

## Short time and long time in Green Consumption: the role of time horizon

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### Abstract

Even if a general sensitivity to green consumption increased in the last years, consumers tend to postpone the adoption of green behaviors along the time. Basing on these considerations this paper will investigate the effect of time horizon construct – the time a consumer believes will elapse before he can experience the outcomes caused by his eventual choice – in compliance with green and not green products consumption. The paper reports the results of an experimental study showing that the time horizon of consumption decision plays an important role in driving consumers' choice, especially when a “green” behavior is expected.

**Keywords:** green consumption, green attitudes, time horizon, consumer behavior

### 1. Introduction and Objectives

Today consumers assign increasing value to green products. However, the daily buying behavior of consumers is often inconsistent with this (Alwitt & Pitts, 1996; Bech-Larsen, 1996; Moisander, 2007; Thøgersen, 1999, 2004; Thøgersen & Ölander, 2003). As a result, many researchers (Creyer & Ross, 1997; Carrigan & Attala, 2001; De Pelsmacker *et al.*, 2005) are concerned about whether the companies should go on investing in green actions and whether the growing ethical and environmental consciousness among consumers will translate into widespread purchasing behavior.

Even if many Authors evidenced this incongruence (Carrington *et al.*, 2010; Auger & Devinney, 2007; Belk *et al.*, 2005; Follows & Jobber, 2000; Shaw *et al.*, 2007), there are few studies about the impact of environmental preferences on product choices, while the most investigated dependent variable is the intention to buy. Although the inconsistency between general environmental attitudes and corresponding behavioral intentions, the studies on green marketing mainly focused on consumer environmental attitudes at a general level.

Several studies have, recently, attempted to identify the characteristics of green consumer behavior and to point out the related marketing implications (e.g. Schlegelmilch *et al.*, 1996; Lee, 2008; Pickett-Baker & Ozaki, 2008; Paço *et al.*, 2013). On the other hand, literature studying green consumption seems to be mainly focused on the socio-demographic profiling

of green consumers (Abeliotis et al., 2010; Diamantopoulos et al., 2003; D'Souza et al., 2007; Do Paço & Raposo, 2010; Straughan & Roberts, 1999; Zelezny et al., 2000). Little is known about the influence of individual differences (Griskevicious et al., 2010; Hanpää, 2007; Pinto et al., 2011), even if many scholars have shown that socially or ecologically concerned consumers do possess certain personality traits that consumers who rank low in this aspect do not share (Anderson & Cunningham, 1972; Balderjahn, 1988; Crosby et al., 1981; Kinnear et al., 1974).

Among the few studies focused on the dilemma between green attitudes and behavior, different reasons have been proposed for this inconsistency: the lack of necessary motivation, opportunities from change and ability to change, the awareness variation between types of behavior, the conflicting preferences between environmental and other product characteristics and, finally, the time lag between value and behavioral changes. In particular, focusing on time, consumers tend to postpone the adoption of green behaviors. This maybe because they feel duties to their community and environment, but they also feel duties to themselves and their families (Gebauer *et al.* 2008, McDonald & Aalborg 2009), and some of these duties may certainly conflict (Connolly & Prothero 2008, Prothero *et al.* 2011, Macnaghten, 2003). Therefore, in many cases, people could perceive as preferable an action required in the long time instead that in the short time as they could have the time to solve, or reduce, the perceived conflict.

Basing on these considerations this paper will investigate the effect of time horizon construct on compliance with green and not green products consumption. In particular, time horizon represents the time a consumer believes will elapse before he/she can experience the outcomes caused by his eventual choice (Wright *et al.* 1977) and can push consumers to immediately engage into a behavior. It expresses an individual differences in consideration of the future consequences of a choice (Kees *et al.* 2010).

Basing on the rationale that submitting a message proposing a green service as a delayed option, rather than an immediate one, and claiming its benefits for the future, may positively influence a green consumer behavior, after a literature review of time horizon construct, the paper reports the results of an experimental study that focus on how a different time horizon might influence consumers to comply with green consumption.

## **2. Literature Review and research model**

Time orientation is a multidimensional construct (Klineberg, 1968) consisting of one's capacity to anticipate, structure and see the future more clearly (Gjesme, 1983). In particular, time orientation refers to a customer's willingness to delay or expedite receiving gains (i.e., obtaining a reward or something of value) and losses (i.e., giving up something of value).

Because of the relevance assumed by time in consumer behavior (Graham, 1981) and in marketing decision making (Meyers-Levy & Maheswaran, 1992), this variable was particularly studied in sales literature. According to many studies about this topic, the ability to provide a product or service at the point in time according to the customer's preference may be a critical factor in making a sale. So, many researches tried to suggest to salesperson how to adjust his or her approach basing on customer time orientation in order to optimize the opportunity to consummate a sale (Doyle & Roth, 1992; Dwyer, Schurr & Oh, 1987; Sujan, Sujan & Bettman, 1988; Szymanski & Churchill, 1990; Weiz, Sujan & Sujan, 1986).

The attempt of salespeople to adapt to the time orientation preferences of customers within buyer-seller exchange derives from the evidence that individual differences in time orientation exist among consumers and that such differences influence purchase decisions.

The numerous social scientists studying the different time orientations identifies mainly two categories of individuals: the future-time oriented (FTO) (De Volder, 1979; Gjesme, 1979; Raynor, 1974) and the present-time oriented (PTO) (Jones, 1988; Marin & Marin, 1991). The FTO describes individuals who plan their purchase actions and view the future distance in time as nearer than PTO people (Amyx & Mowen, 1995); this orientation is associated with high achievement (Gjesme, 1979), low impulsivity (Trommsdorff, 1983) and ability to delay gratification (Klineberg, 1968), goal orientation (Gjesme, 1983), higher education level attained (De Volder & Lens, 1982) and higher social status (Hendon *et al.*, 1988; Trommsdorff, 1983). On the contrary, PTO refers to people who are less goal directed, more impulsive and plan less (Amyx & Mowen, 1995).

The findings of Amyx and Mowen (1995) reveal that consumer time orientation may moderate the effects of when a payment must be made for a product on purchase intentions. As to say that PTO consumers are more willing to make payments now than FTO consumers. In addition FTO consumers prefer to pay later than sooner while PTO consumers don't indicate a significant preference between paying sooner or later.

Many previous researches tried to link time orientation with various demographic and psychographic dimensions, including goal-directed behavior and achievement motivation (Jones, 1988), culture (Ko & Gentry, 1991), age and intelligence (Bochner & David, 1967), education and social class (De Volder & Lens, 1982), self-control (Platt & Taylor, 1966), gratification delay (Trommsdorff, 1983), consuming behavior (Bowen, 1977), personality traits (Zurche *et al.*, 1967), self-concept (Platt & Taylor, 1966), and locus of control (Platt & Eisenman, 1968).

In addition to the literature regarding the linkage among time orientation and demographic and psychographic dimensions, many theories and researches focus on the role that time plays in affecting consumers' judgments and behaviors (Hoch & Loewenstein, 1991; Jacoby *et al.*, 1976).

The effect of time horizon variations on product evaluation was studied by Wright and Weitz (1977) where women's time horizons in evaluating product concepts were varied experimentally. The study support the idea that variation in time horizons produced changes in the linearity and complexity of the evaluation strategies used and in the emphasis given to specific factors. So, when processing time was brief, subjects tended to adopt more one-dimensional evaluation strategies replicating an earlier finding. When the commitment/outcome horizons was distant, subjects also tended to use a simple one-dimensional strategy even though processing time was abundant. As a result, time horizons a consumer has in mind when evaluating a risky alternative can bias his evaluation strategy. The strength of the effects due to the manipulations of the processing horizon and the outcome horizons suggests that these horizons may be important moderators of product evaluation and choice strategies.

Other researches (Simonson, 1992; Loewenstein, 1988; Meyers-Levy & Maheswaran, 1992) posit that the relationship of the timing of when outcomes occur to the point in time when consumer decisions are made influences consumer decision making.

In his study Simonson (1992) examines the influence of anticipating decision errors and the associated feelings of regret and responsibility on consumer purchase decisions, when one of the considered options is the default choice. According to this study, consumers' choices between alternatives could be systematically influenced by asking them to anticipate the regret and the responsibility they would feel if they made the wrong decision. In particular, it is suggested that consumers who anticipate how they would feel if they made the wrong decision would be more likely to purchase a currently available item on sale rather than wait for a better sale and more likely to prefer a higher-price, well-known brand rather than a less

expensive and less known brand. The findings of the three studies reported in this paper support the hypothesis that decisions regarding purchase timing and brand choice can be systematically influenced by asking consumer to consider possible decision errors. With reference to purchasing time, the results of the studies suggest that if the buyers consider how they would feel if they made the wrong choice, they would be more likely to make the purchase earlier. With regard to choices between brand name and price, the study suggest to manufacturers of better known brands competing with less expensive alternatives to increase their market share by causing consumers to anticipate how they would feel if they made the wrong decision.

Another study investigating on how time impacts consumer perception of losses and gains and consequently consumer choices, is the study of Loewenstein (1988). The paper aims to demonstrate the applicability of the reference point concept to intertemporal choice and it reports three experiments demonstrating that when people choose between immediate and delayed consumption, the reference point used to evaluate alternatives can significantly influence choice. The experimental evidence presented in the paper examines the effect of reference point manipulation on intertemporal choice. Specifically, the findings reveal that when a temporal shift of consumption is framed as a delay it has greater significance than when framed in terms of speed-up and that the significance of the delay is minimized when the consumer is simply asked to state the present value of consumption at the two points in time.

In their study about the influence of temporal distance on consumers' responses, Meyers-Levy and Maheswaran (1992) search for a support for the mechanism thought to underlie temporal distance effects by examining people's cognitive responses to temporal distance manipulations. The results of the two experiments reported in this study clarify the mechanisms by which variations in temporal distance can influence the affective and persuasive impact of ad appeals. The findings of the studies suggest that variations in temporal distance may differentially affect consumers' responses only when consumers' are not motivated by other factors such as high involvement. This implies that, as the same of involvement manipulations, temporal distance manipulations may influence consumers' motivation to process and scrutinize a message elaborately. These findings have important implications for consumer research, as to say that temporal distance manipulations might be added to the list of devices that can effectively influence consumers' motivation to engage in extensive message claim scrutiny.

Therefore, the revised literature about time horizon supports the idea that when gains and losses occur in the future, this results in a general optimism (Mowen & Mowen, 1991). This may be consistent with the prevention state, its direction toward meeting duties and obligations, its sensitivity to negative outcomes and relative pain from losses, and consequently, correlated with green consumption.

At this point, the paper aims to investigate the effect of time horizon manipulations on green consumption. In particular, we attempt to understand if promoting green consumption, and emphasizing the immediate availability of the green product/service and its related benefits, may positively affect green consumption rather than delaying it.

Basing on the rationale that submitting a message proposing a green service as a delayed option, rather than an immediate one may positively influence a green consumer behavior, the paper reports the results of an experimental study that focus on how a different time horizon might influence consumers to comply with green consumption.

What we expect as a result of this study is to test the following hypothesis:

*H1: Individuals in the long time condition will show higher compliance with green products than individuals in the short time condition.*

*H2: Individuals in the long time condition will show lower compliance with not green products than individuals in the short time condition.*

*H3: Time condition significantly affects green consumption.*

The rationale is that, even if a general sensitivity to green consumption is currently increasing, consumers tend to postpone adopting green behavior over time. This is perhaps due to different reasons. Possibly, other obligations delay people's actions when dealing with their sustainable attitudes. As they recognize duties to their community and environment, they also realize their obligations to themselves and their families (Gebauer et al., 2008; McDonald & Aalborg, 2009), and some of these duties may conflict (Connolly & Prothero, 2008; Macnaghten, 2003; Prothero et al., 2011). Therefore, people could regard as preferable an action required over the long term instead of one in the short term, since they could have the time to solve, or at least reduce, the perceived conflict. We believe that a message proposing a green service as a delayed option, rather than an immediate one, and claiming its future benefits, may positively influence green consumer behavior.

### **3. Method**

215 students (133 female, age= 22.58 SD=2.135) from an international business school were involved in the experiment in return of course credits. The study aims at testing H1, specifically that product type moderates the relationship between time horizon and compliance with the green behavior. Therefore, the experimental study is a 2 (time horizon: short vs. long) by 2 (product: green vs non green) between subjects design.

In order to manipulate the time horizon we employed the procedure used by Wright *et al.* (1977). We prepared a leaflet to advertise the new car sharing service that was about to start in the city. According to the purpose, we emphasized the fact that the service was already available (short time condition) or was ready in 6 months (long time condition).

Right after the time horizon manipulation, participants saw other advertisements of different products (e.g. restaurant) as filler task and then rated the time horizon of the leaflet by answering to the item "*When does the leaflet invite you to start using the car sharing service*" (1= now; 7= in 6 months). Participants in the short time condition correctly reported that the leaflet invited them to start using the service soon (M=3.06 SD= 2.6) than those in the long time condition (M=6.65 SD= 1.09, F(1,214)= 195.284 p<.000). In order to manipulate the product type, whether the car service is perceived as "green" vs "non green", we added some information in the leaflets. In the "green" condition, the leaflet emphasized the electric car service, illustrating how green the service was and how good it would be for the environment. In the "non green" condition, the leaflet illustrates just a car service without emphasizing any positive externalities for the environment.

Right after, participants answered to the dependent variable, namely "compliance with the behavior" articulated in four items as in Kronrod *et al.* (2012). The scale was a 7 points consisting of 4 items ("*How plausible is that you will adopt the behavior/How certain is it/how sure are you/what are the chances that you will adopt the car sharing*").

## 4. Findings

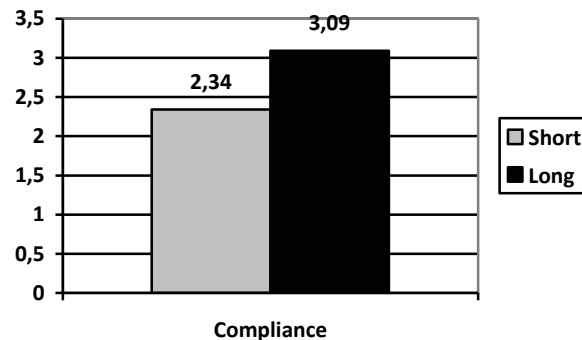
The reliability for the compliance measure was  $\alpha=.917$ , therefore an index averaging the 4 items of the compliance scale was created. A two-way ANOVA of time horizon and product type on the compliance index was performed. We found the two main effects significant both for time horizon ( $F(1,214)=6.755, p=.01$ ) and for product type ( $F(1,214)=4.378, p=.03$ ). The interaction term was significant also ( $F(1,214)= 4.645, p=.03$ ).

Hereby we report the results of the two studies and the comparison between the two observed condition – “green” and “not green” in order to verify the three hypothesis. In particular, the first study (referred to “green” condition) tries to verify the first hypothesis – as to say if individuals in the long time condition show higher compliance with green products than individuals in the short time condition. The second study (referred to “not green” condition) aims to verify the second hypothesis – as to say if individuals in the long time condition will show lower compliance with not green products than individuals in the short time condition. A comparison between the results of the two studies is then reported in the end of the paragraph in order to test the last hypothesis and to state if time condition significantly affects green consumption.

### *Study 1*

In the green product condition, participants showed higher compliance in the long horizon situation ( $M_{long}=3.09, SD= 1.3$ ) than in the short horizon one ( $M_{short}=2.34, SD=.72$ ) as showed in figure 1.

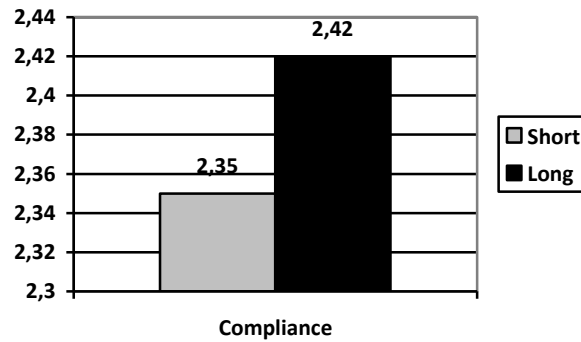
**Figure 1: Study 1 results – “green condition”**



### *Study 2*

The same pattern of results applies in the “non green” condition, where participants in the long horizon showed higher compliance than participants in the short horizon ( $M_{long}=2.42, SD=1.21; M_{short}=2.35, SD=1.12$ ) as showed in figure 2.

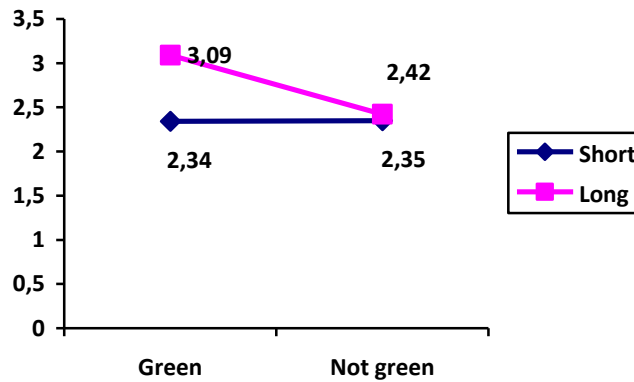
**Figure 2: Study 2 results – “not green condition”**



### *Comparison among the two studies*

Comparing the results of the two studies, we notice that, while long orientation positively affects compliance in both conditions, the difference between short and long time orientation is higher in “green” condition compared to the “not green” condition as showed in figure 3.

**Figure 3: Comparing the two studies**



## **5. Discussion**

The study here presented shows that time horizon of consumption decision plays an important role in driving consumers’ choice, especially when a “green” behavior is expected.

Referring to our hypothesis, we can state that the first hypothesis of our study – as to say that individuals in the long time condition show higher compliance with green products than individuals in the short time condition – is confirmed in our study. Indeed, while consumers in the long time condition show higher compliance toward the green behavior, consumers in the short time condition report a lower intention to engage into the electric car sharing service. These findings confirm that consumers do not perceive the need of modifying their actual behavior towards environmental caring as urgent, therefore they are only willing to do it in the long run. On the contrary, consumers would comply with the service advertised immediately if the environmental issue is not mentioned.

On the contrary, the results of our study doesn’t confirm the second hypothesis – as to say that individuals in the long time condition show lower compliance with not green products than individuals in the short time condition. Contrary to what literature position, our study show

that, in “not green” conditions, consumers in long time condition show a higher compliance with “not green products” than consumers in the short time condition.

As confirmed by the findings, consumers in the “non green” condition, would adopt the behavior in the long horizon rather than in the short one.

Comparing the results of the two studies we can state that our third hypothesis is partially confirmed and so we can posit that time condition significantly affects green consumption.

The study reveals that the gap between the means’ values associated to “green” products is higher than the gap associated to “not green” product.

In the end we can also do some considerations about the effect of the advertisement on compliance in green conditions. The leaflet here proposed as a manipulation, acts as an advertisement that pushes consumers to engage into the behavior immediately. Although, in the “green” condition, it seems that consumers do not consider the leaflet as an advertisement that pushes them to act and decide to postpone the environmental friendly behavior in the long run.

## **6. Limitations**

The present study – although in its infancy state – contributes to the debate about how to convince consumers to engage into green consumption. The general approach of governments, policy makers and firms is to increase attention and compliance with behaviors that respect and take care of environmental resources, but at a more micro level, persuading consumers of the importance of adapting their everyday actions seems a priority (Assadourian, 2010). Here we show, through an experimental study, that by the leveraging of individual’s time horizon, it is possible to modify their behavior.

Specifically, the present work contributes to the literature in this way. We show the role of time horizon in the decision making in influencing the results pattern.

Although its contribution to the scarce literature about the role of context variables in general (Payne *et al.*, 1988) and of time horizon in particular in the discrepancy between green consumer attitudes and green behavior, this paper has some limitations.

The first limitation refers to the sample: the experimental design involved a limited number of customers and all these customers are students. As a result we cannot say that the sample of our empirical research is representative of green consumers’ in general.

Secondary our study focused on a single context variable – time horizon – without taking into consideration the effect of other context variables and of other individual differences, such as personal traits or demographic characteristics identified by the literature as influencing green consumption.

In the end, some limitations relate to the car sharing we selected as “green” product for this first step of our research. Although the electric car stresses the green dimension of the option, the concept of car sharing has a “green halo” around it and this could influence the results of our study. In addition, in this first step we didn’t care about the factors underpinning the adoption of car sharing services (for example the strenght the culture of car sharing in the country/region/city and among the students and so on).

## **7. Further Research**

According to the limitations we cited above there are important areas not addressed here, equally valid areas for further researches.



First of all the experimental design could involve in the future a higher number of people and address to a more heterogeneous sample, representative of green consumers.

Secondary, the experiment may be replicated in order to investigate the combined effect of time horizon with other variables. For example, future research might examine the role of the individuals' time orientation (as *future time orientation* vs *present time orientation*) in enhancing the compliance with the behavior. By creating ad hoc advertising messages that manipulate the time horizon conditions and by measuring the individual time orientation, it is possible to verify whether the "fit" might be another source of enhancing the importance of environmental issues and, thus, push consumers to comply with the green behavior. In addition, future studies could employ a "within subjects" experimental design so to have consumers face both green and non green products and examine their choice.

In the end, specific studies documenting the factors underpinning the adoption of car sharing service will be considered in order to design a new experiment.

## 8. Managerial Implications

In this essay, we address an opportunity for moving toward more effective green consumption. In this way, companies' marketing communication could be effectively used in order to change consumers' attitudes, and buying intentions toward environmentally friendly products (Jackson, 2005).

In particular our study reveals that consumers in the "non green" condition, would adopt the behavior in the long horizon rather than in the short one, even the difference between the two conditions is not so evident. In this case, thus, the leaflet doesn't act as an advertisement that pushes consumers to engage into the behavior immediately. In the "green" condition, the same stimulus has the same effect. In "green" condition consumers decide to postpone the environmental friendly behavior in the long run, so they do not consider the leaflet as an advertisement that pushes them to act.

Thus, managers and advertisers that want to persuade consumers to engage into green consumption have no specific guidelines in this sense from this study. Our empirical research reveals the effectiveness of the long condition message in "non green" conditions, and in "green" conditions" too.

It may be interesting in the future investigating whether the same message should be more effective when it fits with individual time orientation.

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