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"Consumer Recycling Practices in Greece"

by

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Abstract

This qualitative study examined consumers' attitudes towards recycling and investigated the factors affecting their waste recycling behaviour. In-depth interviews were conducted aiming to explore attitudes, motivations and behaviours of 30 interviewees in Thessaloniki, Greece. The study analyses the information obtained on environmental issues and perceptions towards recycling and presents the factors that appear to influence and determine consumers' recycling behaviour. The findings revealed several such factors including: social forces and communication, incentives, the individual's moral values and knowledge about environmental issues, as well as their level of satisfaction regarding the logistics service. The analysis showed that there is a high level of domestic waste recycling awareness which is accompanied with a relatively high level of household participation in recycling. The importance of continuously informing consumers about the positive environmental results of waste recycling is revealed and highlighted. Also, a model of factors affecting positively the recycling behaviour of interviewees and areas for further research are provided.

CHAPTER 1

Orientation

1.1 Introduction

Sustainable development is a concept that has been discussed extensively over the last 20 years (Michael Massey, 2007). Both environmentalists and politicians seem to have comprehended the importance of achieving sustainable development through a strategic framework of coordinated actions *(ibid).* The Report of the World Commission on Environment and Development: Our Common Future (WCED, 1987), in Chapter 2 defines sustainable development as follows: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs". According to WCED (1987) both national and international action should be taken in order to achieve harmony between humans and nature. Furthermore, the requirement for achieving such a goal is the examination and transformation of not only the fundamentals of society but also the existence of a social, economic, political, technological and production system(s) that will foster these actions on development.

The concept of waste has to be carefully examined since it constitutes an issue that has to be correctly managed in order to contribute to the protection of the ecosystem and the achievement of sustainable development. In many countries, the modern lifestyles are characterised by high levels of consumption which generate massive amounts of waste (Palmer, 1998). Usually, most of countries use landfills as a means to handle their waste. These landfills, however, have proved to be inefficient to cover the needs of the countries' waste disposal. Many landfills across the world have reached their full capacity and have had to be closed (Lee, 2008). As a result, countries face a huge challenge in finding and adopting an effective waste management system.

Recycling has been largely accepted as a means of achieving waste minimisation. For instance, legislation in many European countries supports recycling. England, in search for a strategy has decided on waste minimisation through the production stage, as well as recycling (Strategy Unit, 2002).

To effectively manage domestic waste, consumers should be also aligned with the process of recycling. That may become feasible if recycling is regarded as a better option in comparison to other ways of waste disposal, such as incineration and use of landfills. For this reason, education on environmental issues is of great importance, as it ensures consumers learn how, why, where and when to recycle. Thus, recycling should be highlighted and promoted not only as being a practice to reduce the amount of waste that ends up in landfills but also as a way to protect and preserve natural resources. This is largely because by using recycled products and/or materials means there is no need to use new resources during the production process. Every consumer should be aware of the fact that "By recycling 1 plastic bottle not only saves anywhere from 100 to 1000 years in the landfill but also saves the environment from the emissions in producing new bottles as well as the oil used to produce that bottle". (Unknown, 2008).

As research on consumers' recycling behaviour in Greece is scarce (Tilikidou and Delistavrou, 2007), there is a need to investigate the recycling behaviour of Greek households. This paper, recognising the role that households can play in fostering recycling, aims to investigate the participation in domestic waste recycling in Thessaloniki, which is the second largest urban centre in Greece. Evidence is drawn from a review of the literature on recycling and consumer behaviour, as well as from a study that was conducted in Thessaloniki which explored the factors that affect the interviewees' attitudes and behaviours towards domestic waste recycling. In particular, the effects of a set of factors, such as the level of interviewees' awareness, as well as their level of satisfaction regarding the availability of recycling facilities and the logistics service in their neighbourhoods are investigated. Further, knowledge on environmental issues, moral values and economic incentives, as well as how social forces and communication affect the interviewees' recycling behaviour are examined. The objective of this study is to find out which of these factors constitute motives and which obstacles for the interviewees' recycling behaviour and to reveal the views and aspirations of both people who do and do not recycle.

In comparison to other research that used quantitative techniques to examine citizens' recycling conduct (Boldero, 1995; Corral-Verdugo, 1996; McCarty and Shrum, 2001), this study differs in that it applies qualitative methods in order to develop an understanding of consumers' recycling behaviour.

According to Andreasen (1995), investigating the factors that affect consumers' recycling behaviour, assists in building an effective marketing plan. It is expected that the outcomes of this research will not only provide a framework to reinforce existing literature but will also contribute significantly in giving marketers important information that they can use in their decision-making. It is also possible that the current research might increase the householders' intentions to recycle domestic waste by creating awareness and encouraging environmentally responsible action.

The structure of this dissertation is organised as follows: this section (chapter 1) presents the introduction, whereas the next section (chapter 2) presents the literature relating to recycling behaviour and the factors that affect it. Environmental beliefs and attitudes towards recycling, the logistics service provided to consumers, as well as the demographic characteristics are some of the factors examined in consumers' recycling behaviour. The research methods are described in chapter 3, including information on site selection, methodology, the study sample, data collection and analysis. The findings of the study are presented in chapter 4. This is followed in chapter 5 by the discussion of the findings drawn from the study and a proposed model of factors that was found to positively affect the interviewees' recycling behaviour is presented. Finally, the limitations of the study along with directions for further research are provided in chapter 6.

CHAPTER 2

Literature Review

2.1 Introduction

Many research studies have been conducted over the past 20 years on the 'green' consumer and their recycling behaviour (e.g., DeYoung, 1986; Guerin *et al*., 2001). Although the research about why people do and do not participate in recycling is extensive, the results are frequently contradictory. For example, Ball and Lawson (1990), as well as Biswas *et al* (2000) claim that the younger generation recycle less than older people. At the same time, Arcury and Christianson (1990) found that the younger generation is more knowledgeable and concerned about environmental problems. Other research attempts, basing their survey on demographic variables, claim that there is no significant difference between the young and old (Oskamp *et al*., 1991), which means that age may not be a factor that could explain consumers' recycling behaviour.

Theories that could be used in order to explain and predict the behaviour of consumers regarding their recycling behaviour might be: the Theory of Reasoned Action (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980), the Theory of Planned Behaviour (Ajzen, 1991), and Schwartz's Model of Altruistic Behaviour (1970, 1977). A description of these theories is presented as follows.

2.2 Theory of Reasoned Action

According to the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980) available information could be the basis for behavioural decisions taken by individuals. TRA suggests that recycling is determined by people's intention to recycle because people before actually setting about doing something they first form the intention to do it. Therefore, it is absolutely necessary to measure beliefs, norms and intentions to recycle in order to predict that someone will recycle household waste on a regular basis. This intention has two determinants: attitude towards the behaviour and social norm. Attitude towards the behaviour refers to how

positively or not individuals evaluate a specific behaviour (e.g. recycling). Social norm refers to the degree individuals are pressed to perform a specific behaviour.

Figure 1 explains schematically the Theory of Reasoned Action (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980)

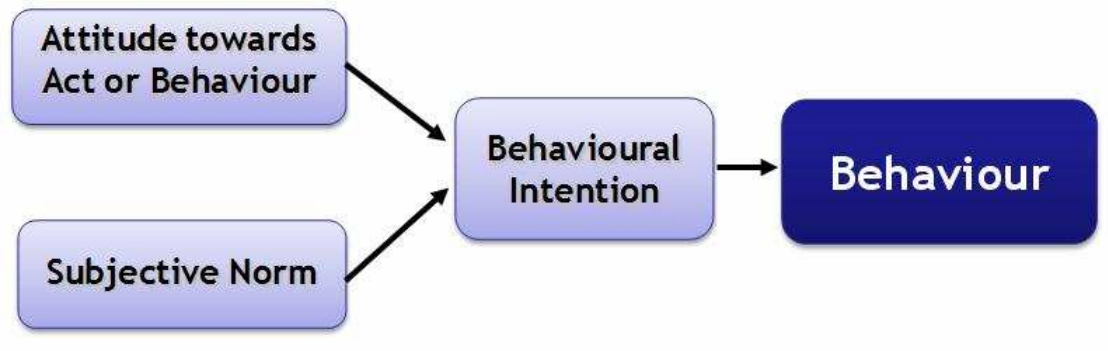


Figure 1: Theory of Reasoned Action as adapted from Fishbein and Ajzen (1975).

However, TRA is not without criticism. According to Foxall (1997b), there are three points which make clear the limitations of the theory. The first one refers to the fact that the TRA does not take into consideration any factors that are not related to the attitude to predict the individuals' behaviour. The second one has to do with the fact that the theory focuses on predicting the behaviour and not the outcomes of the behaviours. Finally, the third point refers to the intentions which are presented by the TRA as the mediator of attitudes on behaviours. Bagozzi and Yi, (1989) claim that intentions play the role of the mediator only when these are formed correctly. Otherwise intentions are simply omitted (*ibid*).

2.3 Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB), (Ajzen, 1991) is an extension of the Theory of Reasoned Action (TRA). TPB actually uses one added factor in comparison to TRA, which is the perceived behavioural control. This is defined as the person's belief about how easy or difficult it is to perform the behaviour. The attitudes towards the behaviour, the subjective norm and the perceived behavioural control are the three concepts that determine the behavioural intention. According to Cheung *et al*. (1999),

these three concepts are effective in predicting both behavioural intention and actual behaviour.

Normative beliefs constitute one more element in the Theory of Planned Behaviour, which was examined by Ajzen (1991) in his attempt to find any correlation between normative beliefs, and subjective norms. Normative behaviours were found to constitute factors that determine the individual's behaviour, especially when there is no motivation to comply.

Referring to the recycling framework, Hopper and Nielsen (1991) found that recycling is increased when people are encouraged by their neighbours to recycle. In addition, McKenzie-Mohr *et al*. (1995) supported that kerbside recycling containers play a vital role in the enhancement of the community norms towards recycling. In contrast, Taylor and Todd (1995) found that social forces, such as the family or neighbours may not actually play an important role in motivating individuals to recycle. Research has also been conducted about the persuasive communication effects on recycling. The Elaboration Likelihood Model (Petty and Cacioppo, 1986) helps in understanding why and how people respond to the recycling activity as far as face-to-face and mass communication is concerned. It must be mentioned that since the evidence regarding the impact of social norms and communication in predicting the recycling behaviour is contradictory, further research in this field is necessary.

The role of past behaviour is also included within the context of the Theory of Planned Behaviour since it is a measure applied in examining the theory's validation on predicting individual behaviour. Concerning recycling behaviour, Gamba and Oskamp (1994) and Vining and Ebreo (1990/1992) found that although many consumers seem to claim that they are environmentally concerned and that they do recycle, many times, this concern does not lead to actual participation in recycling. For this reason, it is important to measure past recycling experience as a means to predict future recycling behaviour. According to Bagozzi and Dabholkar (1994), recycling attitudes may not be as effective in predicting individuals' intention to recycle as past recycling experience. Boldero (1995) supports the effectiveness of prior recycling experience in predicting recycling behaviour. Vining and Ebreo (1992), as well as Oskamp *et al* (1998) and Guerin *et al*. (2001), found that there is a significant relationship between environmental sensitivity and participation in recycling, in contrast with Gamba and Oskamp (1994); Oskamp *et al*. (1991); Vining and Ebreo (1990/1992), who did not find influences between environmental concern

and recycling behaviour. For this reason individuals' statements regarding environmental sensitivity and its effect on recycling behaviour should be examined carefully along with the ability of past behaviours to predict future ones.

The Theory of Planned Behaviour also has some limitations. The sufficiency of the theory has attracted much attention and has been examined by many researchers. Ajzen (1991) has stated that TPB could be further elaborated if some new determinants are included. According to Foxall, (1997b) the Theory of Planned Behaviour adds only one new element in comparison to its predecessor Theory of Reasoned Action. Perhaps TPB ought to have used more than one new element since it is well known that the existence of many variables increases the predictive power of the models that use them (Foxall, 1997b). Figure 2 explains schematically the Theory of Planned Behaviour (Ajzen, 1991).

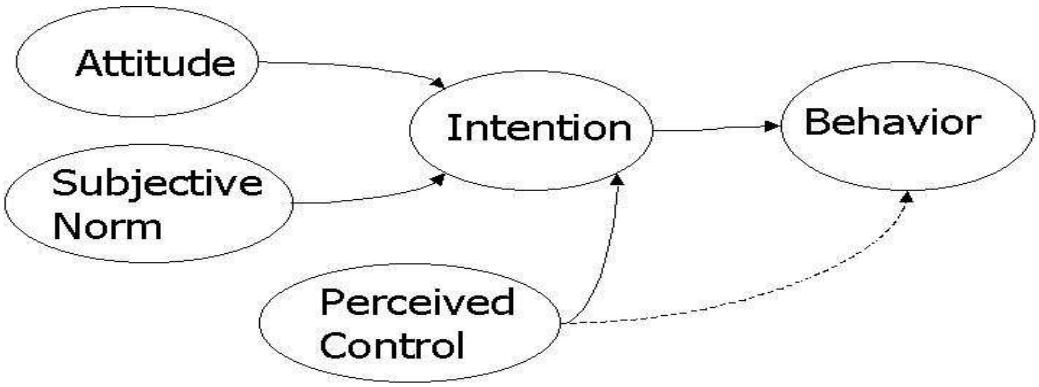


Figure 2: Theory of Planned Behaviour as adapted from Ajzen (1991, p.182).

2.4 Motives and the Altruistic Behaviour Model

Schwartz's Model (1970, 1977) of Altruistic Behaviour describes how people adopt social norms, such as values and attitudes that are dictated by family or neighbours. The central idea of this model is that there is no direct influence of the social norms on individual behaviour. It is the individual's norms of altruistic behaviour that have the role of mediator. Referring to the recycling framework, the idea of personal norms is translated into the individuals' action to recycle because they feel that this is the right thing to do. In other words, people who feel that they must recycle will do it only if they feel personally responsible for the positive results of their actions. Moreover, Schwartz's Model (1970, 1977) claims that only personal responsibility and awareness of the consequences can lead to a successful cause-effect link between personal and social norms. In the case of recycling that means that people will engage in the act only if they believe that this action will bring a positive outcome and they feel that they personally have contributed to this.

Bratt (1999) and Hopper and Nielsen (1991) confirmed the relationship between social norms and recycling behaviour with the use of personal norms as a mediator. On the other hand, Howenstine (1993) reached the conclusion that two attitudes, which were defined as "indifference" and "nuisance", could negatively influence recycling behaviour.

Schwartz is one in a number who has attempted to investigate the relationship between motives and recycling. As far as intrinsic motivation is concerned, DeYoung (1986) found that recyclers, through the activity of recycling, satisfy themselves by avoiding wasteful practices and by feeling that they will make a difference in the long term. DeYoung (1988/1989) also found that the intrinsic motivators of frugality and participation could influence recycling behaviour. Oskamp *et al*. (1991) reports that intrinsic motives, which are related to frugality and participation, could predict recycling actions and differentiate recyclers from non-recyclers.

Referring to economic incentives, as for example, getting money back in exchange for the return of bottles and other recyclables, Frey and Oberholzer-Gee (1997) claimed that this may prove to be an ineffective tool, since monetary incentives undermine people's ability to act when driven by moral values. According to Jacobs and Bailey (1982/1983), and Katzev and Pardini (1987/1988), brochures, coupons, money and prizes could be used in order to reinforce recycling behaviour, although

these reinforcers sometimes fail to accomplish their goal (Jacobs, Bailey, and Crews, 1984; Pardini and Katzev, 1983/1984; Spaccarelli, Zolik, and Jason, 1989/1990). On the other hand, some researchers claim that even if these reinforcers manage to activate people's recycling behaviour, this only happens so long as they exist (Geller *et al*., 1982; Katzev and Johnson, 1983; Stern and Oskamp, 1987). After they are removed, it appears that recycling behaviour returns to its normal levels (*ibid*).

It seems that motivation is a very sensitive issue and must be approached in a careful manner. Perhaps, since for many consumers, recycling behaviour is closely related to intrinsic values, the use of incentives should only take place if it ensures the absolute engagement in recycling practises and at the same time, it prevents their discouragement.

2.5 Empirical findings

Previous studies have shown that the factors that are most commonly identified to influence recycling behaviour are: a) environmental values; b) situational factors; and c) psychological variables. These issues are not exhaustive as others can also affect the individual's recycling behaviour. Analysis of these elements is presented below.

Referring to environmental values, Stern *et al*. (1995) found that people who are environmentally friendly have a tendency to more easily accept changes in society. Moreover, Steel (1996) found that individuals who are more pro-environmental tend to be more "biospheric", which means that they believe in an equal relationship between humans and nature. This suggests that these people would treat nature the way they would react to and care for other human beings.

As far as situational factors are concerned, Derksen and Gartell (1993) and Guagnano *et al*. (1995) found that service provision structures (like kerbside recycling), is of great importance. Hines *et al*. (1987) found that demographics may influence recycling. Knowledge and experience could also explain intentions to recycle. Schahn and Holzer (1991) identified two knowledge types, the 'abstract' and the 'concrete'. The first term refers to knowledge of the problem and the second to knowledge that there is need for action. Referring to the recycling framework, the 'abstract' type refers to knowledge of the environmental problem and the 'concrete'

type to knowledge that there is need for recycling in order to act and solve the problem.

The psychological variables and especially the values and beliefs of individuals can also affect recycling behaviour. For example, Hopper and Nielsen (1991) supported that the existence of altruistic attitudes is the power that leads people to act in the direction of solving an issue when they know that there is a specific problem.

Moreover, "response efficacy" according to Chan (1998) is the individual's belief that they have the power to change the situation in the state of the environment. Chan (2001) and Tucker (1999) have demonstrated how personal characteristics and feelings can modify recycling behaviour. Shrum, Lowrey, and McCarty (1995) claimed that the individuals who recycle tend to believe and pay more attention to self actualisation - type values, such as self-respect, inner harmony and the feeling of accomplishment, than to having a prosperous life. McCarty and Shrum (2001) claimed that recycling is altruistic, so values should play a crucial role in forming attitudes towards it. According to Hines *et al.*, (1986) the values found to be important to recyclers include a feeling of personal responsibility towards the environment. Thogersen (1996) also supported that the individuals who participate in recycling feel and act as socially responsible members. Altruistic values and satisfaction from living frugally are the most crucial according to Granzin and Olsen, (1991), whereas Shrum *et al.*, (1996), Tilikidou and Delistavrou, (2001) found that values that influence consumers' attitudes are: helpfulness and accomplishment, respect and achievement, self-actualisation and aesthetics, and a collectivist as opposed to an individualist orientation. Thøgersen and Grunert-Beckmann (1997) conducted a study to measure values, beliefs, attitudes and behaviour towards recycling. Their results confirmed that recycling was seen as a moral behaviour. For Ackerman (1997) individuals undertake recycling activities when driven by moral values. According to Heberlein (1975) the personal norms are moral attitudes that are defined not only by common norms set by a society, but also by the individual's self-concept. Recycling behaviour can be seen as a part of the individual's personal norms since it is a widely acceptable behaviour that can generate positive feelings.

2.6 The role of demographics in determining recycling behaviour

Although demographic variables have provided little explanation for predicting the recycling behaviour of consumers (Vining and Ebreo, 1990 and Oskamp *et al*., 1991), some general conclusions regarding demographics and recycling behaviour can be stated from the findings of numerous studies.

One such is the lack of association between gender and recycling behaviour which many researchers have examined (Gamba and Oskamp, 1994; Hopper and Nielsen, 1991; Oskamp *et al*., 1991; Vining and Ebreo, 1990).

Furthermore, according to the findings of the studies undertaken by Corral-Verdugo (1996), Oskamp *et al*. (1991) and Werner and Makela (1998), there is no significant relationship between consumers' age and their recycling behaviour although other studies have revealed a positive association between the two variables (Derksen and Gartrell, 1993; Gamba and Oskamp, 1994; Scott, 1999; Vining and Ebreo, 1990).

Higher education has been found to influence recycling behaviour positively (Derksen and Gartrell, 1993; Jacobs *et al*., 1984; Owens, Dickerson, and Macintosh, 2000; Vining and Ebreo, 1990), whereas other studies show that it is not significant (Gamba and Oskamp, 1994; Hopper and Nielsen, 1991; Oskamp *et al*., 1991; Corral-Verdugo, 1996).

Finally, the individual's income has been found to play a significant role on predicting recycling behaviour. Higher income level consumers tend to engage more frequently in recycling behaviour (Berger, 1997; Jacobs *et al*., 1984; Owens *et al*., 2000; Vining and Ebreo, 1990).

On the whole, since results have been relatively contradictory in examining the relationship between recycling and the individual's demographics, it goes without saying that further research is considered necessary.

2.7 The role of knowledge in determining recycling behaviour

Referring to the concept of knowledge, Pieters (1991) claimed that although there is knowledge about the place, the time and the way that consumers usually follow in order to recycle, research related to consumers' knowledge has failed to provide sufficient explanations about the reasons why consumers do not recycle. Oskamp *et*

al. (1991) found that consumers who recycle tend to be more knowledgeable on environmental issues than those who did not. Unfortunately, these findings were not sufficient enough to predict the recycling behaviour of consumers.

Vining and Ebreo (1990) have also indicated that recyclers have the ability to identify specific recyclable materials in contrast to those who do not recycle. However, it is not that clear if this knowledge actually plays an essential role in influencing their recycling behaviour. Gardner and Stern (1996) supported that the lack of information constitutes an obstacle for consumers to act. Bagozzi (1992) supported that although knowledge is necessary for action, it is important to demonstrate how it can lead to action because otherwise it will remain a distal and debatable cause.

2.8 The role of logistics in determining recycling behaviour

Consumer participation in recycling has also been shown to be influenced by the logistics service provided to consumers as well as convenience, such as the proximity of the bins. Vining and Ebreo (1990) identified the existence of available time to recycle and storage space in houses to be significant factors in affecting recyclers' behaviour. De Young (1989), and Derksen and Gartrell (1993) have also pointed out the importance of sufficient storage space in houses. In contrast, Corral-Verdugo (1996) supported that the existence of too much space for recycling materials in households is perceived as an opportunity to consume more rather than it enhancing recycling behaviour.

The proximity of containers, usually provided by the municipalities, from the individual's house is one more factor that has been found to determine and improve recycling behaviour (Cummings, 1977; Luyben and Bailey, 1979; Reid, Luyben, Rawers, and Bailey, 1976; Ludwig, Gray, and Rowell, 1998; Witmer and Geller, 1976).

Finally, engaging in recycling has also been promoted through informing consumers on the benefits of recycling and how they should go about it (De Young, 1989/1990, 1990; Folz, 1991; Jacobs, Bailey, and Crews, 1984; Reid *et al*., 1976; Leroux, 2000; Thogersen, 1994; Vinning and Ebreo, 1989; Burn and Oskamp, 1986).

CHAPTER 3

Research Design

3.1 Introduction

The purpose of this study is to provide a better understanding of the Greek consumers' recycling intentions. Methodological issues, such as selection of the site, sampling and data collection procedures, and methods will be discussed as follows.

3.2 Selection of the site

As demonstrated in the literature review, there are many issues regarding recycling behaviour which still appear to be relatively ambiguous (Davies *et al.*, 2002). The present study attempts to reveal the most important determinants of the Greek consumers' recycling behaviour.

The study focuses on the examination of whether there are any differences between recyclers and non-recyclers. For example, knowledge and values of recycling, recycling availability of facilities and economic incentives are some of the factors explored as indicated by prior empirical and theoretical findings.

3.3 Methods

Concerning the methods applied, a qualitative research approach was adopted for the purposes of this study. Qualitative research was preferred in order to extract in-depth information that may be difficult to reach using quantitative methods (Strauss and Corbin, 1990). A further important reason why qualitative research was used, is because it enables the use of expressive language and the "presence of voice in the text" (Eisner, 1991, p. 36).

In-depth face-to-face interviews were used for the data collection as they offer the interviewer the opportunity to modify the interview guide and to focus on areas of great importance in order to yield rich and detailed material (Lofland and Lofland,

1984). Interviews also enable the exclusion of some questions, in the case where the interviewer considers them to be unproductive for the objectives of the research (*ibid*). Moreover, this procedure offers the researcher the opportunity to explore the topic and clarify questions in order to receive useful responses. In-depth interviews were also used for the aim of this study instead of other methods used in surveys (e.g., statistical analysis) because they offer the opportunity of interpersonal contact and elaboration on interviewees' interesting comments (Rubin, HJ., Rubin, IS., 2004). According to Cronbach (1975) it is usually difficult for statistical research to fully approach and evaluate the interaction effects that take place in society. Cronbach *(ibid)* states that "the time has come to exorcise the null hypothesis" (p.124) for reasons that it may ignore results that are not statistically significant but are still of importance.

The use of open-ended questionnaires aims to facilitate both the process of the interviews and to obtain unbiased information from the interviewees (Santos, J. Reynaldo A.; Mitchell, Diann; Pope, Paul, 1999). Anonymity was preserved at all times in the present study. For this reason the structure of open-ended questionnaires, generally, plays a vital role in ensuring the avoidance of errors and bias. A copy of the study questionnaire is in Appendix 1.

3.4 Sampling and Data collection

The period of time during which the data was collected was one month. Thirty (30) males and females were interviewed, who came from the whole area of Thessaloniki. Even though the sampling method used was the snowball sampling process, the interviewees' demographic characteristics were diverse. In particular, differences were reported in the interviewees' age, gender, educational and income levels, as well as their work status, as shown in Table 1 (overleaf).

Table 1. Sample characteristics

Category	Description	No. of interviewees
Gender	Males	17
	Females	13
Age	20-30	12
	31-40	8
	41-50	5
	51-60	3
	61-70	2
Education	Elementary	5
	High school	7
	Technical institute	8
	University	10
Income level	High	8
	Medium	15
	Low	7
Work status	Employed	17
	Unemployed	10
	Retired	3

According to Patton (1990), the dominant form of sampling in qualitative research is the purposeful sampling because it seeks in-depth information. Patton (1990) also claims that there are 16 types of this kind of sampling, the most common of which are: typical case sampling, convenience sampling and snowball or chain sampling. Snowball sampling was used in this study. Faugier and Sargeant (1997), claim that this technique is a way to overcome access problems associated with vulnerable populations, such as criminals and isolated persons. For example, snowball sampling has been used in McNamara's study on prostitution (1994), as well as in Avico *et al's*, study (1998) on drug users. According to Hendricks, Blanken and Adriaans (1992), however, those researchers who conduct qualitative research can use snowball sampling because it offers practical advantages. Since the aim of this study was to explore interviewees' deeper insights regarding recycling, snowball sampling was used as it enables the production of in-depth results relatively quickly (Atkinson and Flint, 2001).

The interview guides of this study were sufficiently detailed, containing both open-ended and closed-ended questions. Closed-ended questions offered useful information on the demographic characteristics of the interviewees, as well as the availability of recycling facilities in their vicinity. More information on the checklist used can be found in Appendix 1.

The structure of the questionnaire aimed to help the interviewer explore not only the profile of the interviewees, in terms of demographic characteristics, but also their attitudes and intentions towards domestic waste recycling. For this reason, open-ended questions were used, which proved to be most useful in facilitating discussion between the interviewer and the interviewee. Factors such as the interviewees' level of knowledge and awareness regarding the relevance of recycling, as well as the level of satisfaction regarding the logistics service were investigated through well structured open-ended questions (see Appendix 1).

All thirty (30) interviews conducted, lasted for approximately forty (40) minutes and took place in the interviewees' residences. The researcher of the present study focused on making it easy and comfortable for the interviewees to freely express their deep inner thoughts. For this reason, the interview was flexible and the interviewer actively encouraged interviewees to elaborate on their interesting comments. The interviews were not tape recorded. In agreement with Glaser's (1998) view that the transcription process of the tape recorded interview is more time-consuming than at first apparent, all the responses were written down analytically. Seventeen (17) interviews were conducted in English and thirteen (13) were in Greek, which were then translated into English. The English text was also back-translated into Greek to guarantee accuracy of the translated text.

3.5 Data analysis

According to Bogdan and Biklen (1982) qualitative data analysis is "working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others" (p.145).

Following the in-depth interviews, the information was categorised in ways that would be helpful in interpreting the data to find the answers related to the study. This data was analysed using a grounded theory approach (Glaser and Strauss, 1967). Strauss and Corbin (1990) defined grounded theory as "[a] qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon" (p.24). The analysis of the data was broken down into 3 stages. The process of analysing the data began with the identification of

the issues that emerged from the interviewees' responses, which were then grouped into categories. In accordance with Strauss and Corbin (1990), this process is referred to as "open coding". In the next stage of the analysis, called "axial coding" *(ibid)*, the interviewer follows the activity of "making connections between a category and its sub-categories" (*ibid*, p. 97) trying to explore in more detail the interviewees' responses in order to be able to acquire a holistic view about the determinants of the interviewees' behaviour towards recycling. The final stage of analysis is the "selective coding" as referred to by Strauss and Corbin (1990) and involves the identification of the central idea from which the theory will emerge. The data collection and analysis came to an end when "theoretical saturation" (Glaser and Strauss, 1967) was achieved; meaning that the process of collection and analysis stopped when there were no new categories to emerge from the data.

The findings obtained from the data analysis reveal some indicative trends as far as individuals' recycling behaviour is concerned as well as the differences between recyclers and non recyclers in Thessaloniki. These findings are presented and discussed in chapters 4 and 5 respectively.

CHAPTER 4

Presentation of the Findings

4.1 Introduction

This chapter presents and discusses the results of consumers' attitudes towards domestic waste recycling in Thessaloniki. The findings are organised in five sections. The first refers to interviewees' awareness of waste recycling. The second section presents an analysis of general factors that affect interviewees' participation in recycling, such as the logistics service provided and the degree of knowledge on environmental issues. The third presents the findings of the investigation as regards the role of personal norms, such as moral values and the motives in enhancing or generating recycling activity. Finally, the fourth section presents the findings referring to social norms and how they appear to affect the recycling behaviour of the interviewees.

4.2 Domestic waste recycling awareness

Attempting to find out if the interviewees are aware of the importance of waste recycling, a general question was designed (Appendix 1, question 8). About 60% of the interviewees claimed that recycling is useful and it is related to the quality of the environment:

> "I believe that household waste recycling is important because each household produces an important amount of waste. So, if every household recycles, there would be a great reduction in environmental contamination and destruction".
>
> (Female, 26)

> “In my opinion recycling is very important. Not only because it’s the easiest way to help the environment and nature to recover but also because the natural resources are not infinite and we are not the one and only generation on the planet”.
>
> (Male, 32)

About 27% of the interviewees believe that household waste recycling reduces the amount of waste that will be disposed at rubbish dumps and so leads to a cleaner environment. On the other hand, 13% are of the opinion that recycling does not actually relate to environmental problems:

> “What I really believe is that recycling is just a chance for a lively discussion. 95% of waste is created during production which is designed in a way that 99% of the produced stuff will become trash within 6 months”.
>
> (Male, 27)

All of these findings, besides being very interesting, enhance the need to find out the relation of these responses to factors, such as the interviewees’ level of education, location, and income. The findings indicate a relatively high level of awareness as far as the importance of household waste recycling is concerned. However, they also reveal the need for a further increase of awareness in order to convince and enlarge the number of consumers who participate in recycling.

4.3 Factors affecting consumers’ participation in recycling

Logistics service and the interviewees’ degree of knowledge about environmental issues constitute factors that were found to affect their participation in recycling. These factors are presented and analysed as follows.

4.3.1 Logistics

The interviewees were also asked about the recycling facilities available in their neighbourhoods and the convenience provided to them, such as the proximity of the containers. The vast majority answered that there are recycling bins for different materials in their neighbourhoods, while only about 10% claimed that there are no recycling facilities in their local area:

> "There are no containers in our neighbourhood or in the neighbourhoods around, although I live in an urban area. The closest area that has containers is 15 km away".
>
> (Female, 32)

These findings indicate that there is a need for providing recycling facilities in every neighbourhood in Thessaloniki and especially in those areas with low income earners or with residents who live under the poverty line. In Europe, the consequences of poverty, as indicated by numerous studies (the EU-SILC survey, for instance), have a serious effect on waste creation and disposal, since, in poor urban areas there tends to be a higher concentration of people, resulting in greater amounts of waste.

Regarding the logistics service provided to consumers, the findings indicate that there are some areas in Thessaloniki where although the recycling bins are easily accessible to consumers, collection is not carried out on a regular basis. This may means that municipalities should take measures in order to avoid such phenomena since they create negative attitudes towards recycling:

> "The recycling bins are easily accessible to me, but most of the times the collectors do not come on time and so there is no space to place the materials I want to recycle".
>
> (Male, 26)

Statements like the previous ones indicate that recyclers of both sexes may be discouraged and this may lead to limited recycling activity. Although some studies have reported differences between the recycling behaviour of males and females, in this study, gender does not appear to play a role in determining participants' attitudes

towards recycling. More specifically, 78% of males and 77% of females stated that they were concerned about the environment and recycled. These findings suggest that a lack of recycling facilities would most likely affect the recycling behaviour of both males and females. As a result, gender does not appear to constitute a determinant in the interviewees' recycling behaviour in contrast to the level of their income. The vast majority (almost 98%) of individuals with high incomes participate in domestic waste recycling, whereas only 28% of those in the low income bracket recycle. The findings also indicate that 68% of the interviewees belonging to the middle category participate in recycling activities. This may suggest that it is not only the availability of recycling facilities that determine the recycling behaviour of consumers but other factors, such as income level. This may happen due to different access interviewees have to media and to services that offer information about recycling. It may also mean that there is a lack of appropriate educational programmes provided by the state to low income earners who are unable to live in rich neighbourhoods. One more factor that seems to discourage recycling activity and may need reviewing by the municipal authorities is the fact that a number of municipalities have decided to collect both recyclable and non-recyclable waste together. This is alarming since it generates negative attitudes towards recycling:

> "The municipality I belong to has decided to collect both recyclable and non-recyclable waste together, which means that the separation of them takes place a second time. This is something I find a little silly and it really makes me laugh when I wonder if this fact makes the non-recyclers feel like they are recyclers in a way".
>
> (Male, 32)

These negative attitudes may emerge because individuals believe that there is no reason to separate their waste and recycle it since it is all collected in the same containers simultaneously.

4.3.2 Knowledge

The concept of knowledge emerged through the interview process. Interviewees indicated that knowledge about the recycling process and its resulting benefits for the environment, determines their attitude towards recycling. However, this is not always the case as around 10% of consumers, although they are knowledgeable about environmental issues, do not recycle:

> "I do not recycle because I believe that recycling comes second as energy sufficiency is a more important issue by far. In many cases the production of environmentally-friendly materials and products needs too much energy. The recycling process needs energy too. What I really do is that I try to inform others on the important issue of energy sufficiency".
>
> (Male, 27)

This may happen due to the fact that these interviewees believe that recycling is not effective enough in protecting the environment in comparison to other practises.

The results also reveal that some knowledgeable interviewees do not recycle because they believe that they do not actually help the environment in doing so. In their opinion, factories and industries should carry all the responsibility:

> "Actually I stopped recycling. Although I am a strong environmentalist, I understood that the lion's share belongs to factories".
>
> (Male, 22)

This is a very important observation as not only does it create the need to discover whether or not the younger generation realises the importance of recycling, but also what can be done in order to convince young people to become recyclers. Furthermore, this finding could have implications for companies in adopting a more environmentally-friendly attitude and approach.

The data also indicate that about 12% of the interviewees do not recycle because of lack of knowledge or ignorance about the positive environmental aspects of recycling. An interesting observation emerges from these findings since people with little

education tend not to recycle, probably because they are not properly informed about the significance of recycling.

It is obvious that the educational level of the interviewees really affects their recycling behaviour. The findings indicate that there is a strong relationship between educational level and participation in domestic waste recycling. Almost all of the interviewees with university and technical institute education participate in recycling, whereas only a few with little education take part in recycling activities. Those with primary education and those with secondary education that participate in recycling are approximately 65% and 72% respectively. This means that people with lower levels of education tend to recycle relatively less than those with tertiary qualifications, which is possibly due to a lack of knowledge on environmental issues. This observation calls for a need to inform people about the positive environmental effects of waste recycling in order to convince them to participate in recycling.

4.4 Personal norms and motivation affecting consumers' recycling behaviour

Interviewees' recycling behaviour was found to be affected by factors such as their moral values and intrinsic motives, as well as by economic incentives. The presentation and analysis of these factors follows.

4.4.1 Moral values and intrinsic motives

According to the Schwartz's Model of Altruistic Behaviour (1970, 1977), people will recycle if they feel responsible for the state of the environment and the positive environmental aspects of recycling. In accordance with the findings of the study the majority of interviewees were driven by personal intrinsic motives and moral values in order to recycle:

> "I think that I have a share of responsibility for the state of the environment. What really drives me to recycle are moral values, such as love for the environment and a sense of responsibility about the state of the environment we are going to deliver to future generations".
>
> (Female, 23)

> "Each one of us is responsible for the state of the environment. More people should have ecological perception. We must protect our planet".
>
> (Female, 25)

The findings also indicate that older people tend to feel more responsible and have more positive attitudes towards recycling than younger ones:

> "Growing up I realised that we are going through a crucial stage, and recycling is the least I can do to contribute. I believe that it is important to think ahead of what the situation will be like in 50 years (time) if we don't do anything to improve it".
>
> (Female, 42)

The fact that older people tend to have more positive attitudes towards recycling than younger ones in the present study, may not have so much to do with the age of the interviewees but rather with their work status. Close to three quarters (75%) of unemployed and retired interviewees are recyclers, whereas less than half (46%) of the employed interviewees recycle regularly. The responses of the unemployed or retired interviewees lead to the conclusion that having a lot of free time could very well be the major reason why they participate in recycling, in contrast to people in employment, whose main claim is that the lack of time constitutes the basic obstacle to participating in domestic waste recycling.

Based on the results of this study, there is also a minority of individuals that recycle not because they believe that they are personally responsible for the environment but because they want to contribute to the society meaning that the sense of contribution drives them to recycle:

> "The reason I recycle is because I want to contribute to society. Neither a consumer should feel responsible for the state of the environment, nor me. Those who designed this economic system should carry the whole responsibility and it should be one of the government's first priorities".
>
> (Male, 28)

Based on the results, the behaviour of the majority of the interviewees towards recycling is morally driven.

4.4.2 Incentives

Evidence supports that economic incentives maybe a factor that determines the recycling behaviour of consumers. What the findings indicate is that economic incentives, such as getting money back for the return of glass bottles or other recyclables, seems to have an impact on most of the interviewees' decisions to recycle:

> **"**Motives with an immediate effect could drive me to recycle and let's consider that economic incentives have proved to be very effective in almost every aspect of our life".
>
> (Male, 57)

> "I believe that the existence of incentives affects my behaviour towards recycling because apart from environmental sensitivity, money constitutes almost always a powerful motive".
>
> (Female, 23)

These findings are of vital importance in order to find out if the demographic differences between the interviewees affect their recycling behaviour. For example, marital status and the number of children of the interviewees could be some factors that may affect their behaviour towards recycling. The findings of this study indicate that there are no significant differences between married people and singles, since about 82% and 80% respectively, recycle. In regards to the number of children a family/household has, the findings revealed that the existence of children is neither an incentive nor an obstacle for people to recycle. As a result these differences do not affect the recycling behaviour of interviewees.

The study findings also indicate that a small proportion of interviewees who presented themselves as environmentalists tended to support the notion that economic incentives are a motive for those who do not really care about their environment:

> "Economic incentives are for consumers that have not developed environmental sensitivity. Monetary return is not able to change the mind of those humans addicted to greedy consumption. On the other hand, the person who recycles does it for no money at all".
>
> (Male, 27)

For this percentage of interviewees, economic incentives could generate negative attitudes towards recycling. This may happen because they feel that the protection of the environment should not be associated with economic benefits. Furthermore, economic incentives may also discourage these particular interviewees from participating in recycling since their moral values are being questioned.

4.5 Social norms affecting consumers' recycling behaviour

Social norms are important formers of interviewees' recycling behaviour. In particular, the role of social forces and peer communication in influencing interviewees' behaviour towards recycling are explored, as well as their linkage to interviewees' intention to recycle.

4.5.1 Social forces, peer communication and intention to recycle

Regarding the role of social forces and communication in determining recycling behaviour, the findings reveal a particular trend, as the majority of the interviewees claim that their neighbours, their family, and/or their peers influence their behaviour towards recycling:

> "My parents taught me to be a recycler. Recycling is a life attitude".
>
> (Female, 25)

> "In my latest job, the first time I tried to throw away a piece of paper, a co-worker said to me: 'The firm you work for recycles'. Since then I do the same to every new co-worker after me. That is a way to develop the so-called 'company culture'".
>
> (Male, 33)

This last statement makes it necessary to mention that in some cases social forces may be expressed in a negative way, by creating peer pressure, even for good purposes.

The responses of interviewees who used to be non-recyclers indicate that consumers' intention to recycle seems also to be affected by social forces, such as friends or family:

> "One of my friends used to recycle and this is the reason why I took recycling more seriously than before".
>
> (Female, 26)

The effective role of social forces in enhancing consumers' recycling behaviour, as well as the intention of those who do not recycle to start doing so, is a very important observation which provides sufficient evidence to accept the view that social forces may contribute significantly in forming the recycling behaviour of consumers.

The impact of media communication also increases public awareness. Many interesting comments were made by most of the interviewees when they were asked to suggest ways that would ensure the household's full participation in recycling:

> "I think that television can help. By showing more programmes referring to the benefits of recycling, (it) would increase knowledge about environmental issues. Moreover, the government should organise lectures in schools, presented by specialised professionals that would talk about the importance of recycling".
>
> (Female, 32)

> "An effective and organised campaign on the advantages of recycling household waste would definitely help".
>
> (Female, 25)

As far as the intention to recycle is concerned, the Theory of Planned Behaviour (Ajzen, 1991) claims that the prior recycling experience could assist the prediction of future recycling behaviour. The findings of this study indicate that past experience is not a predictive means for the potential recycling behaviour of consumers. The fact that some of the interviewees used to recycle but they no longer do so, is an illustrative example. They believe that household waste recycling is not important in comparison to other practices, such as photovoltaic systems. Most of those who were recyclers in the past appear to have focused their attention on protecting the environment through other actions:

> "I used to recycle but for the time being I do not recycle. My first priority is to achieve energy sufficiency".
>
> (Male, 27)

> "Although I was a recycler, I do not recycle anymore. I think it is more effective to save water or energy if we want to protect the environment and the natural resources".
>
> (Female, 32)

CHAPTER 5

Discussion of the Findings

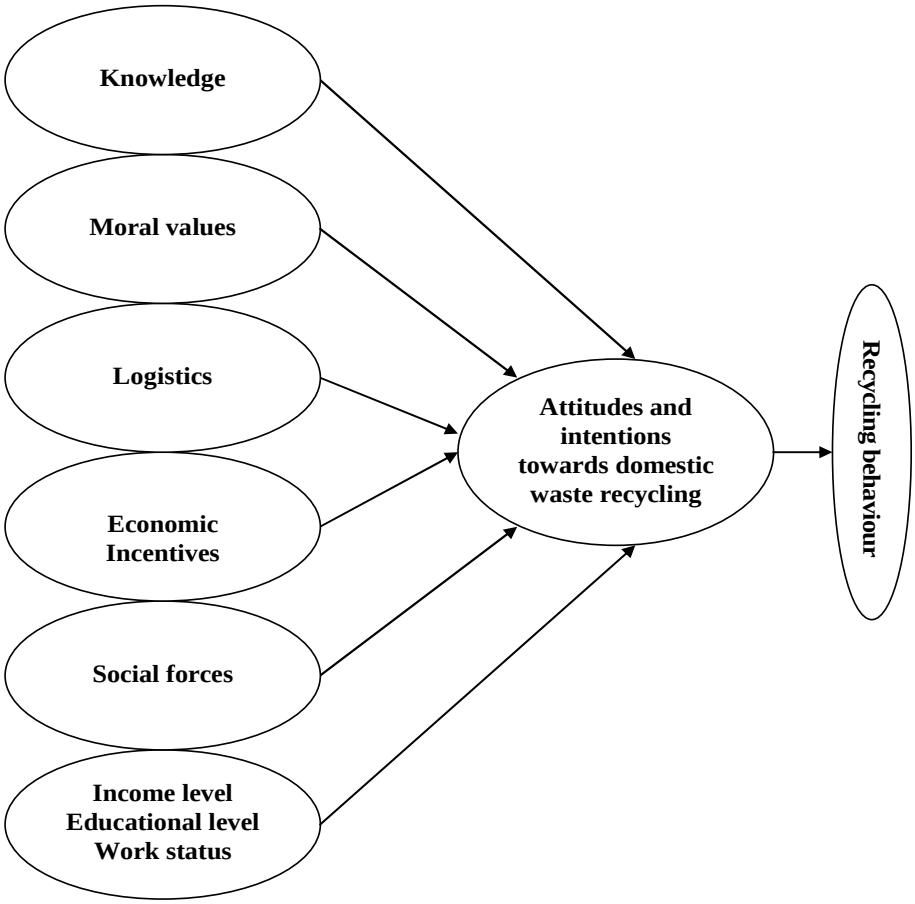
5.1 Introduction

This chapter discusses the study findings that were presented and analysed in the previous chapter (chapter 4). In particular, the implications of the findings for increasing awareness and enhancing participation in domestic waste recycling in Greece are discussed and a model of positive influences on interviewees' recycling behaviour is proposed.

5.2 Discussion

The main objective of this study was to identify which are the factors that assist in affecting household waste recycling behaviour. The findings indicated that there is a mixture of such factors that determine the intensity of households that participate in recycling. As shown in Figure 3 (overleaf), the results of the present study suggest a model of interviewees' attitudes towards domestic waste recycling.

Figure 3: Positive influences on interviewees' recycling behaviour



The model that is proposed consists of 8 factors. These were found to positively affect the interviewees' recycling behaviour. The model emphasises the role of knowledge, logistics, economic incentives, as well as that of moral values and social forces. Some demographic variables, such as income, educational level, and work status were also found to have a positive influence on interviewees' recycling behaviour. All these elements contributed in comprehending the interviewees' attitudes towards recycling.

According to the Theory of Reasoned Action (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980) and the Theory of Planned Behaviour (Ajzen, 1991) measuring beliefs, norms and attitudes of consumers, is a way to predict if someone is going to recycle or not. The findings of this study indicate that the components of these theories are vital in predicting the intention of consumers to recycle. However, the findings make clear that these two theories are sufficient in predicting recycling behaviour if they take into consideration the remaining factors affecting recycling behaviour, such as the role of knowledge and logistics that have already been

mentioned and analysed above. Demographics also have a supportive role as they help to interpret the study findings.

This study has brought to light important results, such as consumer beliefs, values and attitudes towards recycling, as well as their level of satisfaction as far as the existing logistics service is concerned. These elements of the study will help planners to consider strategies that will enhance the recycling participation of households.

Based on the study results, the interviewees' recycling behaviour is related to their moral view of environmental issues. These findings indicate the need for the implementation of a strategy that includes marketing campaigns, which will encourage consumers to participate in recycling by reminding them of its positive aspects, as well as the negative consequences of indifference and a lack of responsibility towards the environment overall. Moreover, it could be beneficial if these campaigns tried to point out that recycling should be a part of the everyday life of consumers, that is, it should be or become a part of their culture. Combining the feelings of hope for the future and personal responsibility about environmental issues, marketing campaigns could inform and activate citizens in order for them to take into consideration that their actions count for the society. Consumers should understand that if they protect the environment, it will support them back. Statements used in campaigns presenting the results of recycling through examples of analogy, could likewise be a clever and effective means of promoting recycling and convincing people to participate in it. The following statement constitutes an illustrative paradigm: "For every 1 ton of plastic that is recycled we save the equivalent of 2 people's energy use for 1 year, the amount of water used by 1 person in 2 month's time and almost 2000 pounds of oil" (Unknown, 2008).

This study indicated that the majority of interviewees who recycle feel responsible about the environment, however, this is not always the case, since there are also some people who recycle although they do not feel that they are personally responsible for the current environmental situation. According to Schwartz's Model (1970, 1977) of Altruistic Behaviour people recycle only if they feel personally responsible for the state of the environment. Thus, this study extends Schwartz's results on the link between recycling and the sense of responsibility, to also include the feeling of contribution to the wider society and the conservation of the environment as a driving force for some consumers to recycle. Referring to the marketing campaign concept, this feeling of contributing to the society could also constitute a way of touching the

soul of consumers, and convince them to participate in the act of recycling. At the same time, it may make them stop believing that there is nothing that can be done or achieved at an individual level.

As far as the level of satisfaction about the logistics service provided to consumers is concerned, the findings indicate that there is a need for a strategy that would promote and enhance consumers' recycling behaviour by improving the functioning of the logistics service provided. The findings clearly show that there are still some areas in Thessaloniki that are not provided with recycling facilities and the proximity of the containers, as well as the collection system is not at all convenient. The logistics service should be carefully re-examined and all the items that characterise it should be designed in such a way that will both promote and satisfy consumers' participation in recycling. Not only the location of containers but also the whole collection system, as well as the appropriate information provided to citizens are some of the issues that the municipalities have to pay special attention to. Providing consumers with information about everything that is relevant to recycling is of vital importance because the public should be aware of the results of their recycling efforts as well as the consequences of not recycling. The time extension of a landfill's lifespan or the process that recovered materials undergo, constitute some of the issues that consumers should be conscious of.

On the other hand, for the majority of the interviewees in the study, economic incentives constitute strong motivation to participate in recycling. These results clearly indicate that there is a great need for a system that will offer rewards to those consumers who choose to recycle. Financial compensation for their recycling activity or the provision of vouchers could be some of the ways to reward recyclers and at the same time encourage non-recyclers to start recycling. Economic rewards seem to be a powerful motive for many interviewees, even for those whose recycling activities are driven largely by moral values. This proportion of interviewees may consider financial reimbursement as being a strong motive as it could enable them to use this money for other social and/or community projects that they may be involved or interested in, such as donate the money gained to charities or NGOs.

CHAPTER 6

Conclusions, Limitations and Directions for Further Research

An individual's recycling behaviour is driven by a combination of factors. The findings indicated that there is a positive relationship between interviewees' attitudes towards domestic waste recycling and a relatively high level of knowledge about environmental issues, as well as a high level of satisfaction about the logistics service provided. This observation has also revealed the need for retaining and hopefully further increasing these levels by informing consumers about the benefits of recycling. The significance of the role of the individual's moral values in determining their recycling behaviour was also observed. This observation could prove most useful if it were to be used in marketing campaigns to present these values as being fulfilled when there is participation in recycling. Social forces and economic incentives were also found to have a significant impact on interviewees' perceptions and attitudes towards recycling, indicating that they need motivation and encouragement in order to start or even to continue recycling.

All the factors investigated in this study, as well as evidence from the literature suggest that some measures should be taken by the government in order to increase the recycling activity of individuals. Some practical measures could be the provision of the appropriate facilities, such as bins for different materials, in every neighbourhood, as well as ensuring that collections are on time and closely adhere to a specific time schedule that all the residents have been informed about. Finally, the role of communication should be highlighted, not only in informing and convincing people to recycle but also in reminding them to do so. Even simple techniques of marketing campaigns, such as the distribution of leaflets in letterboxes or more technological approaches, such as SMSs on people's mobiles and messages sent to their email addresses, could be effective reminders. In this way recycling would be promoted as a vital component of an individual's lifestyle and hopefully would be incorporated into the Greek culture.

This study is not without limitations. One of its limitations is that the sample size is small. Although the period of time available for the data collection was limited and the sample could be considered satisfactory for such a study, it is considered relatively small and does not enable the generalisation of the findings to recycling behaviour in

total. In addition, the study participants were not selected randomly and although the anonymity of respondents was preserved, the lack of randomly selected interviewees affects the findings' degree of validity. Moreover, the fact that snowball sampling was used means that the procedure may contain a source of bias. For these reasons, the results should be considered indicative and further research is suggested. Nonetheless, the study provides some useful insights into which are the factors and how they affect consumers' recycling behaviour.

Since the sample participants all came from one country, which is to a large extent homogenous, a wider selection of countries would undoubtedly enrich the findings by providing a diversity of cultural characteristics.

Some other potential areas of future inquiry have been revealed through this study, which need to be investigated in order to better understand the concept of recycling. Having analysed the factors that affect the recycling behaviour of consumers it would be of interest to find out why people actually choose to recycle, to extend the research and try to understand where the commitment to recycling stems from and what can be done in order to not merely sustain it but to boost it.

Finally, another potential area of inquiry is the need to discover if and how recycling is related to an individual's lifestyle. Since many consumers participate in recycling, it would be beneficial to investigate if this really means that recycling constitutes part of people's lifestyle, and if it is not, then to examine if there is any possibility to dealing with and eliminating any obstacles to recycling caused by particular lifestyles.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE USED IN THE STUDY

1. Questionnaire No._____ Region _____

2a. Work status: _____

2b. Education: 1. Primary
2. Secondary
3. Technical institute
4. University
5. Other (specify) _____

3. Age of respondent: _____ Gender: _____

4. Marital status: _____

5. Household size (members): _____ No. of children in household: _____

6a. Main sources of income: _____

6b. Annual income bracket:
a) Above 30.000
b) Between 20.000 and 30.000
c) Between 10.000 and 20.000
d) Less than 10.000
[Based on responses related to Question 6b, the interviewer is going to classify the respondents into three categories: a) wealthy, b) middle class, c) poor].

7. Recycling facilities available in your neighbourhood:
a) Recycling bins for different materials
b) Public services that collect the recyclables
c) There are no recycling facilities
d) I do not know

8. Do you believe that household waste recycling is important? Why?

_____
_____
_____

9. Are you a recycler or not? _____
(Go to question 9b, 10 and 11 if the person is NOT recycling garbage)

9a) **If yes**, why do you recycle and how do you understand the recycling?

_____
_____
_____

1. When do you usually recycle your domestic waste?
   _____
   _____

2. Which of the following domestic wastes do you usually recycle?

i) Decomposable wastes (e.g. vegetable peels, food remnants, etc)
ii) Plastics
iii) Cartons, empty boxes, paper
iv) Glass Bottles
v) Empty tins
vi) Used olive oil

9b) If no, why **NOT**?

_____
_____
_____

10. How do you feel when your family or your friends recycle and you do not? Do you feel ashamed?

_____
_____
_____

11. What do you think should be done to encourage you to start recycling? Please explain:

_____
_____
_____

12. FOR ALL RESPONDENTS: Are there any problems encountered with recycling?

i) The recycling facilities are not easily accessible for me: (please explain)

_____
_____

ii) There are no containers: (please explain)

_____
_____

iii) The collectors do not come on time: (please explain)

_____
_____

iv) There is no time for me to do so although I would like to: (please explain)

_____
_____

v) Other problems : (please explain)

_____
_____

13. Do you believe that the existence of incentives (for example take your money back for bottles or other recyclables returned) affects your behaviour towards recycling? (Please explain)

_____
_____
_____

14. Do your friends, your family or your neighbours recycle? Does their recycling behaviour affect yours? (Please explain)

_____
_____
_____

15. What is your reaction to your friends' or family's non-recycling behaviour? Do you comment on it?

_____
_____
_____

16. Are you environmentally concerned? Is that a reason that drives you to recycle or not? (Please explain)

_____
_____
_____

17. Do you feel responsible for the state of the environment? Are there any moral values that drive you to recycle? (Please explain)

_____
_____
_____

18. What do you think about the current situation of waste disposal, recycling, etc in your area? (Please explain)

_____
_____
_____

19. What do you think could be done to help the situation and ensure the full participation of households in recycling?

_____
_____
_____

20. Is there any other thing you would like to discuss as far as the domestic waste disposal and recycling are concerned in your local area?

_____
_____
_____

THE END

Thank you for your time!