

RESEARCH ARTICLE

An Investigation on Consumer Purchasing Decision of Green Products: The Case of Singapore

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Abstract

Not many studies have been undertaken to explore the sentiments and opinions held by consumers in Singapore regarding green and environmentally friendly business practices, and their effects on purchase choices. This paper aims to fill the gap in the literature. Using a sample of 116 consumers within Singapore, data was collected to determine the factors influencing consumers' purchase behaviour and their attitudes towards purchasing environmentally safe products and services. The study finds that consumers in Singapore consider price to be a key factor in their considerations of purchasing environmentally safe goods and services. Individuals have a high level of concern regarding the environment yet they were generally averse to paying high prices for green goods.

Keywords: *Singapore, Social marketing, Consumer preference.*

Introduction

Most countries in the world have identified environmental damage and pollution as a major problem affecting the globe. Environmental degradation could potentially lead to higher death rate and a reduction in the quality of life. Developing nations are taking part in conservation and clean-up operations incurring minimal expenditure using effective low cost technologies which in turn, can alleviate the rapid decline of the environment. A large number of developing nations have begun engaging in initiatives which encourage the development of environmentally sustainable products and marketplace [1]. As a result of the myriad of initiatives taken by governments and interest groups, consumer awareness of the necessity of choosing green products over conventional ones has increased drastically.

A green product can be identified as a product which the design and/or attributes (and/or production and/or strategy), uses recycling resources, and which benefits the impact on the environment, or reduces toxic damage on the environment in the entirety of the life-cycle [2]. While much research has been carried out in this subject, no similar study to the knowledge of the authors has been conducted within the context of Singapore. Using the case of Singapore, the present study aims to:

- Explore the key factors customers consider when making purchases.
- Determine if there is a demand by consumers for green and environmentally safe purchase options.
- Determine whether consumers' pro-environment sentiments translate in to everyday green purchase behaviour.

Environmentally safe business practices and green products have been given much prominence in recent decades, especially with the growing concerns regarding global climate change and the part humans have played in exacerbating it. Since the 1970's the idea that products and services should be produced sustainably and with minimum damage to the environment has been brought forward. Governments and pressure groups have promoted and campaigned for to this end, creating a global move by businesses and consumers alike to be more environmentally conscious [3].

The 1990s was widely recognised as the "decade of the environment" and as a result the following years leading up to the present day, have seen a drastic increase in the awareness of social and environmental issues by consumers [4]. As a result of industrial manufacturing processes there

has been an increase in environmental pollution which has been getting increasingly noticeable by the environmentally conscious public [5]. As a consequence of these concerns, more and more organisations have been pressured into accepting environmentally sustainable practices as part of their social responsibility [6-8]. In order to remain competitive within a market that is increasingly more concerned regarding the climate and environment, companies have started paying attention to the green marketing of their products and services in order to instil consumers with trust as well as to build a green brand image for themselves [9].

The adoption of green marketing strategies to promote an organisation's products has been shown to work in many studies conducted throughout the world. However, in the case of Singapore, it is not easy to determine whether the same principles can be thought of as true due to a lack of research data available. This is the gap in information which this study intends on bridging.

It is important to determine whether consumers, however concerned about the environment, are prepared to make negotiations on factors such as value and price in lieu of sustainable credentials of a product. The credibility of organisations and products claiming to be green are also important to be determined as it will have a large impact on purchase decisions made by consumers. The perceived green value and green trust may vary from nation to nation as a result of marketing strategies used by organisations as well as the importance the inhabitants of said nation place upon environmental protection and sustainable business practices. This study intends to address the lack of information with regard to the effectiveness of green marketing on Singaporean consumers as well as the question of whether environmental concerns translate in to everyday green purchase behaviour.

Literature Review

Environmental conservancy has been impacted heavily in the past century mainly due to the continuous technological and industrial expansions throughout the globe. This revolution has had a major effect on the quality of life. Concerns such as the reductions in the ozone layer, the pollution of waterways, fast depletion of fossil fuel reserves, rapid deforestation, and global warming among others have taken centre stage in today's economic and political arenas and have garnered extensive support from the public. Since the 1980s, as a result of a significant number of environmental disasters, the matter of

environmentally safer business practices had taken much greater importance [3].

It was the 1990s that are considered the turning point where conservation of the environment as well as the importance of regulations to limit the damage would become key issues to address for all organisations [10], and has in many ways led to today's continuing increase in consumers' awareness of the importance of environmentally safe business practices [4]. Numerous elements played a part in assisting this awareness such as; media reporting of environmental disasters, campaigns carried out by NGOs and pressure groups, the introduction of legislation by national governments and global bodies, as well as the public's increased knowledge of serious environmental disasters [11]. As a result of this increased awareness, consumers are now more concerned with the sustainability of their everyday purchases due to the effects the products and services they consume have on the planet [12]. The aforementioned increased in environmental consciousness has had a significant impact on consumer behaviour, particularly in the increased desire of consumers for sustainable and green products consequently putting pressure on organisations to comply in order to remain competitive within their markets.

A study has found that buyers who possess a superior knowledge of the state of the environment have a higher likelihood behaving in a more environmentally friendly manner [13]. However, there are others who have suggested that despite buyers' concern regarding the environment, those concerns would not always mirror in their purchase choices [4, 14]. As argued by Pickett-Baker and Ozaki [15] people who are environmentally conscious do not necessarily behave in a manner which completely corresponds to their beliefs. The bases of purchasing decisions of consumers are highly debatable as it has been proposed that consumers' claims of strong views on environmental issues do not in themselves necessarily translate into direct actions relating to the purchasing of green products and services [16]. Evidence gathered in past studies have shown that despite pro-environmental sentiments, concerns about pollution, and the readiness to pay a higher price for environmentally sustainable products, very few consumers have actually used these sentiments to form consistent environmentally safe buying behaviour [17].

The attitudes discussed in this research paper will be referring to those of buyers relative to the

theme of environmental protection and sustainability. The attitudes an average consumer holds with regard to the environment may be an important predictor in ascertaining the way in which said person will behave when it comes to making green purchase choices [18]. Numerous investigations are being carried out in order to better understand the relationship that exists between individuals' environmental attitudes and persisting environmental issues. A large number of studies have been able to establish a positive correlation between green purchase intentions of consumers and their environmental attitudes with regards to many cultures around the world including European, Asian and American cultures. These researchers have studied not only multiple cultures, they have conducted studies across a multitude of product categories such as; green automobiles, food, timber and organic goods [4, 18-22].

However, some studies conducted within Malaysia have produced data, suggesting that pro-environment sentiments in consumers alone do not impact their purchase choices. In a study involving young buyers in Malaysia showed that those who were surveyed did not wish to change their purchase choices in order to minimise the damage caused to the environment. A group of volunteers concluded that their attitudes pertaining to environmental protection and green purchasing did not translate in to the actual purchase of environmentally safe products due to their lack of knowledge of exactly what the green alternative choices to their regular purchase choices were.

In the case of Malaysia, similar to that of many countries in the region, the lack of awareness of green alternatives may be a significant contributing factor as to why green sentiments are not seen translating in to real purchase choices. The market in Singapore has many significant similarities with that of Malaysia, both as a result of proximity and shared historical characteristics. When a consumer sees advertising for a product or service regularly, the information provided in the advertisements have been shown to have a greater impact on how individuals react to the message put forth by said advertising [23]. When customers are provided with abundant information regarding the products or services or specific aspects about them, it is thought that the increased knowledge will correspond to the product being perceived as important. Therefore, a lack of information regarding green credentials or knowledge concerning the importance of environmentally

safe products may result in consumers not considering such standards as necessary [24].

The opinions of peers and family along with the general awareness and attitudes of individuals within the consumer's community play a large role in the relative importance, and in turn the actions taken with regard to making purchase decisions. The behaviour of consumers and their long term as well as short term purchase decisions have seen to sway heavily as a result of social influences. The sentiments they carry concerning concepts such as green purchasing depend on the facts and opinions they gather from numerous sources within their society. Despite the many available sources of information, social groups have been shown to have a large impact on consumers' introduction to new products and whether they will continue to purchase a certain type of product or service [25]. A study pertaining to human psychology has established that social influence takes place when an individual's opinions, ways of behaviour and emotions are affected by others [26]. These influences can be seen in many occasions and are visible under a number of conditions such as an individual's need to comply with a certain ideology or viewpoint in the society and the need to be part of an exclusive/elite minority group, which requires the adoptions of that group's ideals.

Therefore, it can be argued that changes in an individual's personal values and ideas, their feelings regarding issues such as environmentalism, the attitudes they harbour in response to such issues, and their individual thinking may be significantly altered as a result of social influences [27]. Usually, the influencer group or individual will be regarded as knowing and possessing more information regarding the issue in question. Pressures brought on by one's peers may act as a strong influencer in decision making process even if the individual does not fully agree with the said decisions, purely in order to 'fit in' or be agreeable within the peer group. The scenario of influence takes place when the individual's ideals as well as that of the social group correlate with one another [26]. As stated in the social impact theory, the degree to which the views and decisions of the individual are affected rely upon three key factors; the authority or power the group or individual influencer may have over the individual, the way in which the influencer presents him/herselves to the consumer at the point of making purchase decisions, and the size and magnitude of the group of influencers [28].

Furthermore, with the development of social media and online networking there are now a plethora of avenues from which individuals are able to collect and receive data that will influence their decisions, as well as making it increasingly easier for consumers to find those with similar viewpoints and interests. Despite all of these channels being available, consumers are shown to be the most swayed by opinions of peers and fellow consumers found on social media sites, forums, etc., as opposed to information provided and spread by marketers which influenced them to a much lesser degree [29].

In the majority of cases, environmentally safer alternatives to traditional products will charge a higher price generally owing to the increased costs suffered due to factors such as the costs involved in obtaining environmental safety certifications, materials required as well as costs of the processes involved in the development and production. It has been shown that certain consumers are prepared to pay a higher price for goods and services which have recognised environmental safety labelling while they were not prepared to pay more for goods with green claims made by the manufacturers [30]. Customer perception of value associated to the green products when compared to their regular alternatives (e.g., quality-price) has an impact on consumers' green purchase selections [31].

The benefits proposed by the environmentally safe alternatives to traditional products will have to be compared by taking into account the higher prices associated with the former in order to understand the cost-benefit ratio of the transition toward a better environment. Subsequently, provided the green substitute is perceived as offering equal or better value, customers' decision whether to purchase the green substitute despite their higher price [32]. A survey carried out by JWT, an advertising firm, found that 82% of those who took part stated that they were willing to pay at least 5% extra in price for a product that was greener than the traditional products [33]. A report consisting of focus group interviews carried out in the United States by Progressive Grocer [34] concluded that consumers were either prepared to pay a higher price for a greener product only if they liked the product, or if the product could be comparable to, and had equal quality as the regular alternative, and in some cases they were unprepared to pay extra for a greener product at all. Studies appear to suggest that only when consumers hold strong green sentiments will they be prepared to purchase higher priced goods for the sake of environmental safety [35].

Following the review of the literature, it appears the governments, pressure groups and organisations need to make further efforts to inform consumers of the need to switch to more environmentally safe goods and services. There appear to be three main factors which influence the purchase and wider adoption of green purchasing; knowledge about the products and their impact on the environment, persistent social influences and general attitudes towards green purchasing within the society, and the price consumers are willing to pay for greener alternatives. It seems that there is a disparity between consumers' intentions of saving the environment and the actual purchase of green goods and services. Furthermore, there is a lack of social influences to motivate consumers in to making more environmentally safe purchases. This research project will be investigating these factors within the market of Singapore in order to understand whether these factors apply to Singapore or if other unique trends and factors are present.

Research Design and Methodology

In order to acquire the necessary information to ascertain the effect of environmental degradation on consumers' purchasing decision, an exploratory study has been conducted using a self-completion survey. The information obtained using the survey collected both qualitative and quantitative data required to reach conclusions. An Inductive approach will be used to analyse the collected data in order to reach conclusions based solely on the sentiments reflected through answers collected by means of the survey.

The questionnaire used for this survey was aimed at consumers of all ages and occupations living in within Singapore. A total of 116 respondents completed the survey. The respondents were chosen at random as the survey was conducted online by sharing it on a social media platform where respondents could chose to take part in the survey. In doing so, biases that may have been present if the candidates were hand-picked (e.g., street survey) have been avoided. However, as a result of this method there has been a disproportionate representation of opinions by certain age groups over others.

The questionnaire consisted of thirteen questions, which addressed three key themes pertaining to; the knowledge of green products, social influences on purchasing and the influence of price on decisions made by consumers. Of the thirteen, eleven questions were designed to be quantitative in order to compare and analyse

statistically the trends relating to opinions held by consumers within the Singapore market. Two questions were designed to be qualitative in order to avail respondents the opportunity to describe at detail the factors which influence their attitudes and purchases. In providing these questions it was possible to obtain new information and sentiments that were not previously considered when designing the quantitative questions.

The survey was carried out online as it was considered the most effective method of reaching the widest possible audience. This method was chosen over more traditional methods such as postal surveys or in-street surveys as these methods would be much more time consuming and cost intensive compared to an online survey which could cover a large geographical area and be much more convenient for the collection of data. Furthermore, the data collected by said online survey would be stored digitally, avoiding the need to manually re-enter collected data in order to analyse them as would be necessary with the other two types of survey.

Certain limitations were experienced in the collection of data. As there was no control over the selection of correspondents, a vast majority of the candidates who completed the survey appear to be between the ages of 18-30. As a result of this, the data analysed in this study may not adequately reflect the sentiments of buyers outside of the said age group. Difficulties were experienced in obtaining more candidates to take part in the survey as many individuals were unwilling to complete the survey as there was no incentive to do so. Due to the relatively small size of the respondent group, some conclusions derived from the data may be more, or less pronounced compared to what may be imagined as an 'average' attitude in Singapore.

Findings and Analysis

Of the 116 respondents in the survey, 64% of participants in this survey fell between the ages of 18-24 while a further 20% were within the 25-30 group, and the balance distributed among the other groups. Of these participants, 91% possessed at least a college diploma among which 42% possessed a level of education equivalent to an undergraduate degree or higher. Gender wise, 55% of the respondents were male.

The eleven questions in this section have covered the three main themes of this survey which are; consumer knowledge regarding green purchasing, social influences on purchase choices and the impact price has on the decisions consumers make in choosing green products or their regular

alternatives. With regard to attitudes towards environmental protection, 55% of participants stated that environmental protection issues were important to them and that they were willing to spending more on products which are green. 24% stated that they would like to see the government spending more time and effort to introduce and improve on environmental protection measures. It must be stated that among the 55% of candidates who were prepared to pay extra for green products, 94% said they possessed either an above average knowledge on environmental issues or claimed they were 'fully' aware of the issues which are plaguing the globe. 11% of respondents claimed that they 'agreed' with the statement that environmental issues did not concern them with regard to making environmental protection efforts. With this data it can be postulated that consumers who have a better knowledge of environmental issues were prepared more than others to pay extra for environmentally safe products. Of all of the participants that were polled, only 16% claimed that they had bought an environmentally friendly product within a week of participating in the survey.

With reference to social influences on purchase decisions of consumers, 67% of participants agreed that they would purchase environmentally safe products provided that either their family and/or friends have made the decision to buy green products. Social attitudes towards environmental issues are shown to moderately influence 42% of consumers' purchase decisions while 41% said they were not influenced by social attitudes at all. A lower 17% of participants stated that the current social attitudes are a 'major influence' to their purchase decisions. However, the attitudes persistent in society around the consumers do not seem to have a large influencing effect on the participants from Singapore as opposed to studies conducted in many other countries where it was seen to be a major influencer. Despite the positive sentiments regarding green purchase decisions, only a minor 21% of participants said that they had purchased a green good or service within the last three months. These observations reflect the studies carried out around the globe where it was seen that despite the green sentiments held by consumers, they rarely turn in to green purchase behaviour at the point of consumption.

The price of green goods and services appears to be one of the major influencing factors in affected green purchase behaviour. The attitudes in Singapore seem to reflect a similar pattern with 49% of candidates stating that the price is very important to them. However, 18% stated that it

did not matter to them if the price is higher. Of the 79% of individuals who said they were concerned about the environment only 31% stated either that they would make green purchases if the price was not much higher than the regular alternative or that the price did not matter to them. It can be concluded that consumers are generally influenced by the price of green products.

Of all the responses collected a very low 5% stated that either most or all of their purchases were environmentally friendly. From this it can be postulated that despite knowledge of environmental issues and social influences playing a large part in a consumer's purchase decision, if the price of the product is higher than the perceived value of it compared to its traditional alternative, consumers will prefer to make the more cost effective purchase. Conversely, there appears to be a small minority of individuals who are committed to making green and environmentally conscious purchase decisions despite higher prices. Some individuals appear to be thusly motivated either due to environmental concerns or influences by their family and peers.

The open questions were included in the study in order to obtain more detailed information regarding the factors aiding/preventing consumers' green purchase decisions, as well as to avail the candidates the opportunity to provide descriptive information regarding any factors affecting their decisions. Approximately 17% of responses to these questions were not factored in to the analysis as most of the answers were either very short (e.g., one word or two) or were incoherent. Upon examining the qualitative questions of all of the survey, it was seen that the concerns addressed by consumers could be classed under three main categories which are; the lack of advertising of green products, concerns regarding the quality of green products, and the unavailability of green alternatives for certain categories of products.

The main concern stated by a vast majority of the participants was the fact that there was a lack of advertising to promote greater awareness and influence purchase of green products. Information relating to the products and their impact on the environment (i.e. green credentials) has been inadequate. As stated by one of the participants "Commercials of the green products aren't seen even in the city (e.g. bus stands, Mass Rapid Transit stations etc.)". If advertising and information campaigns could create more awareness to consumer on how the green products could bring benefits to the environment, they

might increase the demand for green products, *ceteris paribus*.

There appears to be a large gap in consumer's knowledge regarding the quality of green products. It was mentioned in many responses that their decision to make greener choices of certain products have been hindered by the lack of information regarding the quality of the green alternatives to products that they use traditionally. "There is a lack of information readily available and cannot be easily found" said one candidate. There appear to be doubts regarding the ease of use of green products as opposed to regular alternatives as well.

A lack of widespread availability of green products and services as opposed to regular alternatives has been noted by some of the respondents. Due to the lack of such products, consumers have but to choice to continue buying and using the standard products for the simple reason that the consumers do not wish to be inconvenienced of not being able to reap the benefits of consumption. The lack of stores selling greener products has also been noted. "Still not much environmentally safe products are selling in all stores." answered one consumer. Respondents appear to be averse to travelling long distances merely so they can purchase a greener alternative. Convenience could therefore influence one's decisions to switch to green alternatives [36,37].

Discussion and Conclusion

There have been studies carried out in many countries with varying sample groups in order to determine the relationship that exists between consumers' green purchase intentions and the transformation of the intentions in to purchase behaviour. This study was carried out in order to address the gap in information which exists regarding the matter within Singapore.

The qualitative information collected regarding consumer choices provide an insight into factors that were not previously factored in as influencing forces. It can be hypothesised that the consumer decisions in Singapore are not only influenced by such factors as price, social influence and environmental knowledge, but that these factors may be augmented by aspects such as green product quality concerns, lack of advertising and the lack of widespread availability of green products. The green purchase intentions customers hold within Singapore are not converted in to purchase decisions to a significant degree. There are too many factors consumers

regard as more important to their ultimate purchase decision despite the strong environmental convictions they hold.

There is a strong desire for organisations and governments to realign already prevalent promotional approaches towards more environment friendly strategies. This line of thought has not fully been developed and marketing aimed at promoting environmental safety requires much more maturity both in the field of research and practice. Despite the strong empirical evidence to show that customers hold favourable beliefs and attitude regarding the environment, it has been found that there is a certain degree of reluctance shown by consumers to commit to green purchase decisions. It is worthwhile for the government and private sector organisations to place more attention and effort to

formulate, implement and evaluate green marketing strategies. To complement the efforts, green advertising as well as branding and packaging should be developed and capitalised upon.

The conclusions reached in this study should be generalised with caution as it focusses only on the opinions of a small sample of respondents within Singapore. The attitudes and green purchase intentions of consumers may vary depending on the product or service in question. Such specifics have not been explored in this study and may be done in further researches. In order to overcome the limitations incurred by this study, those carried out in the future may include larger sample sizes, explore different underlying theories, and conduct studies into specific products.

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