



Factors Affect to Green Products Purchase Behavior of Young Educated Consumers in Sri Lanka

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Authors' contributions

This work was carried out in collaboration between all authors. Authors WRADK and SSN designed the study, wrote the literature, performed the statistical analysis and set the first draft of the study. Author KMVS managed the analyses of the study and edited the manuscript. All authors read and approved the final manuscript

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ABSTRACT

Aims: At present, rapid development of technology has caused both positive or negative influence and changes in the environment. While enjoying the convenience provided by technology, people should have the right mind-set in keeping and protecting their environment. The aim to conduct this study is to investigate the factors that influence young educated consumers' green products purchase behavior in Sri Lankan context.

Study Design: Based on the prior studies, the study identified factors that influence young educated consumers' purchasing behavior toward green products such as social influences, environmental attitudes, environmental knowledge, perceived environmental responsibility, government initiative and exposure to environmental messages through the media. Five hundred young educated consumers are the sole targeted respondents in this study.

Conclusion: The findings of the study reveal that there is a significant relationship between the factors influence and young educated consumers' purchasing behavior towards green products. Thus, these research findings have provided some insight to businesses who basically facing a lot of challenges in substantial consumers to purchase green products. By gathering this information, marketers can understand the way that moves the environmental factors to green purchase behavior. They also would be able to expressing their various strategies to effectively attract more consumers to purchase green products.

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1. INTRODUCTION

In recent times, the environment has developed as a warm issue for societies, governments, in addition to business organizations. Its significance originates from growing environmental dreadful conditions such as solid wastes, ozone depletion, global warming, and air pollution. It is examined that various activities of business organizations like sourcing, manufacturing, logistics, and marketing have a negative impact on the environment and also considered to be the source of most of the environmental problems [1].

According to Rahman [2], economic progress and development have often been associated with negative environmental consequences such as global warming, depletion of natural resources, acid rain and etc. Practitioners and academics have had to take view of the ever-increasing environmental problems and adopt sustainable development measures to minimize the negative effects of development on environment and society. Moreover, people's health, both on the individual and the community level has been affected through environmental problems [3].

Chan [4] also reported that during the past few decades, concerns about environmental dreadful conditions have been increasing. Because, governments and citizens all around the world have realized the significance of the environmental damages and the dangerous economic and health problems that result from them. After realize the significant problems towards environmental issues, people from worldwide are willing to apply their own responsibility to safe and protect their environment because they believe their hard work can increase their quality of life in the future. Sarigöllü [5] stated that, "consumers are becoming more sensitive in their environmental attitudes, preferences, and purchases". At present, customers are ever more conscious of the significance of environmental degradation, resulting more ecologically consciousness and wish to purchase eco-friendly products and services, supporting businesses that prefer environmental practice [6,7]. Those customers who concern about the environment and care green marketing are known as "green consumers". Generally, this kind of consumers

will practice their consumption behavior by purchase green products that have less effect to their environment.

"Eco-friendly" or "green" has turned into a buzz word and a trend in recent years, in marketing theory and practice. Going green is a major provider to the triple bottom line of industry; that are people, profit and planet [8]. Since the 1980s, green marketing has gone through several steps. After a backlash in the 1980s, green marketing has made an improvement in the West from 2000 onwards [9]. The force of "going green" is now growing in the Asian region, where environmental pressures are alarming local governments and citizens. Like many Asian countries, Sri Lanka undergoes from increasing levels of air toxic waste, exposure to severe road traffic noise, high levels of garbage deposal and rapidly lessening landfill space in most of the urban areas [10].

In order to get better understand about the environmental effort of a certain nation, a practical method is the investigation of how the consumers in a country interpret environmental issues and how these views are revealed in purchasing behavior with respect to green products and services. In line with that, an important challenge that marketers have to face is to find which factors lead consumers to buy green products or what consumers take into concern before green purchases. After finding these factors, marketers will be able to develop effective marketing mix strategies to attract consumers towards green products and support environmental sustainability.

With the increased level of environmental pollution and social disputes, both consumers and businesses are concerned about the natural environment in Sri Lanka. Therefore, businesses have started to change their behavior in an effort to address environmental and social problems as a way of their social obligation. At present, it is noticeable that the Fast-Moving Consumable Goods (FMCG) sector of the country is considered about the green marketing issues. According to Wanninayake [11], most enterprises marketing FMCG have united green elements into their marketing mixes as a competitive tool. For example, FMCG marketing companies in Sri Lanka use eco-friendly and recyclable packaging

and modify the products to reduce or avoid the environment pollution.

Though environmental disputes increasingly affect every side of human life as well as business tactics in the Sri Lankan context, still there are very few studies that deliberate green issues in the Sri Lankan context. Specially, there only a few studies have addressed green consumer purchase attitudes and behavior in Sri Lanka [12,11]. Wanninayake [11] concerned the consumer attitudes and perceptions towards eco-friendly products in FMCG sector and their willingness to pay for green products. The study showed that the Sri Lankan consumers have a considerable awareness of green products and they are willing to pay more for green products. Though the term "green products" is attracting a high attention of Sri Lankan citizens, the actual factors affecting green purchasing decisions in the Sri Lankan context are not yet sufficiently revealed empirically.

Among the general consumers, young educated consumers are very important because they have been found to be more responsible about the environment, favor environmental protection problems and they are also open to new ideas. However, most of the prior studies are focused on general consumers than young educated consumers [13,14,15,16]. Hence, the present study aims to identify the young educated consumers' purchasing behavior towards green products in Sri Lankan context. As young educated consumers, the study has selected undergraduates in Sri Lanka. The study also examines how the factors (social influences - SI, environmental attitude - EA, environmental knowledge - EK, perceived environmental responsibility - ER, government initiative - GI and exposure to environmental messages through the media - M) influence young educated consumers' green products purchase behavior.

The rest of this paper is organized as follows. It begins with a review of literature on green consumer, green product, green marketing and influencing factors of green product purchase behaviour. The paper then presents the study design, followed by the results of the study. Finally, managerial implication and future research are discussed.

2. LITERATURE REVIEW

Green consumer is a someone who willingly engages in consumer practices that are

considered as naturally friendly by marketing academics and practitioners [17]. According to the Soonthonsmai [18], green consumers are defined as consumers who are concern, care and pay close attention to the environmental issues. Green consumers always have clear mentality that they have the duty towards the environment and concern about the environmental issues. Therefore, green consumers always purchase products that have less effect to the environment. Peattie [19] reported that, marketers should know about what green consumers are looking for in a green product before placing their green labeling.

Green product is the product which has minimum impact on environment and it incorporates the strategies with recycled materials, reduced packing and using less harmful substances [20,21]. It contained natural ingredients, original grown, do not pollute environment, not test on animals, contain recycled content, recyclable and reusable, and contain approved chemical. Examples of green products include, eco-friendly garments, green electronics products, organic food, solar power, Reusable water bottles, alternative fuel vehicles and hybrids and other green products.

Green marketing encourages consumers to use eco-friendly products and manufacturers to develop more environmentally beneficial products [22]. Green marketing is considered as one of the major trends in modern businesses. According to Polonsky [23], environmental marketing more popularly known as green marketing or sustainable marketing can be defined as the effort by a company design, promote, price and distribute products in a manner which promotes environmental protection. Peattie [19] mentioned that marketers should not only look for internal processes of the production, but also for the impact of production and consumption in the quality of life and development of a sustainable society. According to Akehurst [24], green marketing appears as a supporting tool for monitoring, seeking and fulfilling consumer needs and desires in a context of environmental responsibility.

Being green is not easy. Beckford [25] indicated that, green purchase intention is significant predictor of green purchase behavior; purchase intention is positively affecting the probability of a customer decision that he/she will buy green products. Green purchase behavior considered as people engaging in environmental behavior as

a result of their wish to solve environmental problem, to become role models and a confidence that they can help to preserve the environment [26].

Numerous earlier researchers have conducted research on consumers' behavior towards green products since 1970's. There have been identified many different variables such as beliefs, values, attitudes or knowledge that affect consumers' choice to purchase eco-friendly products [27,2,14,28,13].

The theory of reasoned action (TRA) [29] and the theory of planned behavior (TPB) [30] are the two prominent theoretical approaches followed by most of the studies to decide consumers' green purchasing behavior. The TRA is a theory of attitude-behavior relationships which links attitudes, subjective norms, behavioral intentions and behavior in a fixed causal sequence. It discusses on how the consumers' attitudes towards the green issues can affect their green buying behavior and action. Ajzen [31] reported that, an individual's objective consists of behavioral character, when an individual has decided to engage in certain behavior will convert his or her intention into action in a proper opportunity and right time.

On the other hand, the TPB also used for discovering consumer attitude, intentions and actual buying behavior with respect to green products [16]. The TPB is an extension of the TRA [30] and made necessary by the original model's limitations in dealing with behaviors over which people have incomplete volitional control. According to Chan [32], consumers who consider about their environment will show eco-friendly behavior and support green purchasing. Though, the study of Ohtomo [33] stated that green consumers will not necessary behave in green manner or supporting and buying green products even though they are care and aware to the environmental issue.

The present study intents to understand the various factors of the green purchase behavior which affect to young educated consumers and provide guideline for companies to formulate and implement their green and sustainable marketing strategies effectively and accurately. The factors include social influence, environmental attitude, environmental knowledge, environmental responsibility, government initiative and exposure to environmental messages through the media.

Social Influence is derived from the concept as subjective norm in the TPB [34]. Ryan [35] stated that social dynamic as association among an individual with other people. That means, an individual shares their beliefs, values, thoughts and attributes with other people that he/she communicated. DeLamater [36] further explained that social influence is the changes of a person's attitude and behavior which influenced by another person's action such as persuading and threatening. Daido [37] stated that, change in the environmental can change the mindset and influences the behavioral of people. That means, if social context is encouraging people to behave in green manner then people will buy green products. Gupta [38] found that most of the green consumers had a high level of trust in others and they expected that others will also engage in green behavior. As such, the hypothesis is developed as:

H1: There is a positive relationship between social influence and young educated consumers' green product purchase behavior.

Attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor [39]. An individual's environmental attitude is identified as the body of favorable or unfavorable feelings toward some specific aspects of environmental protection [40,14,41]. According to Chyong [42], attitude is the most significant factor in predicting consumers' willingness to pay more for eco-friendly products. This means, price is not a difficulty for consumers who are intentionally take part in pro-environment activities or to buy green products. If consumer has a positive attitude towards environmental safety will eventually transfer it into a real practice by being a green consumerism, environment degradation will decrease [16]. Thus, the hypothesis constructed as:

H2: There is a positive relationship between environmental attitude and young educated consumers' green product purchase behavior.

Environmental knowledge is a general knowledge of facts, concepts, and relationships concerning the natural environment and its major ecosystems [43]. It contains public knowledge about the environment, basic relationships relating to environmental aspects or impacts, an admiration of entire organism, and common conscientiousness for ecological development. There are several studies that support empirically

the assumption that consumers' environmental knowledge or eco-literacy is a significant predictor of eco-friendly behavior [13,44]. Hence, the following hypothesis developed:

H3: There is a positive relationship between environmental knowledge and young educated consumers' green product purchase behavior.

Sukhdial [45] stated that perceived environmental responsibility is the degree of an individual's perception of self-employment in protecting the environment. In other words, perceived environmental responsibility was the level of concern belongs to an individual towards the environmental and social responsibility to protect the environment from continuously using environmentally friendly products. A behavior and attitude of a person that he/she is responsible for his or her consumption behavior and its effects towards the nature and environment [46]. Moreover, Strong [47] reported that the major destruction to the environment was caused during the manufacturing process. Therefore, consumers who help green products will avoid those non-eco-friendly products which will compromise and damage their health. Johri [48] stated that Asian citizen's societies are becoming aware of worrying environmental problems. To create green purchase behavior among individuals cannot be short of their own perceived responsibility. Therefore, perceived environmental responsibility is a factor of purchasing behavior towards green products. Thus, the hypothesis is developed as:

H4: There is a positive relationship between perceived environmental responsibility and young educated consumers' green product purchase behavior.

The role played by the government in green protection is unquestionable. In the study of Tsen [49] stated that although consumers have high sense on environmental concerning, but they still deemed government play an important role towards consumers purchasing behavior on green products. The government should 'walk the talk' in developing and applying environment sustainability programs, as the role model to its people in the country. Chen [20] stated that the Malaysian government has revealed various tactics to implement sustainable consumption and development. In order to educate and foster environmental awareness and concern among the public, the Malaysian government also selected for social advertising [50]. Government

policies such as encouraging and providing incentives to green product producers that support the country environment sustainability are important to help the marketers in promoting their green product. Hence, the prior studies argued that consumers believe the government should play an important role in building green purchasing. The hypothesis is defined as:

H5: There is a positive relationship between government initiative and young educated consumers' green product purchase behavior.

Finally, the study of Good [51] revealed that exposure to environmental messages through the media positively affects young consumer's environmental concerns. This is also acknowledged by Mee [52] that communication campaigns run through various media sources have been found to positively influence recycling behavior of consumers. Hence, the uses of these media such as television commercials, print advertisements and product packaging are often organized into a single combined communications campaign [53]. Lee [54] stated that environmental messages spread through the media influenced consumers' purchase behavior towards sustainable products. Thus, the hypothesis is developed as:

H6: There is a positive relationship between exposure to environmental messages through the media and young educated consumers' green product purchase behavior.

3. MATERIALS AND METHODS

3.1 Conceptual Model

In this study, social influence, environmental attitude, environmental knowledge, perceived environmental responsibility, government initiative and exposure to environmental messages through the media have been identified as valuable predictor variables of green purchasing behavior.

3.2 Sample and Data

The scope of this study includes young educated consumers in Sri Lanka. As young educated consumers, the study has selected undergraduates in Sri Lanka. There are 15 state universities and 17 registered non-state universities in Sri Lanka. Out of them, only state universities were considered in this study. In addition, undergraduates from Management

Faculties were selected. Accordingly, there are approximately 23,000 undergraduates who follow management degrees at 13 State Universities in Sri Lanka. Convenience sampling technique was used to collect primary data from 500 undergraduates at University of Sri Jayewardenepura.

A structured questionnaire was developed to collect data from the undergraduates. The questionnaire consisted of short introduction, general information, factors influence, green purchase behavior and the closing of the questionnaires. A total of 25 items were included in the survey questionnaire based upon the prior studies. The respondents were asked to indicate their degree of preference with each statement using a five-point Likert scale ranging from strongly disagree to strongly agree.

4. DATA ANALYSIS

4.1 Demographic Characteristics of Respondents

The majority of the respondents are male that is 53.0% out of a total of 500 respondents whereas 47.0% respondents are female. With regard to the age group, more than 80.0% (82.8%) of the respondents are aged 22 to 24 years old; follow by aged 19 to 21 years old (15.6%). In addition, 1.6% of the respondents are aged 25 years old.

4.2 Reliability and Validity

The validity coefficients of each measurement items in the study show that the measures used for this study are valid and measures what it actually expected to measure with a high degree

of supportiveness; showing a high construct validity. Further, the results showed that Cronbach's Alpha values greater than 0.70 and the measures used for this study are reliable measures with an acceptable level of consistency.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is an index used to examine the appropriateness of factor analysis. According to the results, they indicated that Social Influence, Environmental Attitude, Environmental Knowledge, Environmental Responsibility, Exposure to environmental messages through the media, Government Initiative and Green purchase behavior variables have KMO value more than 0.6 and extracted into single factor. Further, Bartlett's test of Sphericity show a significance level ($p < 0.001$), indicating the appropriateness of factor analysis [55]. Hence, this permits the multiple regression analysis to be conducted. Further, Table 1 illustrates the central tendency and reliability and validity measurements values.

4.3 Multiple Regression Analysis

The multiple regression analysis is utilized to test the hypotheses developed in this study. The result of the regression analysis is shown in Table 2.

In Table 1, the F-test is 42.205 and the p-value = 0.000 ($p < 0.05$). This means that the factors influence is significantly explain the young educated consumers' green product purchase behavior in Sri Lanka. The $R^2 = 0.339$ which show that is small but define relationship between these six variables and dependent variable. The adjusted R^2 is equal to 0.331 which

Table 1. Descriptive table

Construct	Mean	Standard deviation	Cronbach's alpha values	KMO value	Bartlett's test of sphericity
Social influence (SI)	3.4687	1.03303	0.848	0.724	0.000
Environmental attitude (EA)	4.6300	0.33327	0.767	0.661	0.000
Environmental knowledge (EK)	4.6570	0.47148	0.707	0.641	0.000
Environmental responsibility (ER)	4.7300	0.40919	0.696	0.651	0.000
Government initiative (GI)	4.6907	0.36472	0.709	0.607	0.000
Messages through the media (M)	4.0810	0.72594	0.764	0.600	0.000
Green purchase behavior	3.8941	0.49512	0.766	0708	0.000

Table 2. Multiple regression result

Independent variables	Unstandardized coefficients (B)	Standardized coefficients (Beta)	t-stat.	p-value	VIF
Constant	0.522		1.981	0.048	
SI	0.093	0.246	4.712	0.000	2.031
EA	0.054	0.046	1.051	0.294	1.455
EK	0.119	0.144	2.885	0.004	1.855
ER	0.144	0.151	3.229	0.001	1.631
GI	0.244	0.227	4.846	0.000	1.641
M	0.005	0.009	0.194	0.847	1.529
R				0.583	
R ²				0.339	
Adjusted R2				0.331	
F-test				42.20	
Sig				0.000	

*Dependent Variable: Young educated consumers' green product purchase behavior, *p<0.05, **p<0.01*

show that about 33.1% of the variation in the young educated consumers' green product purchase behavior is explained by the factors identified the study. Moreover, all the independent variables were uncorrelated with other independent variables in the equation since the VIF values less than 5.0.

As shown in Table 1, the p-values of social influence, environmental knowledge, environmental responsibility and government initiative are less than 0.05, hence, those factors are statistically significant predictors of green purchase behaviour of young educated consumers. However, the p-values for environment attitude and exposure to environmental messages through the media are greater than 0.05. Thus, environment attitude and exposure to environmental messages through the media are not significant predictors of green purchase behaviour of young educated consumers.

In summary, the results of the multiple regression analysis indicate that the hypotheses proposed in this study are accepted except for H2 and H6. Among the significant factors, government initiative records the highest beta value (0.244).

5. DISCUSSION AND FURTHER RESEARCH

The result showed that, there is a significant relationship between social influence and young educated consumers' green product purchase behavior. Kalafatis [6] and Abdul Wahid [56] proved that social influence has directly and significantly effect on green purchase behavior.

Further, Irawan [57] reported that the respondents may discuss about the environmental problems and share eco-friendly products with their friends.

Hence, policy makers and marketers could use the power of social influence to encourage green purchases among young educated consumers. Behavior of youngsters may be changed by supporting social norms or applying societal pressure and green marketing companies could focus on motivating green consumers to talk about green purchasing activities in their social circles. Moreover, as participants get affected by the green purchase behavior of others, green activities like planting of tea, using herbal products and etc. could be prepared to engage parents, peers and other social groups.

According to the results of the study, environmental attitudes is not significant predictor to young educated consumers' green products purchase behavior. Diamantopoulos [58] concluded that there is a weak but significant relationship between environmental attitudes and the buying behavior towards green products. Apart from that, this result is consisted with Axelrod [59] and Lee [14] who stated the same result where a weak factor or low relation between environmental attitude and green purchasing behavior. Besides, Paco [60] mentioned that attitude still could influence on customers' green purchase although it not necessarily used as a foundation for them in purchasing decisions. Therefore, this may result no significant relationship between environmental attitude and young educated consumers' green products purchase behavior.

There is a significant relationship between environmental knowledge and young educated consumers' green products purchase behavior. Mostafa [61] mentioned that there was a significant relationship between environmental knowledge and consumer green behavior. Furthermore, Mostafa [62] and Chan [13] highlighted that the importance of environmental knowledge in the prediction of green consumer behavior. The prior study of Bang [63] highlighted a non-significant relationship between environmental knowledge and behavior whereas others have reported that a higher level of environmental knowledge is necessary for taking appropriate action towards environmental protection. According to Mostafa [61], consumers with higher environmental knowledge are more inclined to show environmentally responsible behavior. Several studies specifically found that consumers' environmental knowledge positively affected green purchase behavior [61,64].

Due to the absence of understanding and substantial knowledge of the seriousness of environmental issues marketers cannot able to motivate consumers towards green purchasing. Paradowska [65] mentioned that, importance should be given on imparting a higher degree of environmental knowledge to motivate consumers to engage in sustainable activities and minimize the negative impact of their consumption practices on the environment.

Further, the outcome indicated that perceived environmental responsibility has a significant relationship with young educated consumers' green products purchase behavior. Although this variable is second top predictor in the study of Sinnapan [66], however, it was a significant factor in this study. According to Gough [67], females tend to have a better ability to take the responsibility for alleviating problems in the world than male. To form green purchase behavior among individuals cannot be short of their own perceived responsibility. Therefore, when responsibility towards environmental protecting is well educated and informed to people, they are willing to take up responsibility to protect and save the environment. Lai [68] concluded that citizens of Hong Kong have really aware the environmental problems and more responsibility in protecting their environment. According to Lai [68] people who have really aware of the environmental problems is more responsibility in protecting their environment. Protecting the environment is the responsibility of everyone, which also highly consist of companies that

create green goods and products. Companies need to co-operate its marketing effort with a sense of consumers' responsibility in order to increase consumers' green consumption power. For instance, marketers can create some creative and attractive green slogans like 'save our earth' or 'tree planting program' as a message to make a feeling of high participation among consumers. Meanwhile, good practicing in ethical business and involved in Corporate Social Responsibility in promoting the green purchase also a good clue for company to show its responsibility towards the environment.

Based on the result, it shows that government initiative also has a significant relationship with green products purchase behavior of young educated consumers. According to Sinnappan [66], government play a vital role in affecting the consumers' green purchasing behavior. Most of the Europeans considered they played an important role as government in protecting their environment.

Government also can provide positive and effective information or message to public through different projects to raise their sense towards responsibility of environmental protection. Once the public have good understanding on government's contribution to the environmental protection, they will more actively to purchase green products. Moreover, government also can encourage the green industry to produce different type of organic food to provide more choice for Sri Lankans. On the other hands, the government can partner with marketers to create innovative green package and different way to promote and attract the consumers, as we know people are always affected by the visual of the products.

However, there is no significant relationship between exposure to environmental messages through the media and young educated consumers' green product purchase behavior. The prior studies have shown that exposure to environmental messages through media positively affects young consumers' environmental concerns [51,69]. The researchers further explained that, mass media had a significant impact on consumers' environmentally friendly behavior. However, results of this study indicate that this factor might have lesser influence on young educated consumers' green product purchase behavior in Sri Lanka. In line with that, further study needs to be concerned on

features of mass media messages and their attractions on consumers.

This study has useful managerial implications. It tells about the main factors of green purchasing which can be helpful for marketers in creating appropriate making strategies for promoting green purchase behavior among young educated consumers in Sri Lanka. The research findings have provided some insight and feedback to marketers who basically facing a lot of challenges in encouraging consumers to buy environmental friendly products. To successfully enhance and redefine this new target market, they need to understand the path that move the environmental factors to green purchase behavior. By gathering this information, marketers would be able to articulate their strategies to more effectively attract consumers to buy green products.

The study was set in the context of young educated consumers in Management Faculty at University of Sri Jayewardenepura. Hence, the ability to generalize the results to the young educated consumers may be restricted. Further study is needed to test the proposed factors on other universities. The findings of the study show that there are about 33.1% is explained by the factors influence. However, there are other factors which may explain. Thus, further research should investigate the unknown factors. Researchers also can investigate which factors among the unknown factors are the most affect or significant in determining the young educated consumers' green products purchase behavior. In addition, future researchers can test the other aspects in the demographic profile such as ethnic group in order to determine whether there is a significant different between demographic and young educated consumers' green products purchase behavior or not. By doing this, the result can be more accurate by including youth from different states, and cultural backgrounds in the future.

6. CONCLUSION

In conclusion, "Going green" has become a slogan and being discussed by people from all walks of life. The current study shows that the key to raise green purchasing behavior among young educated consumers lies on six factors, which are social influence, environmental attitude, environmental knowledge, perceived environmental responsibility, government initiative and exposure to environmental

messages through the media. Regarding current people lifestyle, eco-friendly products is paid much attention because of many issues such as diseases and green environment. Therefore, marketers must practice market segmentation in order for them to be successful in this competitive business world.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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