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# Why people do not buy environmentally friendly products. An exploratory approach[*]

**Abstract**

The last decades have seen a progressive increase in environmental consciousness worldwide as the environment moved from a fringe to a mainstream issue and consumers became more concerned about it. However, despite positive forecasts, demand for environmentally friendly products didn't grow as expected and both *attitude-behaviour* and *intention-behaviour* gaps emerged.

At first, problems of measurement of consumer behaviour (*evaluative inconsistency*, *literal inconsistency* and *bias in answers*) have been addressed by literature to explain the aforementioned gaps. Only in recent years, research focused on contextual barriers that effectively may impede consumers to purchase ecological goods.

Thus, the aim of this study is to explore why people do not buy environmentally friendly products by finding out which are the main constraints impeding them to translate their green intentions into actual purchase behaviour. In this respect, an exploratory, qualitative study was conducted: 35 *subjectivist* consumers were interviewed and data analysed with cognitive maps technique.

**Keywords**

green consumer behaviour, environmentally friendly products, attitude-behaviour gap, intention-behaviour gap, cognitive maps technique.

## 1. Introduction

The last four decades have seen a progressive increase in environmental consciousness worldwide, as the environment moved from a fringe, to a mainstream issue (Grant, 2009; Goleman, 2009). Indeed, increased media coverage, more stringent legislation, rise of pressure group activities and great stirs of major industrial disasters on public opinion led consumers to become more concerned about the environment (Schlegelmilch *et al*., 1996).

First research focused on consumers' attitude toward environmental issues. "By the end of the 1980s, increasing numbers of consumers described themselves as environmentalists and a number of opinion polls indicating an expressed desire to protect the environment emerged" (Kalafatis *et al*. 1999, p. 442). They suggested that consumers with a higher level of

[*]This work results from the Authors' shared efforts. However, §§ 1, 2.1, 2.2 and 2.3 must be attributed to Alberto Pastore while §§ 2.4, 3, 4, 5, 6 must be attributed to Camilla Barbarossa.

environmental concern were more likely to engage in environmentally friendly purchase behaviour and led firms to suppose there were big opportunities in terms of primary demand (Antil, 1984; Sheltzer *et al*., 1991; Shabecoff, 1993).

However, in the following years, demand for environmentally friendly products didn't grow as expected and limits in the use of general attitude measures appeared under the name of *attitude-behaviour* gap (Young *et al*., 2010). As a consequence of the impossibility of considering attitude as a good predictor of specific environmental activities, and in order to go over the *attitude-behaviour* gap, some researchers called for the development of new theories as well as for the consideration of new variables (Lee & Holden, 1999). Thus, mostly adopting the Theory of Planned Behaviour (Ajzen, 1991) in the "green" field, research focused on consumers' self declared willingness to buy environmentally friendly (EF) products (De Pelsmacker *et al*., 2005). Intention was found to have a mediating role between attitude and behaviour, and a significant predicting power of green purchase behaviour (Kalafatis *et al*., 1999; Follows & Jobber, 2000).

However, today, despite positive forecasts on increasing eco-awareness, positive attitude towards the environment and consumers' self declared willingness to buy environmentally friendly products, EF products' market share is still very low and there are considerable barriers to the diffusion of more ecologically oriented consumption patterns (Moisander, 2007).

Consequently, some research attempted to understand if green matters were really relevant for consumers (Carrigan & Attalla, 2001), others tested if the *attitude-behaviour* gap had the same strength among different product categories (Wheale & Hinton, 2007) and others investigated the determinants of green purchasing behaviour (Chan & Lau, 2001). However, a lot of work still must be done. In particular, the understanding of the main deterrent factors to green purchasing remains an under-researched area (Carrington *et al.*, 2010).

In view of this lack of research, the purpose of this study is *to find out why people, who have a positive attitude towards the environment and a willingness to buy environmentally friendly products, do not actually buy them.*

Consequently, our research questions are:

*RQ1: Which are the deterrent factors to the purchasing of green products for environmentally minded consumers?*

*RQ2: Which are the most relevant factors?*

*RQ3: Are there any relationships among them?*

In pursuing the aforementioned aim, in section number 2 we present the theoretical framework and consider how previous research analyzed the topic in hand. In sections number 3 and 4, methodology used and findings are presented, respectively. Finally, in section number 5, we discuss findings while in section number 6, we show conclusions, the limitations of our work and attempt to draw guidelines for further research.

## 2. Theoretical framework

Borrowing Webster's definition (1975), an environmentally conscious consumer can be defined as the one who takes into account the environmental consequences of his or her private consumption or who attempts to use his or her purchasing power to bring about environmental changes.

The above definition underlines how consumers incorporate environmental issues into their decisions by evaluating the consequences of their consumption upon the environment. "If the environmental consequences are important enough to the consumer, the result may be the purchase of an environmentally responsible product" (Follows & Jobber, 2000, p. 724), boycotting grey products (Carrigan & Attalla, 2001; Dalli, 2005), recycling them or re-using containers (Tilikidou & Delistavrou, 2008).

Consequently, two elements appear of particular importance:

1. green consumer behaviour is composed of a plenty of activities (i.e. purchasing, boycotting, recycling and re-using);
2. consumers may have different attitudes and behaviours with respect to each of them (Hutton & Athola, 1991; Kempton, 1991; Niva & Timonen, 2001; Wheale & Hinton, 2007).

That is, consumers may not choose to engage in all of the relevant behaviours: for example, some may not buy EF products but exhibit compensating post-purchase behaviours while others may buy EF products and not proceeding with recycling. Furthermore, in accordance with previous research (Reeder & Brewer, 1979; Skowronski & Carlston, 1987; Folkes & Kaminis, 1999), Carrigan and Attalla (2001) argued that, to date, there is a conflicting research on how information about good and bad green practices by firms have an asymmetrical influence on consumers. Awareness about a firm's "grey" practices may lead

consumers to boycott the firm's products while knowing about a firm's ecological practices would not necessarily persuade them to buy green products.

In view of the above considerations, Pickett *et al*. (1993) and Diamantopoulos *et al*. (1994) recommended that "green" behaviour should be assessed for specific activities rather than for general environmentally responsible behaviour patterns.

In this respect, for the purpose of this study, we focus on the purchasing activity of environmentally friendly products. In this fashion, we take up Follows and Jobber's (2000) narrower definition of green consumer as the one who chooses freely to purchase EF goods.

According to their "green" attitude, intention and purchase behaviour, Cowe and Williams (2001) divided consumers into five sections:

1. the first group composed of people not sufficiently environmentally concerned to produce any marketplace action;
2. the second group with people much more pre-occupied with the value for money element;
3. the third group consisting of young consumers who are yet to be set in their purchase behaviour patterns;
4. the fourth group composed of people declaring to have a positive attitude towards the environment and claim to prefer goods on an environmental basis but when making their purchasing decisions they defer to other factors;
5. the fifth group consisting of the passionate environmentally consumers, who will go further to pursue their beliefs and when buying products they are more interested in environmental issues than in other elements.

The group of our attention is the fourth one, composed of consumers called *subjectivists* (Forsyth, 1980) or *non-activists* (Tallontire, 2001). These consumers have both a positive attitude towards the environment and a willingness to buy environmentally friendly products but, in the end, when making their purchase decisions, they do not buy green goods. They represent the target of our interest as, because of their features, they represent a wide potential market and understanding how to close these gaps can lead firms to increase both primary demand and market share of environmentally friendly products.

The consideration of *subjectivist* consumers led previous research to focus mainly on three kinds of matters: the *attitude-behaviour* gap, the *intention-behaviour* gap and the bias of *socially desirable answers*.

### *2.1 The attitude-behaviour gap*

Attitude can be defined as a predisposition to respond in a favourable or unfavourable manner with respect to a specific object (Ajzen & Gilbert Cote, 2008). As a general rule, it is assumed that attitudes toward available options determine consumer decisions. When confronted with a choice between alternative brands or products, consumers presumably select the alternative toward which they hold the most favourable overall attitude.

Although intuitively reasonable, the assumption that consumer attitudes are predictive of behaviour must be regarded with caution in light of extensive research on the attitude-behaviour relation conducted over the past 40 years (Wicker, 1969; Eagly & Chaiken, 1998; Yang-Tang & Chan, 1998; Webb & Mohr, 1998; Ajzen & Fishbein, 2005; Young *et al.* 2010). In fact, negative findings shouldn't viewed as surprising (Ajzen & Fishbein, 1977; Ajzen, 1988): attitudes can be expected to correlate with behaviour only to the extent that the predictor and criterion are measured at compatible levels of generality or specificity in terms of *action* involved, *target* at which the action is directed, *context* in which it occurs and *time* of its occurrence (*principle of compatibility*) (Ajzen & Gilbert Cote, 2008).

Thus, today, researchers agree that general attitudes towards the environment cannot be expected to be good predictors of specific actions directed at the attitude object, like purchasing behaviours of EF products (Weigel & Newman, 1976). Concern for the environment should predict a measure of environmentally responsible consumer behaviour that aggregates across many different kinds of actions. However, in most consumer decision situations, we are interested not in understanding broad patterns of behaviour but rather the purchase or use of a particular product or service. Measures of environmental concern are usually poor predictors of such environmentally responsible consumer behaviours as buying fewer packaged products or recycled paper products (*evaluative inconsistency*), and "since we are often interested in understanding and predicting single actions, concepts which are related with only to general behavioural tendencies must appear of rather limited utility" (Ajzen, 1982, p. 9).

### *2.2 The intention-behaviour gap*

Discussions about the *attitude-behaviour* gap, led researchers to propose that intention to perform a behaviour, rather than attitude, is the closest cognitive antecedent of actual behavioural performance. When appropriately measured, behavioural intentions account for an appreciable proportion of variance in actual behaviour and many studies have substantiated

their predictive validity (Notani, 1998; Armitage & Conner, 2001). In a meta-analysis, Sheeran (2002) reported an overall correlation of 0.53 between intention and behaviour.

However, notwithstanding these encouraging findings, in some cases, there is considerable variability in the magnitude of observed correlations, and relatively low (or non significant) intention–behaviour correlations have been obtained as well. That is, there is an inconsistency between what people say they will do and what they actually do or, in other words, in some cases and for some reasons, consumers fail to carry out their stated intentions. This intention-behaviour gap was named by LaPiere (1934) as *literal inconsistency*.

Some research attempted to find out which are the main factors responsible for *literal inconsistency*. Hornik *et al.*, (2001) stated that if there is little or no *variance* either in intention or in behaviour, strong correlations cannot be expected. Albarracín *et al*. (2001) found that intentions should have been stable to be good predictors of later behaviour (*stability of intentions*). The time interval between measurement of intention and assessment of behaviour can be taken as a proxy for stability because it is assumed that with the passage of time, an increasing number of events may cause intentions to change. Instead of relying on time interval as an indication of stability, other studies have assessed stability of intentions directly and have consistently found that the intention–behaviour correlation declined substantially when intentions themselves were unstable (Conner *et al*., 2000). Differently than for attitude, lack of *compatibility* is usually not a problem when it comes to predicting behaviour from intentions because measures of intention naturally deal not with a general target but with the behaviour of interest.

However, even when measures of intention and behaviour have *sufficient variance*, are *relatively stable*, and meet the *criterion of compatibility*, an intention–behaviour gap can be observed. In the field of green purchasing, *literal inconsistency* comes out, for example, when consumers reveal their willingness to buy environmentally friendly products and then they do not buy them.

### *2.3 Bias of socially desirable answers*

Both attitude-behaviour gap (*evaluative inconsistency*) and intention-behaviour gap (*literal inconsistency*) encompass a matter of bias in answers.

In research concerning "sensitive" issues, attitude and intention may be systematically distorted or biased and not reflect the truth. The most frequently cited response bias is the respondent’s tendency to give socially desirable responses because he/she desires to avoid embarrassment and project a favourable image on others.

As a consequence of socially desirable answers within the green area, many self-reported surveys were distorted, as respondents "over-reported" their environmental concern, as well as their willingness to buy environmentally friendly (EF) products and pay a *premium price* for them (Peattie & Crane, 2005). In fact, though they did not really care about the environment, during interviews they may lie and give those answers they supposed the interviewer aimed to collect.

### *2.4 Contingent barriers to green purchasing*

Both attitude-behaviour and intention-behaviour gaps may reveal a weak predictive power of attitude and intention, due to systematic errors in measurement (namely *compatibility*, *stability* and *bias* in answers) (see §§2.1, 2.2 and 2.3). However, while the attitude-behaviour gap was solved by literature referring to the *principle of compatibility* (attitudes can be expected to correlate with behaviour only to the extent that predictor and criterion are measured at compatible levels of generality or specificity) (see §2.1), the intention-behaviour gap is still a discussed topic because, even when intention is correctly measured and even when respondents' answers are not biased, inconsistencies between intention to buy and actual purchasing of environmentally friendly products may arise.

Moisander (2007) and Carrington *et al.*, (2010) outlined that problems of measurement provide only a partial (even if relevant) explanation of the intention-behaviour gap as environmentally minded consumers are hampered by various constraints increasing the complexity of green purchasing, and there may be relevant deterrent contextual factors to the purchase of environmentally friendly goods.

In this respect, the Theory of Planned Behaviour (Ajzen, 1991) can be adopted as theoretical framework for modeling green purchase behaviour as *Perceived Behavioural Control* (PBC) and underlying *Control Beliefs* are able to explain the complexity of green purchasing as well as the reasons for which environmentally minded consumers may not walk their talk. In fact, within the green field, PCB can be defined as an higher-order construct expressing an individual's expectations regarding the perceived ease or difficulty of buying green goods (*perceived self efficacy*) as well as the perceived extent to which purchasing is up to him/her (*perceived controllability*) (Ajzen, 2002), and it is considered as a moderator of the relationship between intention to purchase and actual purchasing of EF products. In turn, PBC is given by underlying *Control beliefs*, individual's beliefs about the presence of internal and external contingent factors that may facilitate or impede the purchase of ecological goods.

In this respect, Kalafatis *et al.* (1999), De Pelsmacker *et al.* (2005) and Young *et al.* (2010) identified lack of availability and narrow product range of ecological brands as reasons for less green consumption. Picket-Baker and Ozaki (2008) attempted to investigate if marketing and branding techniques could help establish green brands and introduce greener patterns of consumption into contemporary lifestyles. They found consumers cannot easily identify greener products and they do not find the actual product marketing particularly engaging. Pinkse and Domisse's (2009) findings revealed that firms should communicate more the advantages of green products and clean technologies to potential buyers in order to create market demand. Teisl *et al*. (2002), D'Souza *et al*. (2006) and Pedersen and Neergaard (2006) investigated how ecolabels influence purchasing decisions and found that a big proportion of consumers find eco-product labels hard to understand. Their findings revealed that there is a proliferation of not clear green labels which "may confuse consumers and undermine credibility" (De Pelsmacker *et al.*, 2005, p. 515). Similarly, Pickett-Baker and Ozaki (2008) revealed difficulties for consumers to identify green brands. Furthermore, Kalafatis *et al.* (1999), De Pelsmacker *et al.*, 2005 and Young *et al.* (2010) focused both on higher perceived price and lower perceived quality of environmentally friendly products. According to all the aforementioned authors, scepticism and lack of information are relevant deterrent factors to the purchase of green goods. In the end, Moisander (2007) attempted to collect and systematized in a theoretical framework, all the relevant constraints and divided them in *internal* and *external* ones. However, her work remains a theoretical framework with no empirical test.

Despite these relevant contributions, these research dealt mainly with ethical products. "Ethics" represent a broader concept than environment and it encompasses further issues, like fair trade, animal welfare, human rights and firm's social responsibility. To this end, Wheale and Hinton's (2007) findings exhibited that consumers may have different attitudes and behaviours towards different ethical matters and, consequently, it is necessary to narrow the study to green issues, in order to deepen which are the most relevant barriers to the diffusion of specific ecological purchasing patterns. This topic is still under researched.

Furthermore, the existing literature dealt mostly with indistinct consumers or with self-declared green purchasers. Rare research have been conducted on established *subjectivist* consumers.

## 3. Methodology

To find out which are the most relevant deterrent factors for *subjectivist* consumers to purchase environmentally friendly products, an exploratory, qualitative research was conducted in Italy from May to July 2010. The Authors conducted 35[1] in depth face-to-face, semi-structured interviews, of one hour in length each.

Due to the explorative nature of the study, the Authors chose to conduct in depth interviews because, as a qualitative research method, they allow for preliminary exploration and are particularly used in under research areas (Molteni & Troilo, 2003). They allow to elicit consumers opinions toward the purchase of environmentally friendly (EF) products and to collect a wide range of deterrent factors.

As we were interested only in *subjectivist* consumers who manifested an *intention-behaviour* gap, respondents were selected from a *purposive* sample (Kumar, 2005), according to a three step screening process:

1. we selected only members of ecological associations (like Greenpeace, WWF, Legambiente, LIPU[2] and FAI[3]) who were actively involved in environmental protection[4];
2. among those, we selected only actual purchasers of *tissue paper* products (people that are used to doing the shopping and buying this product category);
3. among those who passed the first two steps, we selected only the ones who declared spontaneously of willing to buy environmentally friendly *tissue paper* products but actually not buying them (sometimes, they may have bought ecological *tissue paper* products, but they are not used to doing it)[5].

Finally, as Wheale and Hinton (2007) tested, we considered how consumers may have different purchase behaviours toward different product categories (grocery food, grocery non food, clothes, white goods, brown goods, pharmaceutical goods, cars). Consumers may have green purchase behaviour towards a product category and a grey purchase behaviour with

[1]Respondents were 12 from the North, 13 from the Centre and 10 from the South of Italy.
[2] Lega Italiana Protezione Uccelli.
[3] Fondo Ambiente Italiano.
[4]In this way, we attempted to avoid *socially desirable answers* leading to "over-reported" concerns for the environment. In fact, as we chose respondents as only members of ecological associations who were actively involved in environmental protection, we got a proof of the truthfulness of their positive attitudes toward the matter in hand.
[5]By choosing respondents of this kind, we selected consumers who manifested clearly an intention-behaviour gap and we attempted to eliminate the component of distortion in answers concerning the *literal inconsistency*.

respect to another one. Due to this, we agree with Picket *et al.* (1993) and Diamantopoulous *et al*. (1994) who declare the necessity of studying green purchase behaviour assessing it for specific product categories. Consequently, in this work, purchasing is referred to *tissue paper* products, namely tissue papers, paper napkins, toilet papers, scrolls, paper towels and paper tablecloths (see ACNielsen product category tree for grocery non-food). We chose *tissue paper* product category because:

- it is sold by all retailers;
- *tissue paper* products can be completely eco-friendly. Thus, consumers may be not so sceptical about them as with other product categories (like cars) that are perceived as not ecological because of the nature itself of the product;
- about *tissue paper* products consumers are less influenced by other elements like brand or desired social status, as for other product categories like clothes or accessorizes;
- there are no possibilities to recycle *tissue paper* products after use. So consumers have no excuses of exhibiting compensating non-purchasing behaviours;
- previous research on green consumer behaviour focused on high involvement product categories (like cars or solar panels), while not so much dealt about green commodities (with the exception of food) and, as Follows & Jobber (2000) declared, green consumer behaviour models "should be tested with a number of low-involvement products that are purchased on regular basis, such as paper products" (p. 714).

Analysis of qualitative data was aided by *Cognitive Maps Technique* (Codara, 1998; Muzzi & Ortolani, 2004; De Luca, 2006), using both Decision Explorer software[6] (Eden, *et al*., 1992) and UCINET software[7] (Borgatti *et al*., 2002). *Cognitive Maps*, used with an *explanatory* function, allow to reconstruct people premises, understand underlying reasons for their choices and actions and highlight any distortions or limits in the representation of the situation (Codara, 1998).

In order to capture both the reasoning and sequence of the decision-making processes and the information flows that support them, all 35 interviews were tape-recorded and fully transcribed. In accordance with Wrightson (1976), we used the *Documentary coding method* and proceeded with four phases:

1. *coding text* phase, where we read each transcription and identified key concepts and relationships among them;

[6]See www.banxia.com
[7]See www.analytictech.com

2. *index dictionary card drafting* phase, where we listed all the concepts mentioned by the interviewee and identified statements that, though using different words, had the same meanings (*merging* procedure);
3. *relationship card drafting* phase, where relationships among concepts came out;
4. *cognitive map drafting* phase.

After it has been drawn, each map was showed to interviewees (*validation* phase). *Documentary coding method*, usually, does not require any *validation* phase. However, in accordance with Bougon (1983) and Cossette and Audet (1992), we preferred to ask interviewees if each map was a consistent representation of their mental structures. In this manner, we aimed both to:

1. minimize our interference in drawing the map;
2. improve the representation of each interviewee's cognitive structures by the direct comparison with his/her own map.

In our research all the 35 maps were validated by interviewees, so we were not required to bring any change.

Then, we drew the *Unanimity Cognitive Map*, namely the map resulting from the aggregation of the 35 individual maps and representing those concepts and links shared by all the individual maps (Figure 1).

In the end, we analysed the *Unanimity Cognitive Map* both with *structural* and *qualitative* analysis. *Structural* analysis, belonging to the network analysis field, aims to underline maps' structural traits. In this respect, we calculated the *indegree centrality*, *outdegree centrality* and *betweenness centrality* indexes (Freeman, 1979) (Appendix 1). They show the complexity of respondents' reasoning and, in particular, reveal the most important inputs and outputs in respondents thinking. A deeper explanation is given by q*ualitative* analysis, as follow.

## 4. Findings

In cognitive maps *tails* are concepts considered as inputs of reasoning because they have only outgoing links. In our study, they represent those elements *subjectivist* consumers spontaneously cited as the most important barriers to the purchase of EF *tissue paper* products and represent the answers to our research questions.

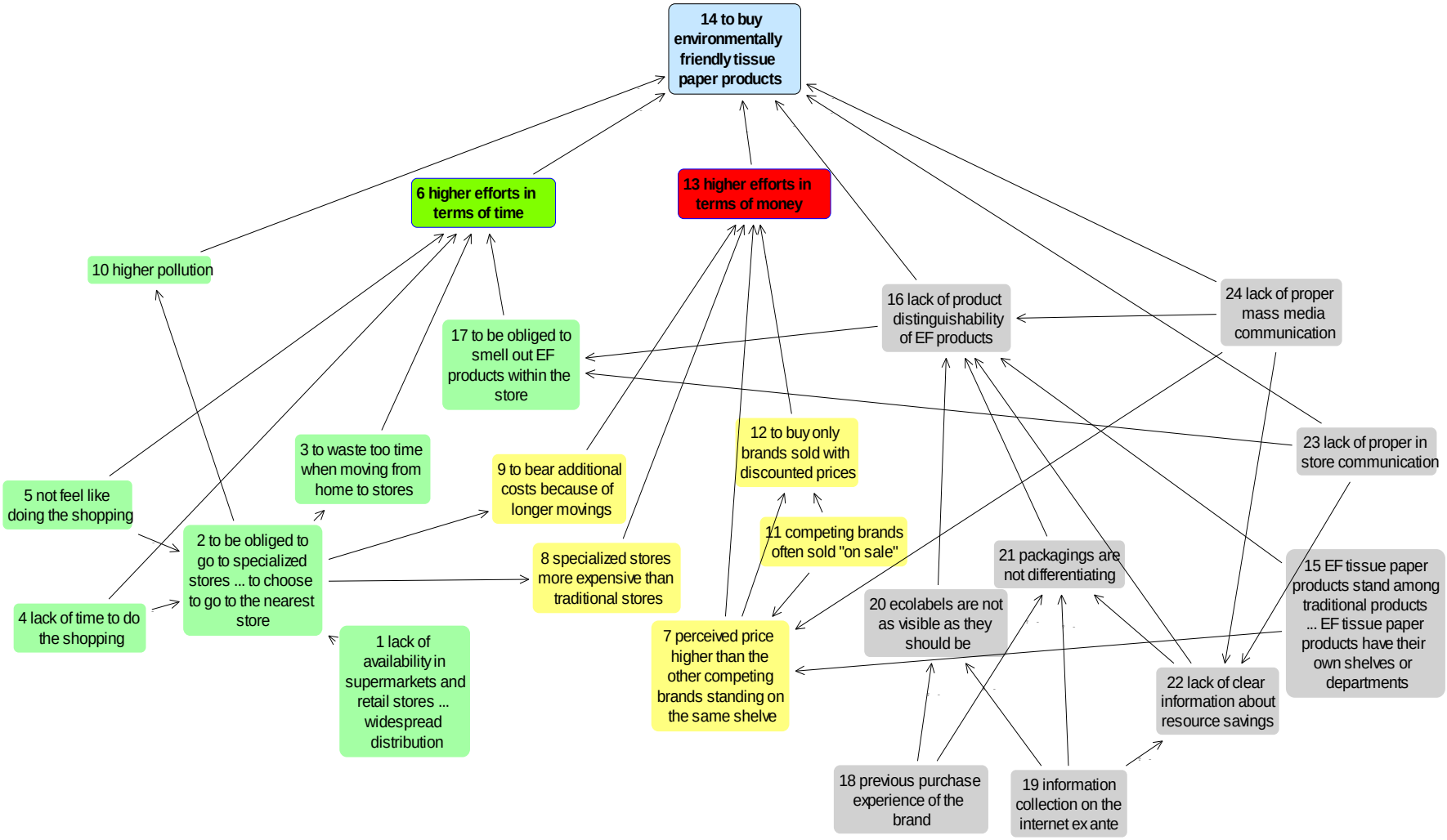


Figure 1. Cognitive Map representing the main deterrent factors to the purchase of EF products for *subjectivist* consumers.

As we summarized in the *merging* procedure, they are:

- lack of availability in supermarkets and retail stores (concept 1);
- lack of time to do the shopping (concept 4);
- not feel like doing the shopping (concept 5);
- competing brands often sold "on sale" (concept 11);
- EF products standing among traditional products instead of having their own shelves or departments (concept 15);
- previous purchase experience (concept 18);
- information collection on the internet ex ante (concept 19);
- lack of proper in store communication (concept 23);
- lack of proper mass media communication (concept 24).

Lack of availability in supermarkets and retail stores (concept 1) and higher relative price (concept 11) were the first concepts respondents cited during interviews, while lack of proper mass media communication (concept 24) and lack of proper in store communication (concept 23) were the ones with more consequences on purchasing decisions (they both have the highest normalized *outdegree centrality* indexes, namely 17 and 13 respectively).
Lack of availability was considered of particular importance especially by respondents living in the Centre and South of Italy, while those from the North recognized the presence of retailers selling this kind of goods. Lack of widespread distribution obliges *subjectivist* consumers to go to more far, big supermarkets (having a wider range of products) or to specialized stores and spend more time in additional, longer movings. In this respect, one interviewee declared:

> «If I had to buy a car or something that I buy a few times in one year, I'd spend more time in movings. However, though I reserve a fair time to do the shopping, I can't waste two hours of my life every week for buying toilet papers or napkins. I simply buy them at the closest store».
>
> (L., male, 34 years old)

In considerations of the aforementioned barriers, persons interviewed were not willing to bear further efforts in terms of time to purchase green goods.
To go to far supermarkets or specialized stores doesn't mean only to waste time but even to bear additional costs because of longer movings (for example, for car fuels or bus tickets). In addition, average prices practiced by specialized stores are usually higher than those practiced by traditional supermarkets.

Furthermore, when EF *tissue paper* products are available in supermarkets, they have higher prices than traditional brands. Though absolute prices are not so high, it is the comparison with competing brands that leads them to loose. Consumers' perception of price is influenced by the disposition inside the store as green *tissue paper* products usually stand among traditional goods, instead of having specific shelves or departments. They are overwhelmed by both low and premium price brands. *Low price* brands are often "on sale" causing distortions in relative prices perception: reducing their prices increases those of green brands and consumers who are price sensitive are more likely to buy brands "on sale". On the contrary, consumers who are willing to pay more will buy *premium price* brands, namely those brands that, thanks to their marketing efforts, have been establishing strong, lasting relationships with consumers. Instead, EF tissue paper products advertising is almost absent on mass media.

According to previous research (Shaw *et al.*, 2005), *subjectivists* are independent, self-efficient, curious consumers who are able to collect further information about EF products on the internet. They do not want to be overload with advertising. However, lack of communication doesn't let consumers to be aware of green brands, impede to easily recognize them inside the store and oblige to waste time in finding them out.

Similar answers were for the absence of specific shelves and lack of in-store communication.

Once again, constraints of this kind lead *subjectivist* consumers to waste time so they do not buy EF products. However, both collection of information on the internet and previous purchase experience of green brands reduce the perception of undistinguishability of ecological goods inside the store and the time needed to recognize them.

Unlike findings deriving from previous research, perception of low quality (Kalafatis *et al.*, 1999; De Pelsmacker *et al.*, 2005; Young *et al.*, 2010) and scepticism (Carrigan & Attalla, 2001) were not considered as important deterrent factors to the purchase of EF *tissue paper* products. *Subjectivist* consumers are able to recognize and understand ecological labels as well as to check if they are granted by independent bodies (like Ecolabels or ISO 14000) or not.

## 5. Discussion

In view of these findings, firms selling green goods, like EF *tissue paper* products, should rethink and improve their marketing mix choices.

With regard of distribution, in order to overcome the lack of availability, firms should establish effective agreements with retailers, especially in the Centre and South of Italy where respondents more underlined the gap. Agreements should aim to ensure a widespread distribution of green products (extended coverage of the market). Furthermore, they should ensure specific shelves to green brands or, at least, assign them a better disposition on the shelf, if they stand among other products.

Firms also should improve their communication in many ways. First, they should let *subjectivist* consumers be aware of green brands by mass media and reserve a deeper communication on the internet where these consumers could discover detailed information about green firms, their products and the amount of natural resources it is possible to save by purchasing EF products. In this way firms could establish strong, lasting relationships with their target. Secondly, they should improve in-store communication to reach also those *subjectivists* that are not used to deepening information by themselves (for example, old people).

Then, firms should increase packaging distinguishability. Many persons interviewed, in fact, declared that strong green, big symbols or green coloured packs with some easy to read cartoons would increase product distinguishability and consumers attention, especially if green products stand among traditional brands.

Finally, price is the most complex problem for EF products, because they are overwhelmed by both *low* and *premium* price brands. The Authors think that green firms, despite they had to bear higher production costs, should keep competing low-middle prices. They should not adjust green brands' prices to the lowest ones, because they should also underline a medium-high quality of their products. However, they often should sell their brands "on sale" in order to push green brands' first trial.

## 6. Conclusions, limitations and further research

This work may have important implications in research development as well as in managerial practice improvement. It attempted to explore and deepen why *subjectivist* consumers may not walk their talk (Carrington et. al., 2010) and perceive so difficult to purchase environmentally friendly products in their everyday shopping life. It attempted to collect, in an integrated way, all those elements perceived as barriers, to stress the relationships among them and to explore the reason for which these constraints are of such importance.

Furthermore, unlike previous research dealing with indistinct or self declared green consumers, it focused on *subjectivist* consumers, attempting to overcome problems of measurement and bias in answers. Finally, especially if seen as a first step for further quantitative research, it may provide important suggestions for managers, as we proposed guidelines to allow firms to let *subjectivist* consumers overcome constraints concerning distribution, communication and price of environmentally friendly tissue *paper* products.

Despite these important findings, it showed some limits. First, it is exploratory in nature. While, in exploratory stages we chose to deal with *subjectivist* consumers in order to both overcome distortions in answers and focus on respondents that showed clearly an intention-behaviour gap, we ourselves acknowledge that these issues require necessarily to be tested on larger (quantitative research), more general samples (composed not only of *subjectivist* consumers) as well as to extend the study to other product categories. In this respect, we are currently developing a green consumer decision-making model (Follows & Jobber, 2000; Shaw & Shiu, 2003; Moisander, 2007) considering these improvements. Finally, we acknowledge that price and availability of EF products depend on the level of primary demand. In countries like Italy, where environmentally friendly patterns of consumption are not popular among consumers, it is necessary to explore and analyse also firms' point of view. In this respect it should be recommended to develop similar research interviewing managers of green firms, to have a complete overview of why, today, barriers to the diffusion of green purchasing patterns still persist.

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**Appendix 1**. Structural analysis: indexes of cognitive centrality.

| Concepts | Norm. Outdegree Centrality* | Norm. Indegree Centrality* | Norm. Betweenness Centrality* |
|---|---|---|---|
| 1 lack of availability in supermarkets and retail stores...widespread distribution | 4.348** | 0** | 0** |
| 2 to be obliged to go to specialized stores...to choose to go to the nearest store | 17 | 13 | 3.36 |
| 3 to waste time when moving from home to stores | 4 | 4 | 0.4 |
| 4 lack of time to do the shopping | 9 | 0 | 0 |
| 5 not feel like doing the shopping | 9 | 0 | 0 |
| 6 higher efforts in terms of time | 4 | 17 | 0.79 |
| 7 higher perceived price than other competing brands standing on the same shelf | 9 | 13 | 0.99 |
| 8 specialized stores more expensive than traditional ones | 4 | 4 | 0.4 |
| 9 to bear additional costs because of longer movings | 4 | 4 | 0.4 |
| 10 higher pollution | 4 | 4 | 0.4 |
| 11 competing brands often sold “on sale” | 9 | 0 | 0 |
| 12 to buy only brands sold with discounted prices | 4 | 9 | 0.2 |
| 13 higher efforts in terms of money | 4 | 17 | 0.99 |
| 14 to buy environmentally friendly tissue paper products | 0 | 26 | 0 |
| 15 standing among traditional products...have their own shelves or departments | 9 | 0 | 0 |
| 16 lack of product distinguishability | 9 | 22 | 3.95 |
| 17 to be obliged to smell EF brands out | 4 | 9 | 1.78 |
| 18 previous purchase experience | 9 | 0 | 0 |
| 19 information collection on the internet ex ante | 13 | 0 | 0 |
| 20 ecolabels not visible as they should | 4 | 9 | 0.66 |
| 21 packaging not differentiating | 4 | 13 | 0.66 |
| 22 lack of clear information about saving of resources | 9 | 13 | 0.86 |
| 23 lack of proper in store communication | 13 | 0 | 0 |
| 24 lack of proper mass media communication | 17 | 0 | 0 |

*Freeman's (1979) Centrality Indexes
**Indexes calculated with UCINET 6 (Borgatti *et al*., 2002)