in age, income, gender, and literacy have a significant impact on how successfully the green marketing approach is implemented. Hence, before moving further with the planning of the marketing strategy, it is crucial to do a thorough analysis of the impact each aspect has on consumers' minds.

VIII. REFERENCES

- Agyeman, C.M. (2014). Consumers" Buying Behaviour towards Green Products: An Exploratory Study. International Journal of Management Research and Business Strategy, 3(1). Retrieved 20 August, 2015, from http://www.ijmrbs.com/ijmrbsadmin/upload/IJMRBS_530233991 e0c5.pdf
- [2]. Angelovska, J, Sotiroska, S.B & Angelovska, N. (2012). The Impact of Environmental Concern and Awareness on Consumer Behaviour. J Int Environmental Application & Science, 7(2), 406416. Retrieved 18 August, 2015, from http://www.jieas.com/volumes/vol121-2/abs12-v7-i2-30.pdf
- [3]. Anvar, M & Venter, M. (2014). Attitudes and Purchase Behaviour of Green Products among Generation Y Consumers in South Africa. Mediterranean Journal of Social Sciences, 5(21). Retrieved 20 August, 2015, from http://www.mcser.org/journal/index.php/mjss/article/download/41 91/4101
- Bagheri, J.S. (2014). Green Marketing and Its Impacts on Consumer Behavior in Sports Shops. Annals of [4]. Applied SportScience, 2(2),75-82. Retrieved 9 August, 2015, from http://www.aassjournal.com/files/site1/user_files_dbc6fd/eng/abol fazlbejani-A-11-271-1-b744ca2.pdf [5]. Daria, B. & Sara, K.S. (2011). The Influence of Eco-labelled Products on Consumer Buying Behaviour- By focusing on ecolabelled bread. (Bachelor"s thesis, Mälardalen University College). Retrieved from http://mdh.divaportal.org/smash/get/diva2:390922/FULLTEXT01.pdf
- [5]. Diglel, A & Yazdanifard, R. (2014). Green Marketing: It"s Influence on Buying Behavior and Attitudes of the Purchasers towards Eco-Friendly Products. Global Journal of Management and Business Research, 7(9). Retrieved 13 August, 2015, from http://www.academia.edu/9999132/Green_Marketing_It_s_Influence_on_Buying_Behavior_and_Attitud es_of_the_Purchasers_towar ds_Eco-Friendly_Products
- [6]. Gan et al.. (2008). Consumer's purchasing behaviour towards green products in new zealand. Innovative marketing, 4(1). Retrieved 20 August, 2015, from http://businessperspectives.org/journals_free/im/2008/im_en_2008 _1_Gan.pdf



- [7]. Gupta, S, Singh, D & Thakur, K.S. (2013). Green Products and Green Marketing:Are Customers Aware?.
 Pacific Business Review International, 5(9). Retrieved 8 August, 2015, from http://www.pbr.co.in/Vol%205%20Iss%209/11.pdf
- [8]. Haytko, D.L & matulich, E. (2008). Green Advertising and Environmentally Responsible C onsumer Behaviors: Linkages Examined. Journal of Management and Marketing Research, 1. Retrieved 8 August, 2015, from http://www.aabri.com/manuscripts/greenadvertising.pdf
- [9]. Ishaswini & Dutta, S.K. (2011). Pro-environmental Concern Influencing Green Buying: A Study on Indian Consumers . International Journal of Business and Management, 6(6). Retrieved 11 August, 2015, from http://www.ccsenet.org/journal/index.php/ijbm/article/viewFile/10 821/7676
- [10]. Jarvi, J. (2010). The behaviour of Finnish consumers towards ecolabelled products case: S-group OYJ. (Bachelor''s thesis, Laurea University of Applied Science). Retrieved from http://www.theseus.fi/bitstream/handle/10024/27195/Jarvi_Jyri.pd f?sequence=1
- [11]. Kaufmann, H.R, Panni, F.A.K & Orphanidou, Y. (2012). Factors Affecting Consumers' Green Purchasing Behaviour: An Integrated Conceptual Framework. Amfiteatru Economic, 14(31). Retrieved 23 August, 2015, from http://www.amfiteatrueconomic.ro/temp/Article_1100.pdf
- [12]. Li ming, A.K & Wai, T.B. (2013). Exploring consumers" green purchase behaviour towards online green advertising. The Macrotheme Review, 2(7), 60-81. Retrieved 10 September, 2015, from http://macrotheme.com/yahoo_site_admin/assets/docs/7MWMR27 .32040530.pdf
- [13]. Maheshwari, S.P. (2014). Awareness of Green Marketing and Its Influence on Buying Behaviour of Consumers: Special Reference to Madhya Pradesh, India . AIMA Journal of Management & Research, 8(1). Retrieved 11 August, 2015, from https://apps.aima.in/ejournal_new/articlespdf/3_dr_shruti_p_mahe shwari.pdf
- [14]. Nizam et al.. (2014). Understanding Green Purchasing Behavior among Gen Y in Malaysia by Examining the Factors Influenced. Interdisciplinary Journal of Contemporary Research in Business, 6(2). Retrieved 8 August, 2015, from http://journalarchieves37.webs.com/181-194jun14.pdf
- [15]. Patranabis, I.C. (2014). Globysn Management Conference 2014. New Delhi. Allied Publishers Pvt. Ltd.
- [16]. Promotosh, B. & Sajedul, I. (2011). Young Consumers" Purchase Intensions of Buying Green Products. (Master"s thesis, Umea University). Retrieved from http://www.divaportal.org/smash/get/diva2:427264/FULLTEXT02.pdf
- [17]. Purohit, H.C. (2011). Consumer Buying Behaviour of Green Products. International Journal of Research in Commerce, Economics and Management, 1(1). Retrieved 1 September, 2015, from http://ijrcm.org.in/uploaddata/31304703088.pdf
- [18]. Rahim et al.. (2012). Green Advertising and Environmentally Responsible Consumer Behaviour: The Level of Awareness and Perception of Malaysian Youth. Asian Social Science, 8(5), 46-54. Retrieved 11 August, 2015, from http://dx.doi.org/10.5539/ass.v8n5p46
- [19]. Suki, N. (2013). Green Awareness Effects on Consumers' Purchasing Decision: Some Insights from Malaysia. IJAPS, 9(2), 49-63. Retrieved 12 August, 2015, from http://ijaps.usm.my/wpcontent/uploads/2013/07/Art3.pdf

